TOWN AND COUNTRY PLANNING ACT, 1990

CALLED IN PLANNING INQUIRY – APPLICATION BY SAINSBURYS SUPERMARKETS LTD

Site at McMullens Brewery Site, Hartham Lane, Hertford, SG14 5QA

Commencing 22nd September 2009

LOCAL PLANNING AUTHORITY REFERENCE: 3/08/1528/FP

PLANNING INSPECTORATE REFERENCE: APP/J1915/V/09/2101286

PROOF OF EVIDENCE OF

ROB JEPSON, BEng, CEng, MIHT

ON BEHALF OF HERTFORDSHIRE COUNTY COUNCIL AS THE LOCAL HIGHWAY AUTHORITY

County Hall
Pegs Lane
Hertford
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Aug 2009

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1. QUALIFICATIONS AND EXPERIENCE

1.1 My name is Robert Alan Jepson. I am the Area Highways Development Control Manager in the Environment Department of Hertfordshire County Council. I am responsible for dealing with the transportation implications of development proposals in the East Herts and Broxbourne areas.

1.2 I am a Chartered Engineer, a Member of The Institution of Highways and Transportation, have a BEng (hons) degree in Civil Engineering, and over 20 years experience in highways and transportation. I have been employed by HCC for 9 ½ years with experience in highways network management, highways development control, developing area wide / town transport plans and sustainable transport projects. I have been an Area Highways Development Control Manager for 3 ½ years predominantly dealing with major planning applications involving housing, schools and supermarkets.

1.3 HCC is the local highways authority for all public highways in the county other than motorways and trunk roads which are the responsibility of the Highways Agency and as such is consulted by East Hertfordshire District Council (EHDC) on the transport implications of development applications in its area.

1.4 I was consulted by EHDC on the original Sainsbury's Supermarkets Limited (SSL) planning application in January 2008 and subsequently also consulted on the second planning application by SSL the subject of this Call-In. I was also consulted on the Tesco planning application which has now been withdrawn. I am very familiar with the application site, the locality and the wider Hertford area.

2. INTRODUCTION AND SCOPE OF EVIDENCE

2.1 This Proof of Evidence sets out the Council's concerns and objections to the proposed mixed use redevelopment of the application site being Application Reference 3/08/1528/FP (the "Development") and also addresses the matters raised by the Secretary of State.

2.2 My initial response to the consultation by EHDC on the Development was to recommend refusal of planning permission for a number of highway related issues including adverse impact on safety, congestion, and inadequate proposals to mitigate the impact of the Development (Core Document HCC1 Appendix 1).

2.3 Planning permission was granted for the Development contrary to officer recommendations. The officer's report for the 14th January 2009 Development Control Committee (Coe Document C23) recommended the application be refused for a number of reasons including highways, following the above consultation with HCC. These recommended reasons as they relate to transport and highway matters (which I support where):

2.3.1 Refusal 1:- *"……. Concern remains about the long term consequences of worsened traffic congestion, in particular at Old Cross. The proposed development fails in such ways to achieve the high standards of design and enhancement necessary for new development and appropriate for this key urban regeneration site within the Hertford Conservation Area, and is thereby contrary to Policies ENV1 and BH6 of the adopted East Herts Local Plan Second Review April 2007 and national guidance in PPS1. Notwithstanding the associated benefits of the proposed development, including the regeneration of this part of the Conservation Area, and the repair and re-use of the listed brewery, the balance of these considerations is not considered to outweigh the overall highways objections and be such as to warrant the grant of planning permission"*

2.3.2 Refusal 2:- *"The traffic demands resulting from the nature and scale of the proposed development and its servicing requirements exceed the capacity*

of the local road network to manage them satisfactorily, in particular the demands that will result on the junctions at Cowbridge with Hartham Lane and at Old Cross and the narrow roads leading to them. The proposed development would therefore result in significantly worsened congestion detrimental to the safe and convenient use of the public highway. The proposal is therefore contrary to Policies STC1 and TR2 of the East Herts Local Plan Second Review April 2007 and the objectives of the Local Transport Plan"

2.3.3 Refusal 3:- *"Inadequate provisions are made to mitigate the harmful impacts of the development or to promote walking, cycling and passenger transport options as part of the proposed development. The submitted Transport Assessment and draft Travel Plan has failed to adequately analyse the scope for encouraging these modes. The proposal is thereby contrary to national guidance in PPG13 and Policies SD1, TR1 and TR4 of the East Herts Local Plan Second Review April 2007 and the objectives of the Local Transport Plan"*

2.4 Although not suggested as a reason for refusal by EHDC I also have concerns that the Development does not make adequate provision for contributions towards sustainable transport matters and other highway infrastructure improvements to mitigate against the impact of the Development. It would therefore be contrary to Policies IMPI and HE9 of the East Herts Local Plan Second Review April 2007.

2.5 While some of my initial concerns have been addressed by SSL I remain of the belief that planning permission should be refused and I have set out my reasoning in this Proof.

2.6 My Proof will address the matters raised the Secretary of State in the letter from Go East to Indigo Planning dated 25th March 2009 (Core Document E2) concerning transport and highway issues namely:

2.6.1 *"(i)The extent to which the proposed development is in accordance with the development plan for the area, having particular regard to the policies in the*

Regional Spatial Strategy for the East of England, the East Herts Local Plan Second Review 2007 and Local Transport Plan"

2.6.2 *"(iii) The extent to which the proposal is consistent with advice in Planning Policy Statement 6: Planning for Town Centres, ….. improving accessibility, ensuring that existing or new development is, or will be, accessible and well-served by a choice of means of transport"*

2.6.3 *"(vii) Whether any permission granted for the proposed development should be subject to any conditions and, if so, the form these should take, having regard to advice in DOE Circular 11/95, and in particular the tests in paragraph 14 of the Annex"* and

2.6.4 *"(viii) Whether any permission granted should be accompanied by any planning obligations under s106 of the 1990 Act and, if so, whether the proposed terms of such obligations are acceptable"*

2.7 I will also address in my Proof the following further highways issues the inspector identified in the notes of the pre-inquiry meeting that took place on Tuesday 7th July 2009 (Core Document E5):

2.7.1 Transportation Impacts

2.7.2 Modelling assumptions; and

2.7.3 Justification of matters to be dealt with in a Section 106 agreement.

2.8 A Statement of Common Ground concerning transport and highway matters has been agreed between HCC and SSL (Core Document SOCG3) and this proof should be read in conjunction with that document. A further revised transport statement of common ground is being prepared and will be submitted.

3. Transport Policies

3.1 I have set out below the relevant highways and transport policies with emphasis added where relevant. As an officer of the County Council I am familiar with these transport policies.

PPG 13 (Transport) (Core Document A7)

3.2 PPG13 sets the objectives of integrating planning and transport to promote sustainable transport choices, to promote accessibility to jobs, shopping, leisure and other facilities by modes other than the private motor car, and to reduce the need to travel, especially by car.

3.3 Paragraph 19 states that "A key planning objective is to ensure that jobs, shopping, leisure facilities and services are accessible by public transport, walking, and cycling. This is important for all, but especially for those who do not have regular use of a car, and to promote social inclusion……".

3.4 Paragraph 29 highlights the importance of safety stating "The Government places great emphasis on people being able to travel safely whatever their chosen mode. The planning system has a substantial influence on the safety of pedestrians, cyclists and occupants of vehicles through the design and layout of footpaths, cycleways and roads. Planning can also influence road safety through its control of new development…..."

3.5 In relation to public transport paragraph 74 states that "In …… determining planning applications, local authorities, in conjunction with work on the local transport plan, should …… ensure, so far as is practicable, that traffic management measures do not impede the effectiveness of public transport services;……. negotiate for improvements to public transport as part of development proposals, in order to reduce the need to travel by car and the level of parking ……".

3.6 In relation to walking, paragraph 76 states that "In …… determining planning applications, local authorities should …. create more direct, safe and secure walking routes, particularly in and around town centres and local neighbourhoods". Paragraph 77 then goes on to state "Local authorities, as part of their local walking strategy, should also promote walking through measures such as provision of wider pavements, including the reallocation of road space to pedestrians, and environmental improvements, including improved lighting; pedestrian-friendly road crossings which give pedestrians greater priority at traffic signals and avoid long detours and waiting times…..".

3.7 In relation to Cycling paragraph 79 states that "In …… determining planning applications, local authorities should ….. influence the design, location and access arrangements of development, including restrictions on parking, to ensure it promotes cycling;…… seek the provision of cycle routes and cycle priority measures in major new developments". Paragraph 80 then goes on to state "Local authorities, as part of their local transport plan strategy, should also promote cycling through measures such as ….. improvement of facilities off the carriageway, such as cycle tracks or paths".

3.8 Paragraph 84 states that "Planning obligations may be used to achieve improvements to public transport, walking and cycling, where such measures would be likely to influence travel patterns to the site involved, either on their own or as part of a package of measures. Examples might include improvements to a bus service or cycle route which goes near to the site, or pedestrian improvements which make it easier and safer to walk to the site from other developments or from public transport."

3.9 Paragraph 90 states that "Where travel plans are to be submitted alongside a planning application, they should be worked up in consultation with the local authority and local transport providers. They should have measurable outputs, which might relate to targets in the local transport plan, and should set out the arrangements for monitoring the progress of the plan, as well as the arrangements for enforcement, in the event that agreed objectives are not met".

PPS 6 (Planning for Town Centres) (Core Document A5)

3.10 PPS6 sets out the Governments policy on planning for the future of town centres. Paragraph 3.24 states that "In considering proposed new developments, local planning authorities should consider:

i) The need for accessibility by a choice of means of transport …..
ii) The impact on car use, traffic and congestion".

3.11 Paragraph 3.25 states that "Developments should be accessible by a choice of means of transport, including public transport, walking, cycling, and the car (taking full account of customers' likely travel patterns)…… Account should also be taken of the frequency and capacity of services, and whether access is easy, safe and convenient for pedestrians, cyclists and disabled people".

3.12 Paragraph 3.27 states that "In assessing new developments, local planning authorities should consider:

- whether the proposal would have an impact on the overall distance travelled by car; and
- the effect on local traffic levels and congestion, after public transport and traffic management measures have been secured".

The East of England Plan (May 2008) (Core Document B1)

3.13 The East of England Plan provides a framework for transport policy priorities to support the aims of the spatial strategy. Policy T1 Regional Transport Strategy Objectives and Outcomes states that: *"The successful achievement of the objectives will lead to the following outcomes:*

- improved journey reliability as a result of tackling congestion;
- safe, efficient and sustainable movement between homes and workplaces, education, town centres, health provision and other key destinations;
- improved air quality; and reduced greenhouse gas emissions".

3.14 Policy T4: Urban Transport states that "Within urban areas, …… and appropriate market towns, Local Transport Plans, Local Development Documents and other plans or strategies should identify ways to bring about a shift away from car use to public transport, walking and cycling. This should be achieved through the following types of measures, in combination as appropriate to local circumstances:

- ensuring urban extensions and other major developments are linked from the outset into the existing urban structure through safe, well designed pedestrian and cycling routes and a high standard of public transport;
- capitalising on opportunities provided by new development to achieve area wide improvements in public transport services, footpaths and cycle networks;
- improvements to local networks for walking and cycling, including increasing the attractiveness and safety of the public realm."

3.15 Policy T8: Local Roads states that "Local Authorities should manage the local road network in accordance with their local transport plan objectives to complement the aims of Policies T2 to T7 with the following priorities:

- tackling congestion and its environmental impacts;
- facilitating the provision of safe and efficient public transport, walking and cycling;
- improving safety."

East Herts Local Plan Second Review April 2007 (Core Document B6)

3.16 Policy TR1 Traffic Reduction in New Developments states that "Developments generating additional traffic will be required to incorporate measures, commensurate with the scale of additional traffic generated, to ensure that alternative transport options to the private motor vehicle are available to the users of the site. Such measures may include:

(a) the extension and improvement of pedestrian links;
(b) cycle paths and facilities;

(c) improvements to the passenger transport network which should include bus and/or rail facilities, either directly to the site or in close proximity to it (i.e. within 400 metres maximum walk distance), and may involve an extension to existing infrastructure (e.g. additional cycle paths, bus shelters) and/or enhancements to the existing bus network;"

3.17 Policy TR2 Access to New Developments states that "Highway proposals in association with new development will be assessed against the standards set out in Hertfordshire County Council's Roads in Hertfordshire – Design Guide, 2001 (or as subsequently superseded, by the local highway authority)."

3.18 In relation to 3.17 above, Roads in Hertfordshire (Core Document B4) in section 2, part 1, chapter 2, 2.0 Industrial / Commercial / Service Roads states in paragraph 2.1 that "Any road likely to be used by large vehicles must be designed to accommodate such vehicles. Such roads might be those serving industrial estates, offices, retail outlets or leisure facilities".

3.19 Policy TR4 Travel Plans states that "The District Council, in consultation with the local highway authority, will require, in order to aid the reduction in the generation of motor vehicle trips, the submission of a satisfactory 'travel plan' to accompany planning applications in the following circumstances:

(a) for all major* developments that comprise any of the following: jobs, shopping, leisure, education (other than schools) and services;"

[*"…. PPG13 sets out thresholds of what kinds of development constitute 'major' development (in Annex D). These thresholds, or as subsequently amended, will be taken by the District Council as the circumstances whereby Policy TR4 will apply". The proposed development is therefore classed as major based on this assessment.]

3.20 Policy TR12 Cycle Routes - New Developments states that "Where possible, the design of new developments will be required to include coherent, safe, convenient, direct, comfortable, attractive routes and facilities for cyclists and pedestrians.

Where practicable opportunities exist or can be created, access routes into and through the site for cyclists and pedestrians should be formed separate from roads, particularly if this would create an advantage over motorised transport in the distance and time needed to travel to local facilities and services and/or improve the wider cycle network. Where appropriate, developer contributions (or as subsequently revised) will be expected to improve pedestrian and cycle routes associated with the use of the site."

3.21 Policy STC1 Development in Town Centres and Edge-of-Centre states that "The preferred location for new retail development and proposals for other key town centre uses, will be town centres followed by edge-of-centre sites in line with the sequential approach. Such development will be permitted where all the following criteria are met:

(b) the proposed development would be accessible by a choice of transport means other than the private car;

(d) parking provision, access, and traffic generation are satisfactory, in accordance with Council's adopted standards.

3.22 Policy SD1 Making Development More Sustainable states that "All proposals …… for commercial development (including changes of use) of 250 sq metres floorspace or more, will be expected to be accompanied by a Sustainability Statement which explains how the proposed development will ……encourage sustainable movement patterns through design and transport infrastructures;"

3.23 Policy IMP1 Planning Conditions and Obligations states that "As part of development schemes, developers will be required to make appropriate provision for …… sustainable transport modes, highway improvements, …… and other infrastructure improvements. The Council will use planning conditions and/or planning obligations (or as subsequently revised) to require developers to provide, or to finance the cost of, such provision, which will be fairly and reasonably related in scale and kind to the development, and necessary to the grant of planning permission. This may include, as appropriate, on-site and/or off-site facilities."

3.24 Policy IMP1 is supported by The Planning Obligations Supplementary Planning Document (October 2008).

3.25 Policy HE9 Lea Valley Area Plan – Hertford states that "In order to develop a more sustainable transport system in Hertford, measures to achieve this aim within the Lea Valley Area Plan (including the Hertfordshire Transport Plan) will be sought in accordance with Policy IMP1".

Local Transport Plan 2006/7 - 2010/11 (Adopted 2006) (Core Document B2)

3.26 The County Council's transportation policies are set out in the Local Transport Plan 2006/7 - 2010/11 (LTP). This has derived its policies and strategy from national policy guidance and seeks to be compatible with land use planning policies.

3.27 The LTP includes shared priorities and objectives of:

(a) Safer roads:- To improve safety for all by giving the highest priority to minimising the number of collisions and injuries occurring as a result of the transport system.

(b) Tackling congestion:- To manage the growth of transport and travel volumes across the county, and thereby secure improvements in the predictability of travel time and to develop an efficient, safe, affordable and enhanced transport system which is attractive, reliable, integrated and makes best use of resources.; and

(c) Accessibility:- To develop a transport system that provides access to employment, shopping, education, leisure and health facilities for all, including those without a car and those with impaired mobility.

3.28 The LTP Long Term Strategy (Core Document B3) sets out HCC's approach to dealing with 'the Highway Implications of Development Control'. Policy 5.5 relating to Integration with Development Plans states that "Development proposals

are examined to establish whether their effects on the transport system can be accepted and to ensure that the access arrangements are constructed to an adequate and safe standard. Wherever possible, improvements to mitigate the effects of the movement demand generated by development will be sought from promoters. In negotiations the County Council will seek to obtain the maximum private sector contribution compatible with the County Council's transportation objectives".

3.29 Policy 5.5 then goes on to state "Traffic and road safety implications of development proposals must be considered. As part of this process, development will be assessed with regard to reducing the need to travel and should be located so that it does not generate traffic which is inappropriate for local roads. Development which would either significantly affect the rural or residential character of a road or would significantly affect safety on rural roads especially amongst vulnerable road users, or which would be located by a poorly designed road, will be resisted."

3.30 Policy 5.23 relating to Traffic And Road Safety Implications Of Development Proposals states that "The traffic and road safety implications on the highway and rights of way networks of development proposals, and the related proposals for addressing them, will be assessed in the light of the aims and principles of Structure Plan Policy 22 and set out in any Transportation Assessment required. Such Assessments should include the level of accessibility for all modes of travel and any proposed parking provision. All types of developments, as defined in the Local Transport Plan, will be expected to develop a travel plan. Development will be located so that traffic is discouraged from using roads, in particular local distributor and access roads, to which it is not appropriate as set out in the Local Transport Plan."

3.31 Structure Plan Policy 22 is not saved, however it does now form part of the LTP relating to Policy 5.17 Reduction of travel need and car usage. It states that "The aim will be to reduce the growth in motor traffic on roads, and minimise its environmental impact, especially during peak periods…… The need to travel will be reduced, mainly by locating and planning development so as to require fewer

and shorter journeys to be made and where safe access is possible. The design of all development including transportation schemes should ensure the maximum degree of safety for all users of the facilities provided."

3.32 The LTP sets out the approach to road hierarchy (Policy 5.15 Road Hierarchy and Network Development) as described in Section 4 of my Proof.

4. Site and Surrounding Area

4.1 The Application Site is located to the north of Old Cross/Cowbridge, Hertford as illustrated in Appendix 1. There are four main modes of transport to the Application Site being by private vehicle, bus services, and walking/cycling.

Highway Network

4.2 The access/egress for deliveries and customers to the Application Site are gained from Old Cross/Cowbridge at the junction with Hartham Lane. Hartham Lane is an unclassified local access road with a 30mph speed limit. It provides access to businesses in the area, including McMullens Brewery, public car parks and Hartham Leisure Centre. HCC Road Hierarchy Policy describes the main function of these roads as providing access to properties with the aim of keeping vehicle speeds low.

4.3 The B158 Old Cross/Cowbridge/Mill Bridge are classified secondary distributor roads with a 30mph speed limit. HCC Road Hierarchy Policy describes these roads as those connecting important urban neighbourhoods to each other and to main distributor roads. They form the distributor routes through large residential areas. This route provides an important link to the Bengeo residential area and the A602.

4.4 The C176 St Andrews Street leads to Old Cross from the A119 North Road to the west. It is classified a local distributor with a 30mph speed limit. HCC Road Hierarchy Policy describes the main function of these roads as providing access to properties with the aim of keeping vehicle speeds low.

4.5 The A119 North Road is classified a main distributor with a 30mph speed limit. HCC Road Hierarchy Policy describes these roads as the main roads which distribute traffic within towns, around town centres and link town centres and main industrial areas to the primary route network.

4.6 The A414 Gascoyne Way provides the main primary route through Hertford. It links the A1M to the west to the A10 to the east. It is a dual carriageway with various speed limits and is classified a primary distributor. HCC Road Hierarchy Policy describes the main function of these roads as linking the most important origins and destinations with through traffic encouraged to use these routes.

Bus Services

4.7 HCC's Bus Strategy has adopted the objective that the bus network should minimise walking distances from homes or key travel attractors and be as comprehensive as possible. Maximum walking distances of 200 metres in town centres and 400 metres in urban residential areas will be used to determine the comprehensiveness and accessibility of the bus network (An extract from the Bus Strategy is included in Appendix 2).

4.8 The nearest bus stops to the Application Site are approximately 290 metres from the store entrance along Cowbridge. Only 1 service, the 333, uses this route to link Bengeo with Hertford town centre Monday to Saturday.

4.9 Along Mill Bridge the nearest bus stops to the Application Site are approximately 325 metres to 345 metres from the store entrance. Eight regular services use this route, the 395,396,H3,H4,379,388,390 and 311. Details of bus service provisions are outlined in the SOCG 3.

4.10 Hertford Bus Station is 441 metres from the entrance to the proposed store location.

Walking & Cycling

4.11 There are footpaths links on both sides of the carriageway along Old Cross and Cowbridge, although they are narrow in places with widths varying from 1.55 metres to 2.05 metres. Footpath links along Hartham Lane are poor narrowing to 0.5 metres in places and terminating on the eastern side to the north of the listed building the subject of the Development. The signalised Old Cross junction has an all red pedestrian phase.

4.12 National Cycle Network Route 61 runs adjacent to the site as indicated in the SOCG 3.

Traffic Conditions

4.13 Peak hour congestion occurs at the Old Cross / St. Andrew Street / Mill Bridge signalised Junction (Old Cross junction) during the AM, PM and Saturday periods.

4.14 In the morning peak hour traffic regularly queues along the Cowbridge/Old Cross approach leading to rat running through the nearby residential area of Bengeo. SSL's Transport Assessment (TA) (Core Document C5) identifies a maximum queue of 278 vehicles (approximately 1668 metres long) on this arm.

4.15 In the evening peak hour traffic regularly queues along the St Andrew Street approach. The TA identifies a maximum queue of 56 vehicles (approximately 336m long) on this arm (C5- Page 11).

4.16 In the Saturday peak hour traffic regularly queues along the Mill Bridge approach. The TA identifies a maximum queue of 50 vehicles (approximately 300m long) on this arm (C5- Page 11).

4.17 The accident record for the area surrounding the Application Site shows that there were a total of five accidents recorded for the 3 year period to July 2006. Of these, three were at the Old Cross Junction, one south east of the Old Cross /

Hartham Lane junction and another on Hartham Lane. The three accidents around the Old Cross junction all involved pedestrians.

Planned Improvements

4.18 HCC is in the process of reviewing the Hertford Transport Plan which will consider highway and sustainable transport issues around the town and suggest measures to reduce congestion and improve sustainable transport infrastructure with the aim of encouraging modal shift.

4.19 Consultants are currently completing the first stage of this process and it is hoped a revised plan will be complete next year. As part of the transport plan studies a PARAMICS model of the town is currently being prepared to consider congestion issues in more detail, the base model is expected to be complete mid September.

5. Traffic Generation and Distribution

5.1 Overview

5.1.1 The determination of the likely number of trips generated by the proposed development and their chosen mode and distribution are key to understanding the impact of the proposed development and ensuring that appropriate and adequate transport facilities and infrastructure are provided. This is particularly important to HCC who is responsible for the highway around the Development.

5.1.2 Traffic generation will result from the shoppers visiting the store, users visiting the listed building, HGV's delivering to the facility and employees.

5.2 Trip Rates

5.2.1 The TA initially estimates in paragraph 5.6 that the Development will generate 238 arrivals, 261 departures, in the Friday evening peak hour and 276 arrivals, 277 departures, in the Saturday lunch peak hour. Trip rates for weekday midday are similar to the pm peak. These trip rates are based on average trip rates from the TRICS database and agreed as indicated in Table 5.1 below (as per the SOCG 3).

Table 5.1 - Average Trip Rates per 100m2 RFA				
	Arrivals		Departures	
	Rate	Flow	Rate	Flow
Weekday am	4.493	119	1.923	51
Weekday mid	9.001	239	9.860	262
Weekday pm	8.960	238	9.810	261
Saturday	10.396	276	10.433	277

5.2.2 However, SSL then suggests in paragraphs 5.7 to 5.11 of the TA that the predicted trip rates are considered 'unlikely' to materialise at this location due to reduced parking provision and highway network constraints. As a result SSL suggests trip rates are reduced by 15% as per Table 5.2 for their assessment of the Development's impact. This equates to 203 arrivals, 222 departures in the Friday evening peak hour and 235 arrivals, 236 departures in the Saturday lunch peak hour. SSL has not produced any evidence to show how a figure of 15% is derived and these trip rates are not agreed.

Table 5.2 - Average Trip Rates Reduced by 15% per 100m2 RFA				
	Arrivals		Departures	
	Rate	Flow	Rate	Flow
Weekday am	3.819	102	1.634	43
Weekday mid	7.651	203	8.381	223
Weekday pm	7.616	203	8.339	222
Saturday	8.837	235	8.868	236

5.2.3 The 15% reduction outlined in the TA is not accepted. Considerable work was carried out during pre-application discussions with SSL's traffic consultants to agree trip rates and which sites from the TRICS database were appropriate to use for comparison. However the submitted TA subsequently reduced these rates by 15% without any discussion with me or any of my colleagues at HCC.

5.2.4 The DfT Guidance on Transport Assessments (Core Document A17) states in paragraph 4.60 that *"In all cases, analyses of development-related trips by using an appropriate database or an alternative methodology should be agreed with the relevant authorities, as this will form the major element of the TA*".

5.2.5 Paragraph 4.61 of the DfT Guidance on Transport Assessments then goes on to state "*Typically, trip generation assessments are based on the identification of suitable (person or vehicle) trip rates, having regard to industry standard databases such as TRICS, GENERATE and TRAVL. These trip rates should be derived on the basis of site-specific details of the proposed development - for example, proposed gross floor area, number of dwelling units, number of hotel rooms, availability and accessibility of non-car modes of travel, provision and nature of travel plans"*.

5.2.6 The use of industry standard databases such as TRICS is generally required to ensure the robustness of data. TRICS ensure traffic county data is appropriate and carried out with full knowledge of all issues that may affect trips in the vicinity of a survey site.

5.2.7 The use of reduced trip rates does not give a realistic or robust assessment of the highway network but at best gives an unrealistic underestimate of the impact of the proposed development. In relation to the reasons put forward for reduced trip rates by SSL in the TA, I have the following observations:

(a) Assertion in paragraph 5.9 of the TA that the availability of parking has considerable influence on trip attraction.

5.2.8 Parking accumulation is highest around midday, however it is significantly lower during the pm peak when similar trip rates occur. The reasoning for lower levels of parking accumulation but higher trip rates is that during the pm peak there is a higher turnover of trips as shoppers call in as part of another journey. This rational is supported by the higher percentage of pass-by and diverted trips during this period.

5.2.9 I have produced tables in Appendix 3 that calculate parking accumulation levels based on average trip arrivals and departures. An extract from the results is included in Table 5.3 below, from this it can be seen that whilst trip rates are higher during the pm peak, overall parking is lower than throughout the day.

Table 5.3 - Parking Accumulation levels based on average trip rates			
Time	Total Trip Rate	Total Trips	Parking Accumulation
11 - 12	17.761	414	219
13 - 14	17.994	419	213
17 - 18	18.769	437	170

5.2.10 These results indicate that the full average trip rates can be achieved during the peak period when considering the availability of parking, i.e. to achieve the average trip rates parking would only amount to 170 spaces, significantly lower than the 232 proposed for the development.

5.2.11 The TA submitted with the application also included parking accumulation calculations in Appendix O based on average trip rates reduced by 15%. I have produced further tables in Appendix 3 that calculate parking accumulation levels based on average trip arrivals and departures reduced by 15% for the reduced floor space of 2328m2. An extract from the results is included in Table 5.4 below, which supports the fact that whilst trip rates are higher during the pm peak, overall parking is lower than throughout the day.

Table 5.4 - Parking Accumulation levels based on average trip rates reduced by 15%			
Time	Total Trip Rate	Total Trips	Parking Accumulation
11 - 12	15.097	352	186
13 - 14	15.295	356	181
17 - 18	15.339	371	144

5.2.12 These results indicate that with 232 spaces there would be significant numbers of vacant parking spaces at the store which would give the opportunity for the development to attract more vehicles than SSL predicts with their 15% reduction.

5.2.13 Parking is also available at other car parks accessed by this area and therefore there is not the ability for SSL to fully manage parking provision available for the facilities. The two car parks run by EHDC are also accessed from Hartham Lane to the north of the development proposals.

5.2.14 Looking at the TRICS database, it is reported that at the Sainsbury's Norwich store actual car parking exceeds spaces available on site due to indiscriminate parking. Therefore this illustrates that demand can exceed parking supply.

5.2.15 Results from surveys of the Tesco Hertford store also indicates that parking demand exceeded supply on a Saturday and that overall parking accumulation is lower during the pm peak. An extract of the Tesco survey is attached in Appendix 4.

(b) The TA asserts in paragraph 5.9 that prevailing conditions on the local highway network has a considerable influence on trip attraction and that shopping is a discretionary trip.

5.2.16 The location of the Application Site and highway network constraints are taken account of in the higher percentage distributions of primary and pass-by trips predicted in paragraphs 5.19 to 5.27 of the TA. A high percentage of pass-by and diverted trips has been assumed equating to less new trips in the immediate vicinity of the Application Site. These can be summarised as follows:

i. For the Friday am peak the TA, paragraph 5.19, assumes 20% of trips will be passing by and 30% will be diverted from nearby routes (50% primary, 50% non-primary).

ii. For the Friday pm peak the TA, paragraph 5.23, assumes 20% of trips will be passing by and 35% will be diverted from nearby routes (45% primary, 55% non-primary).

iii. For the Friday midday and Saturday peak the TA, paragraphs 5.21 & 5.27, assumes 10% of trips will be passing by and 10% will be diverted from nearby routes (80% primary, 20% non-primary).

5.2.17 TRICS research report 95/2 'Pass-by & Diverted A Resumè' states in the conclusions paragraph 4.3 that "The proportion of trips generally accepted to be non-primary is 30%. Most of the non-primary trips tend to be home-work-site-home and hence values are generally lower than this at weekend when there is less home commuting but could be higher on a Friday evening but would not expect to exceed 40%" (An extract from the TRICS research report is included in Appendix 5).

5.2.18 I accept that for this location the percentage of pass by/diverted trips (non-primary) could be higher than average which is why the above percentages were originally agreed. However this agreement was made with the understanding that average trip rates would be used to assess the Development. This was subsequently changed in the application TA submission. Whilst average trip rates and a high percentage of pass by/diverted trips do form a realistic and robust assessment, I consider that it is unrealistic to consider low trip rates and a high percentage of pass by/diverted trips (I explain this point further in section 5.5, page 29, below).

5.2.19 The recent Tesco Hertford planning application indicated existing trip rates far in excess of those predicted from TRICS (Tesco TA, paragraph 7.3- Core Document D4). Friday pm for Tesco is actually 14.58 peak hour trips per 100m2 Gross Floor Area (GFA). When converting SSL's predicted average trip rates to GFA analysis SSL's Development is at 9.854 for average peak hour trip rates per 100m2 GFA but when applying their proposed 15% reduction this reduces to 8.376. Another nearby application by Asda, Ware, predicted 11.275 peak hour trip rates per 100m2 GFA based on the TRICS database. Even though the Hertford Tesco store is located closer to the main road network and is known to be overtrading

that area also suffers from peak hour congestion which has not suppressed trip rates and customers choose to shop at the peak time.

5.2.20 Table 5.5 below outlines a comparison of Tesco actual trips with SSL's proposed 15% reduced trip rates for their analysis based on Retail Floor Area (RFA).

Table 5.5 - Comparison of trip rates based on RFA				
	Arrivals		Departures	
	Sainsbury's Rate	Tesco Actual Rate*	Sainsbury's Rate	Tesco Actual Rate*
Weekday am	3.819	8.58	1.634	7.46
Weekday mid	7.651	15.63	8.381	16.08
Weekday pm	7.616	12.98	8.339	14.38
Saturday	8.837	15.50	8.868	18.33

*Tesco RFA rate derived from observed trip rates provided in Tesco application TA. The existing Tesco has a GFA of 4176m2 and RFA of 227m2, with 278 car parking spaces.

5.2.21 It can be noted from Table 5.5 above that there are significant differences in the trip rates of the proposed Development and the existing Tesco. Whilst current congestion levels, parking availability, and known overtrading of the Tesco store may lead to a higher trip rate at Tesco, I do not accept the extent of difference would be as identified above.

5.2.22 It should also be noted that customers still choose to shop during the peak hour even when shopping is a discretionary trip.

(c) The TA asserts in paragraph 5.9 that the TRICS database tends to draw data from older style stores and so does not reflect trends such as larger unit size or more tightly drawn catchments with the advent of more stores

5.2.23 In relation to older style stores and trends for larger units, whilst the data selection for a weekday is from older stores (2000 to 2003), when looking at the selection for a Saturday more recent data is available (2003-2007) which still correlates to the agreed average trip rates. (I also note that larger style stores have been around for a number of years, including 2000 to 2003).

5.2.24 Further, the data presented for the Tesco application for the existing store, which is a similar size to the proposed Development identifies significantly higher trip rates.

5.3 Application of future traffic growth

5.3.1 The TA includes analysis of scenarios with and without traffic growth between 2006/2007 and 2010 and average / reduced trip rates. Traffic growth is applied to existing traffic flows to model the likely situation on the highway network for the year of opening of the proposed development, (although when considering the call in process and current timescales it is unlikely the store would be constructed by 2010 if granted planning permission).

5.3.2 The TA analyses the junctions with and without growth, but SSL's consultant's state in paragraphs 5.45 & 5.46 that they are 'sceptical' growth will occur due to the already congested highway network. SSL's consultants state that they have worked on several projects where growth has been applied to peak period flows but there has, in reality, been virtually no change whatsoever following completion of the development when measurements have been taken at a later stage. No evidence has been presented to substantiate this claim and it is unclear what the statement 'virtually no change' actually means.

5.3.3 Whilst growth in the peak hours at this location could be limited by other factors and not be as high as the growth predictions may indicate, I do not agree that the proposed method of treating growth as non-existent is appropriate.

5.3.4 Growth is difficult to accurately predict which is why the DfT provides clear guidance and tools for its application. This process allows an independent

methodology to be used for all cases. I do not consider the points raised in the TA are sufficient to justify ignoring the DfT guidance on the application of growth to the highway network in the vicinity of this proposed development.

5.3.5 Growth is assessed to ensure the transport impacts of the development are more accurately applied to a situation where other committed developments are also in place. Whilst the Old Cross junction may operate in a certain way now, when the development is implemented in the future the number of vehicles in the vicinity of the site will have increased.

5.3.6 It was agreed with SSL that an assessment should be carried out for the predicted year of opening of 2010 including growth. Growth is obtained from the National Traffic Model and TEMPRO database which attempts to reflect local area development projections, providing forecast data on trips for transport planning purposes.

5.3.7 Since the submission of the TA revised growth figures have been agreed between SSL and HCC for the proposed development based on a revised National Traffic Model (December 2008) and revised TEMPRO predictions. These predictions have been adjusted by the DfT to take account of the current economic climate and it is noticeable that growth predictions are substantially lower than when the original TA was undertaken (at a time of greater economic prosperity). Predictions in the TA Table 5.8 indicated growth to be between 2.7 to 4.4%, however this has now been adjusted to be between 0.8% to 1.4%.

5.3.8 Whilst the National Traffic Model has revised growth predictions for the East of England to only 4% between 2003 and 2010, it is noticeable that between 2003 and 2017 growth is expected to substantially increase by 17%. To put this in context between 2003 and 2010 growth is 0.57% per annum, but from 2010 to 2015 growth is 2.6% per annum.

5.3.9 The East of England Plan indicates that up to 2021, 83,200 dwellings should be provided across Hertfordshire as a minimum. Of this East Hertfordshire District

will accommodate 12,000 dwellings. Up to 2006, 2,140 dwellings had been provided within the district, leaving a further 9,860 to be provided by 2021.

5.3.10 Although housing provision figures may have slowed recently through the recession, the Regional Plan is explicit in stating in paragraph 5.4 that 'Local planning authorities should plan for an upward trajectory of housing completions, seeking first to achieve the annual average development rates for 2006-21 as soon as possible, then to make up any shortfall from the period before that rate is achieved'. Paragraph 5.5 indicates that the proposed review of the Regional Plan will also bring about proposals for further higher growth.

5.3.11 It is accepted that traffic growth has slowed recently due to the economic climate, which is reflected in the revised DfT forecast figures and the growth rates now applied to this Development's traffic model. However when considering the above it is clear that development rates are expected to pick up as the economy recovers and by the time the store is actually constructed, (possibly 2011), economic recovery is anticipated to be much stronger.

5.3.12 Considering the constrained road network across Hertfordshire, and the projections in relation to housing growth, I do not accept that no growth will occur around Hertford, or in-particular the routes around the Old Cross junction. When considering the highway network around this location (the A414 Gascoyne Way, B158 Mill Bridge/Old Cross/Cowbridge and A119 North Road) these are important distributor routes that will be affected by increases in traffic as the population of Hertfordshire grows.

5.3.13 Even if growth is slightly restricted during the peak periods, when considering the low percentage increases now predicted there is no reason why full growth may not occur off peak or during the weekend. The premise that growth will not occur during this period has not been substantiated and is not accepted. Calculations without growth do not form a realistic or robust assessment of the proposed development.

5.4 Parking

Supermarket Parking

5.4.1 The maximum parking standards for food superstores is 1 space per 15m2 GFA based on EHDC Vehicle Parking Provision at New Development SPD. For the supermarket element of the proposed Development the maximum spaces required would be 325 spaces (for 4,872m2 GFA), however due to the proximity of the site to the urban centre a reduction in parking is suggested in the SPD. For zone 3 a reduction of 50-75% should be applied, reducing parking to between 163 to 244 spaces.

5.4.2 I have no objection to the proposed 232 parking spaces.

Listed Building Parking

5.4.3 Based on EHDC parking standards for an office use 653m2 would require 22 parking spaces and if the full extent of the listed building was used, 1943m2 would require 65 parking spaces. These requirements could be reduced by 50-75% for a zone 3 area.

5.4.4 I have concerns that proposed users of the listed building would park along Hartham Lane which currently experiences high levels of parking due to existing business uses. Paragraph 5.33 of the TA states that there will be no on-site car parking in relation to the listed building. As the listed building is proposed as a parking free development, users should not be able to use Hartham Lane and parking along Hartham Lane should be retained for existing businesses. New development proposals should be restricted from its use, in-particular during the day (8am to 6pm).

5.4.5 Further information has been provided in relation to servicing of the listed building as indicated in drawing Nos. 62422/AR/W1 & 62422/AR/AA1. A loading area will be provided along the shared use section of Hartham Lane and turning facilities will be maintained at the northern end. It has been demonstrated a brewery lorry

can pass a parked box van, although the exact location of the bay will need to be agreed at the detailed design stage if the application is approved. The proposed turning area will require the loss of one parking space from the area proposed for the brewery parking and revisions to the original position of the gates.

5.4.6 A robust package of sustainable transport measures must be secured to promote this building as a car free development and restrictions should be made to prevent parking in the public highway during the day when other businesses are operating in this area.

5.5 Consideration of the Application of Proposed Trip Attraction, Trip Distribution and Growth

5.5.1 The general principle of trip distribution, including the percentage of pass-by and diverted trips, in combination with average trip rates has been agreed between HCC and SSL as per the TA. I accept that due to its location this Development could generate a higher percentage of pass by and diverted vehicle trips as outlined in paragraph 5.2.16 above.

5.5.2 However I believe that the combination of low trip rates and application of high pass by/diverted ratios is not appropriate. The reduction in trip rates from an already low figure is not agreed as I believe it does not form a realistic or robust form of assessment. SSL has also included an analysis of the impact of the Development using average trip rates which is considered in detail in section 6 of my Proof, although this is only submitted as a sensitivity test.

5.5.3 I consider that the whole methodology of the TA is overly optimistic leading to an analysis with unrealistically low traffic predictions. The combination of analysing the Development's impact with high pass by/diverted trip distribution percentages (minimising new traffic in the immediate vicinity of the Application Site), lower trip attraction rates (minimising traffic attracted to the Application Site) and excluding future growth (minimising flows on the highway network) gives an unrealistic underestimate of the impact of the Development.

5.5.4 Whilst some of these combinations may occur periodically, for all three reduced circumstances to occur on a regular basis is unrealistic.

6 Off Site Highway Impact

6.1 Peak hour spreading

6.1.1 Increased traffic volumes through the Old Cross junction will generate peak hour spreading leading to longer periods of the junction operating over capacity adding to the issues outlined below.

6.1.2 Traffic flows have been obtained over a 24 hour period for 15th November 2006 from the HCC signals MOVA system (Microprocessor Optimised Vehicle Actuation) for the Old Cross junction. I have added the predicted traffic flows from the Development to the current flows to establish overall total flows through the Old Cross Junction.

6.1.3 I have excluded growth in my analysis to simplify the calculation of vehicle flows. The extent of peak hour spreading will be further exacerbated as traffic growth occurs.

6.1.4 Figure 6.1 below identifies the total increase in traffic through the junction when considering average trip rates, including allowances for diverted and pass by trips as outlined in the TA. Detailed spreadsheets of the data I have prepared are attached in Appendix 6.

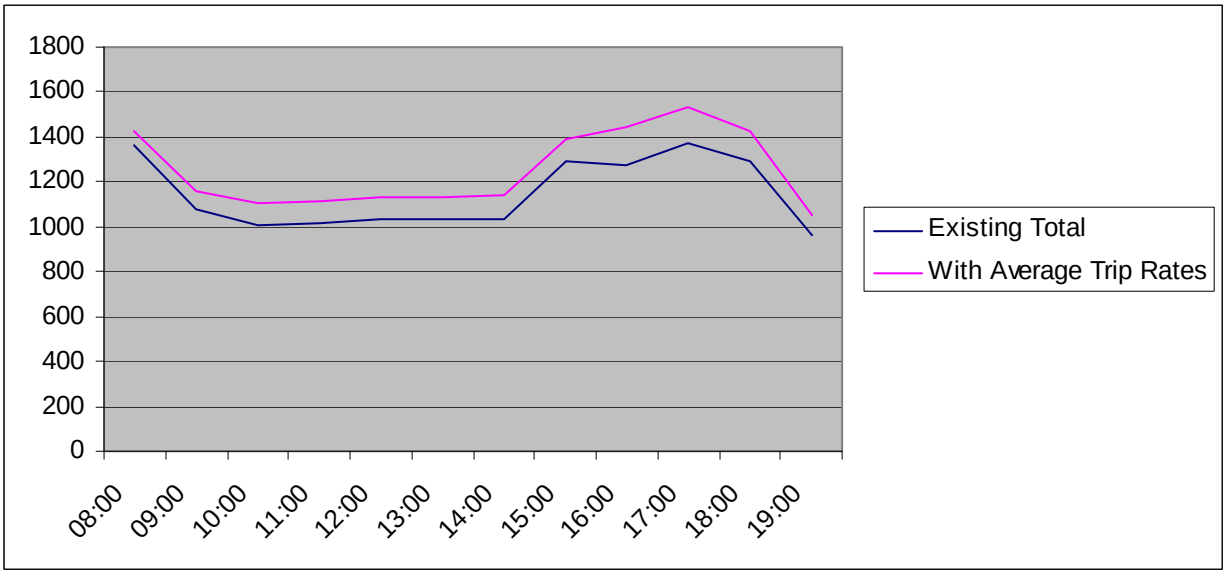

Figure 6.1 – Comparison of existing traffic flows with proposed development considering average trip rates (excluding growth).

6.1.5 It can be seen that the total traffic levels which currently occur during the evening peak hour 5pm – 6pm, will be exceeded for a significantly longer time period, from approximately 15:00 to 19:00. The morning peak hour is extended by approximately 30 minutes.

6.1.6 Figure 6.2 below identifies the total increase in traffic through the junction when considering average trip rates reduced by 15%, including allowances for diverted and pass by trips as outlined in the TA. Detailed spreadsheets of the data I have prepared are also attached in Appendix 6.

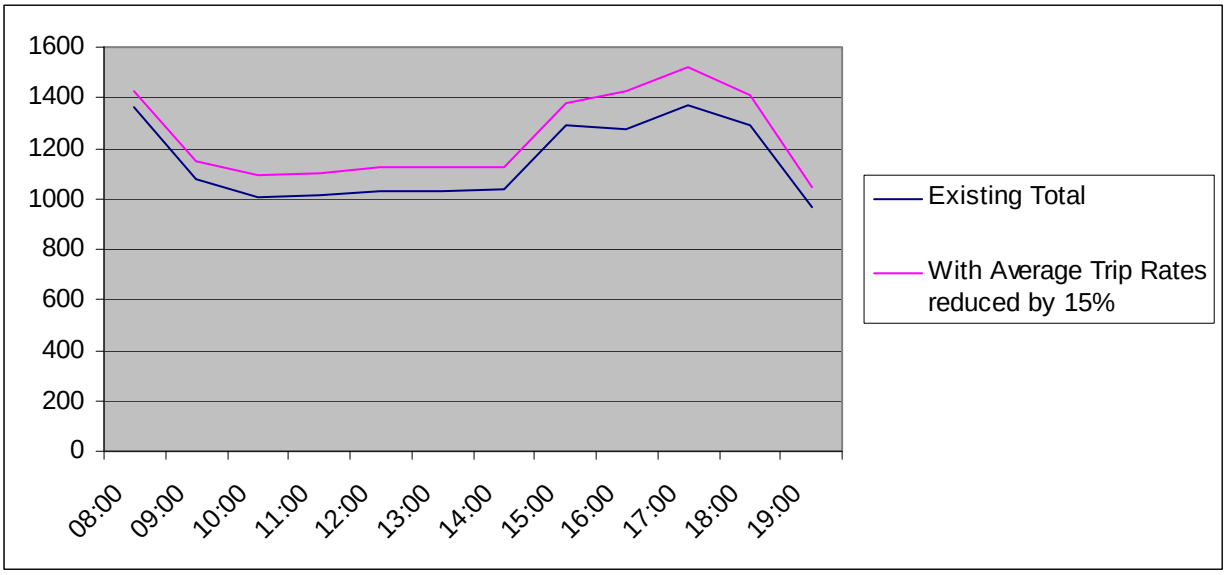

Figure 6.2 – Comparison of existing traffic flows with proposed development considering average trip rates reduced by 15% (excluding growth).

6.1.7 It can be seen that the results are similar to Figure 6.1 and that total traffic levels which currently occur during the evening peak hour 5pm – 6pm, would still be exceeded for a significantly longer time period, approximately 15:00 to 19:00. The morning peak hour is still extended by approximately 30 minutes.

6.1.8 This identifies that the current peak hour congestion rates at the Old Cross junction could last for around 4 hours compared to current flows between 5pm - 6pm. This will have a significant impact on traffic movements around the town as a constant state of congestion occurs.

6.2 Junction Analysis

6.2.1 The results below are calculated using average trip rates reduced by 15% without growth (Scenario 1 not agreed by HCC) and average trip rates with growth (Scenario 2 agreed by HCC).

6.2.2 To validate the model, the 2006 situation based on traffic counts and queue surveys has been analysed. Further work has been carried out to validate the model since the original TA submission and the base is now acceptable.

6.2.3 In addition to the general modelling scenarios (identified as Gen in the tables below) SSL has also provided outputs optimising the TRANSYT model (identified as Opt in the tables below). The use of this modelling method is not considered acceptable by me and is considered to be an inappropriate use of the modelling process to give unrealistic results. Optimisation of the signals has been applied to reduce queues at the Old Cross Junction.

6.2.4 Table 6.1 below highlights how the use of optimisation affects the results of the model outputs.

Table 6.1 - Friday am Peak – Implications of use of optimisation

	2006 Observed		2006 Observed with Optimisation	
	DoS	Q	DoS	Q
St Andrew Street	82	18	106	36
Old Cross	141	170	103	55
Mill Bridge, Right Turn	85	12	114	30

6.2.5 From Table 6.1 above it can be seen that by applying optimisation on the TRANSYT model for the existing AM peak the current queue along Old Cross would reduce from 170 vehicles to 55. Considering the Bengeo rat running issues outlined in paragraph 6.4.6.d below and HCC's desire to reduce congestion and improve journey time reliability, if this was realistically achievable HCC would have implemented such a measure.

6.2.6 The % saturation is an indication of how the junction is coping in relation to capacity. Up to 90% is the acceptable threshold for junction capacity and above this the junction is becoming overloaded. Above 100% the junction will begin to operate unreliably, not being able to cope with capacity and queues will build up quickly.

6.2.7 When using optimisation the TRANSYT model attempts to balance the queues on all the arms of the junction which is why in the example in Table 6.1 above the

queue is reduced on Old Cross, but extended along St Andrew Street and Mill Bridge.

6.2.8 Whilst TRANSYT can optimise the timings in theory, when looking at the results in practice as outlined below, MOVA is not replicating this arrangement on the ground even though the junction is over capacity and current green time thresholds would allow this to occur.

6.2.9 Another factor to consider is that the signal controls of the Old Cross junction includes bus priority. Bus priority extends green times if a bus is approaching the junction, however due to the limitations of TRANSYT modelling this factor cannot be replicated. This will be one of the reasons why the signals run the current cycle timings and green times are not extended as suggested in the optimised modelling.

6.2.10 TRANSYT models traffic flow with calculated arrival and discharge rates over a modelled period. It utilises mathematical algorithms to calculate the total cost of stops and delays on each link, when optimising, the TRANSYT model attempts to produce signal timings that reduce the cost of delays and stops by optimising the signal offsets (time to travel from one junction to the next) and green splits (green times for each approach). It cannot model the effect of 'bus priority' or 'exit blocking', i.e. TRANSYT will continue to discharge traffic even if in reality there is nowhere for it to go.

6.2.11 The MOVA dataset currently running on site is able to run a cycletime of 132 seconds, however MOVA assess arrival and discharge rates on a cycle by cycle basis, it reacts to bus priority demands and exit blocking situations by limiting/ extending green times where necessary, it can also react to unexpected flow increases (e.g. local traffic incidents) . Therefore although in theory a higher cycletime is possible, prevalent traffic conditions may not mean that this is the most efficient cycletime to run. Even though MOVA may provide some benefit in addition to the results obtained by modelling existing cycletimes, it is unlikely to be of the order predicted by SSL's modelling.

6.2.12 Optimisation of the TRANSYT model was not discussed pre-application by SSL's consultants with HCC or included in the TA submitted alongside the planning application. If this is an appropriate method to assess the junction then it is surprising that it was not originally included in the TA.

6.2.13 It should also be noted that the queue lengths predicted by the model are mean maximum queues and the queues will be longer at times.

6.3 Hartham Lane:

6.3.1 The critical modelling periods for this junction are the Friday am / pm and Saturday peaks. The modelling predicts the following impact on the right turn queue in to Hartham Lane:

(i) Friday am peak – the queue will increase from an average of 10 vehicles to 11 vehicles for scenario 1 and increase from 10 vehicles to 12 vehicles for scenario 2. The application of optimisation does not significantly affect these results.

(ii) Friday pm peak – the queue will remain at an average of 7 vehicles for both scenarios. However the application of optimisation does affect these results, when vehicle flows around the model are optimised the queue increases to 12 vehicles for both scenarios.

(iii) Saturday peak – the queue will reduce from 5 vehicles to 4 vehicles for scenario 1 and remain at an average of 4 vehicles for scenario 2. However the application of optimisation does affect these results, when vehicle flows around the model are optimised the queue increase to 9 vehicles for both scenarios.

6.3.2 Optimisation of the signals is required to reduce queues at the Old Cross Junction as outlined in paragraph 6.2.3 above, but the changes in timings associated with this would directly impact on the Hartham Lane junction increasing the right turn queue.

6.3.3 As more green time is given to the Old Cross junction the number of vehicles travelling northbound and arriving at the Hartham Lane junction to turn right increases. As more green time is also given to vehicles travelling southbound the opportunity for vehicles to turn right is reduced. The direct impact of this is that the right turn queue increases and will block back to the Old Cross junction.

6.3.4 TRANSYT is unable to model blocking back, so it hypothetically stacks vehicles vertically, and therefore as the queue extends through a nearby junction, no negative effect is applied to the affected junction. TRANSYT merely reports that the queue has extended beyond its physical /set limit.

6.3.5 Whilst the TA states in paragraph 5.51 the queue to turn right in to Hartham Lane will not impact on the Old Cross junction there are a number of further issues to consider:

a. Modelling in the TA did not consider optimisation, therefore the impact that changes to the signal timings will have on this junction were not considered.

b. Modelling right turning traffic is difficult , it would only take 1 or two delivery lorries turning right into Hartham Lane, or a slight increase in the number of vehicles travelling north along Cowbridge to create a queue that would extend further back to the Old Cross junction.

c. A queue of 12 cars would stretch back approximately 72metres along Cowbridge only leaving room for 1 more car before traffic would block back into the Old Cross junction.

d. As this is a mean queue length there are times when it will be exceeded and will likely block back to the Old Cross junction.

6.4 <u>Old Cross Junction</u>

6.4.1 The TA acknowledges (and I agree) that there is little scope to increase capacity at the Old Cross junction without returning it to the former mini roundabout.

However, this would have a detrimental effect on pedestrian links. This junction has therefore been analysed keeping the current design with no proposals for change.

6.4.2 The critical modelling periods for this junction are the Friday pm and Saturday peaks. The modelling predicts the following impact on the Old Cross junction.

Table 6.2 - Friday pm Peak - Scenario 1 - Without Growth, 15% reduction in average trip rates

	2006 Base				2006 With Development			
	DoS %		Q		DoS %		Q	
	Gen	Opt	Gen	Opt	Gen	Opt	Gen	Opt
St Andrew Street	107	92	38	25	115	101	57	36
Old Cross	99	90	21	21	124	102	73	37
Mill Bridge, Right Turn	106	90	25	17	108	102	29	26

Table 6.3 - Friday pm Peak - Scenario 2 – With Growth, average trip rates

	2010 Base				2010 With Development			
	DoS %		Q		DoS %		Q	
	Gen	Opt	Gen	Opt	Gen	Opt	Gen	Opt
St Andrew Street	108	93	41	26	117	103	63	40
Old Cross	100	92	22	21	128	103	84	40
Mill Bridge, Right Turn	107	91	27	18	110	107	31	32

(i) For the Friday pm peak in general the saturation for the junction approaches is between 99 - 107% based on 2006 flows. It is predicted that by 2010 with growth, but without the development this saturation will be between 100 -108%. For 2010 with the development saturation would be between 108 – 124% for scenario 1 and 110 - 128% for scenario 2.

(ii) For the Friday pm peak the queues for the junction approaches are between 21 – 38 vehicles based on 2006 flows. It is predicted that by 2010 with growth, but

without the development the queues will be between 22 - 41 vehicles. For 2010 with the development queues would be between 29 – 73 for scenario 1 and 31 – 84 for scenario 2.

(iii) When considering the impact of growth during this peak hour which only increases queue lengths by up to 3 vehicles, it is not unrealistic that such growth could occur.

(iv) With the proposed Development, primary increases in queues are along St Andrews Street increasing by between 19 to 23 vehicles (approximately 126metres) and Old Cross increasing by 52 to 62 vehicles (approximately 342metres). There is also a substantial increase in the degree of saturation by approximately 25% on Old Cross.

6.4.3 It can be seen from Table 6.2, 2006 base, that at present this junction is operating at capacity with the degree of saturation at/above 100% for each arm. As outlined in paragraph 6.2.11 above the current signal settings would allow for green times to be extended as per the optimised TRANSYT model, however this does not happen. Therefore, I do not consider that the use of optimisation and the MOVA system will increase cycle times to allow for increased traffic flows as suggested by SSL.

6.4.4 Notwithstanding the fact that it is considered optimisation is not an appropriate modelling methodology and the results will not be achievable in reality, when comparing optimised results, the degree of saturation is increasing from 90 – 93% to 101 – 107%. When the degree of saturation increases to above 100% the junction will begin to operate unreliably, not being able to cope with capacity and queues will build up quickly. It is noticeable (see Tables 6.2 and 6.3) that even with optimised results, the queue along Old Cross is still predicted to nearly double for both scenarios and increase by over 50% along other arms.

Table 6.4 - Saturday Peak - Scenario 1 - Without Growth, 15% reduction in average trip rates								
	2006 Base				2006 With Development			
	DoS %		Q		DoS %		Q	
	Gen	Opt	Gen	Opt	Gen	Opt	Gen	Opt
St Andrew Street	107	86	24	15	119	93	44	18
Old Cross	104	88	30	22	113	93	53	26
Mill Bridge, Right Turn	107	86	23	13	103	90	18	14

Table 6.5 - Saturday Peak - Scenario 2 – With Growth, average trip rates								
	2010 Base				2010 With Development			
	DoS %		Q		DoS %		Q	
	Gen	Opt	Gen	Opt	Gen	Opt	Gen	Opt
St Andrew Street	108	94	27	15	123	92	50	19
Old Cross	105	93	33	21	116	96	62	29
Mill Bridge, Right Turn	109	92	25	13	104	95	19	16

(i) For the Saturday peak in general the saturation for the junction approaches is between 104 - 107% based on 2006 flows. It is predicted that by 2010 with growth, but without the development this saturation will be between 105 - 109%. For 2010 with the development saturation would be between 104 -123% for scenario 2 and 103 – 119% for scenario 1.

(ii) For the Saturday peak the queues for the junction approaches is between 23 - 30 vehicles based on 2006 flows. It is predicted that by 2010 with growth, but without the development the queues will be between 25 - 33 vehicles. For 2010 with the development queues would be between 19 – 62 for scenario 2 and 18 - 53 for scenario 1.

(iii) When considering the impact of growth during this peak hour which only increases queue lengths by up to 3 vehicles, it is not unrealistic that such growth could occur.

(iv) With the proposed Development primary increases in queues are along St Andrews Street increasing by between 19 to 23 vehicles (approximately 126metres) and Old Cross increasing by 23 to 29 vehicles (approximately 156metres). There is also a substantial increase in the degree of saturation by approximately 12% on St Andrews Street.

6.4.5 It can be seen from Table 6.4, 2006 base, that at present this junction is operating at capacity with the degree of saturation above 100% for each arm. The same point applies here in relation to the lack of robustness in relation to SSL's reliance on the optimisation results, as set out in paragraph 6.4.3 above.

6.4.6 Implications of increased queuing and peak hour spreading at this junction include:

a. Increased delay, journey time, poor air quality, noise and general disruption across the general highway network.

i. Increases in congestion and queues will increase delay and journey times and will have a detrimental impact on noise and air quality.

b. Impact on the reliability of bus services causing disruption and a downward trend in reliability and hence patronage of bus services.

i. Increases in congestion and queues will impact on bus services which use routes in the vicinity of the store. Increased journey times and uncertainty in reliability will make bus use a less attractive mode of transport. Further detailed consideration of the specific impact on bus services is outlined in section 8.1 of my Proof.

c. Increased risk of accidents.

i. Congestion creates driver frustration. Vehicles have been observed to 'U' turn along St Andrews Street to avoid traffic queues. Increases in congestion in the area will increase the frequency/length of traffic queuing and increase the potential for vehicular conflicts.

d. Increased rat running through residential areas.

i. Rat running is particularly a concern when considering the narrow residential streets of the Bengeo area which currently suffer from peak hour rat running (See Map Appendix 7). Traffic avoids congestion at the Old Cross junction by using the residential roads of Lower Bengeo.

ii. In 2006 Hertfordshire Highways produced a detailed study outlining the Bengeo rat run issues. Detailed number plate recognition surveys and analysis indicated that in the am peak approximately 153 vehicles use the rat run southbound and 16 vehicles use the rat run northbound. For the pm peak approximately 19 vehicles use the rat run southbound and 43 vehicles use the rat run northbound.

iii. Currently the rat run problem is primarily southbound vehicles in the morning peak, although the number of vehicles northbound in the pm peak are still material.

iv. When considering the extent of peak hour spreading indicated in section 6.1 of my Proof and the increase in queues along St Andrew Street, northbound rat running will increase.

6.4.7 The DfT guidance on Transport Assessments (Core Document A17) is clear in paragraph 4.92 that 'If the 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), and should have been determined in discussions with the relevant highway authorities….'

6.4.8 When considering the modelling results above, the extent of peak hour spreading and the increases in queuing/congestion, it is clear that the impact of this Development is significant and adverse with both scenarios considering average trip rates and average trip rates reduced by 15% (notwithstanding the reasoning set out above as to why a 15% reduction is also not robust). To facilitate the Development physical improvements are required at the Old Cross Junction and Hartham Lane junction to increase capacity. However these are not possible due to the constrained nature of the highway network.

6.4.9 The impact of this Development on the highway network is contrary to policy in PPG13 paragraph 29, PPS6 paragraph 3.27, East of England Plan policy T1, T8, East Herts Local Plan policy TR1, TR2, STC1, LTP policy 5.5, 5.23 and objectives of Safer Roads and Tackling Congestion.

6.5 North Rd / Cross Lane

6.5.1 No alterations are proposed at this junction as analysis indicates that it should work satisfactorily within capacity.

7 **Safety**

7.1 Implications of Increased HGV Use – Swept Path Analysis

7.1.1 The swept path assessments in Appendix E of the TA show that it is possible to manoeuvre various oversize vehicles along the proposed approach route from Mill Bridge onto Old Cross and then onto Hartham Lane and back. However on each of these plans it is shown that vehicles will only be able to do this if they are provided excessive leeway by all other vehicles on the road (i.e. other vehicles must give way to allow the vehicle to manoeuvre along the road). No heavy goods

vehicle is able to accomplish these movements without crossing the centreline multiple times.

7.1.2 The short transition between the narrow curve of Old Cross and the corner of Hartham Lane is particularly difficult with some vehicles taking over the entire carriageway and overrunning the kerb at least once. Every time an oversize vehicle travels this route it is likely that all traffic will have to halt in order to give way, causing excessive congestion at various times throughout the day.

7.1.3 Due to the historic layout of this corridor there are issues concerning poor visibility which will inhibit free flow of traffic, cause unusual driving patterns, and increase risk of conflict between road users. Whilst large vehicles do already use this route, the existing use is related to a small scale industrial area which does not currently attract the larger size articulated vehicles that SSL would use. The Development will lead to an intensification of use and lead to more general use by larger articulated vehicles.

7.1.4 I consider that the small scale industrial area and the site layout of the existing businesses (which have limited loading and restrictive parking areas - see attached aerial photographs attached in Appendix 8), mean that larger scale articulated vehicles are unlikely to access the area.

7.1.5 The articulated vehicle swept path for a 15.5m vehicle originally presented in Appendix E of the TA indicated that it would overrun the footway to make the manoeuvre in to Hartham Lane from Old Cross (See Appendix 9). This was subsequently amended by SSL and the path no longer indicates that the vehicle would overrun the footpath (See Appendix 9).

7.1.6 The slight variances in these two track runs indicate how precise the vehicle manoeuvre must be to avoid overrunning the footway. Even with the revised track run it is noticeable that the limits of the swept path are exactly from kerb to kerb and a vehicle would need to follow this exact line every time to avoid mounting the footpath. It is extremely unlikely to achieve this exact manoeuvre on every

occasion when considering differing driver behaviour, knowledge, experience and traffic conditions.

7.1.7 The swept path for an articulated vehicle turning right in to Hartham Lane from Old Cross would be difficult to achieve without over running the footpath when vehicles are waiting to exit Hartham Lane (See Diagram RJ1, Appendix 9). In addition, if an articulated vehicle exiting Hartham Lane did so at the same time as a vehicle turned in to Hartham Lane, the indicated swept path to avoid overrunning the footpath would also be difficult to achieve as the artic would need to follow a different line to avoid the entering vehicle (See Diagram RJ2, Appendix 9).

7.1.8 Footpath widths around this location are not ideal varying from 1.55 metres to 2.05 metres. Manuel for Streets recommends in paragraph 6.3.22 a minimum unobstructed width of 2 metres in lightly used streets with additional footway width to be considered along heavily used carriageways. The footpath width is only 1.6 metres wide directly opposite Hartham Lane which will make pedestrians extremely vulnerable. The combination of articulated vehicles passing so close to the footpath with a high probability of overrunning it is not appropriate and will lead to an increased risk of accidents.

7.1.9 SSL states in the TA that larger deliveries would take place between 7pm to 7am, however vehicles will still have a detrimental effect on safety and capacity. Overrunning of the footpath is a hazard at any time of the day as pedestrians still use footpaths during the evening.

7.1.10 Furthermore, traffic generated by the Development will still be significant after 7pm. When considering average trip rates (100% Ave) and those reduced by 15% (85% Ave), the Development could still attract the vehicles flows indicated in Table 7.1 below which are considerably higher than existing along Hartham Lane:

Table 7.1 – Vehicle Trip rates 7 – 10pm						
Time	Arrivals		Departures		Total	
	85% Ave	100% Ave	85% Ave	100% Ave	85% Ave	100% Ave
7 – 8pm	110	129	151	178	261	307
8 – 9pm	65	76	94	111	159	187
9 – 10pm	36	43	59	69	95	112

7.1.11 This level of traffic will still lead to a high probability that between 7pm – 10pm whilst the Development is open delivery vehicles will not be able to follow the exact track routes to avoid overrunning the footpath.

7.1.12 Hertfordshire's Road Safety Plan 2006 – 2010 states in paragraph 3.4 that adults are most likely to be injured at weekends between the hours of 10pm and 2am, indicating the likelihood that alcohol is involved. When considering the latest accident data for 2008, 75 pedestrian accidents took place between 7pm to 7am, of which 27 involved those impaired by alcohol (An extract from the Safety Plan is attached in Appendix 10).

7.1.13 Hertford has a busy evening economy with numerous pedestrians visiting restaurants and public houses. Pedestrians may not expect heavy goods vehicles manoeuvring around the local road network and should be able to walk along footpaths freely without the risk of a vehicle overrunning the footpath and striking them.

7.1.14 A pedestrian count was undertaken at the Hartham Lane junction on Friday 7th and Saturday 8th August 2009. Full results of the survey are contained in Appendix 11. The following pedestrian flows in Table 7.2 were recorded in the vicinity of the junction, either walking along Old Cross / Cowbridge, or to/from Cowbridge and Hartham Lane:

Table 7.2 - Pedestrian Count Data			
	Adult	Child	Total
Friday 7-8pm	155	16	171 (80 along footpath opposite junction)
Friday 8-9pm	155	3	158 (97 along footpath opposite junction)

7.1.15 These results indicate that this is a popular route for pedestrians who will be at risk from the introduction of use of articulated vehicles no matter what time of day. There are a high number of pedestrians who use the footpath opposite the junction who will be particularly vulnerable.

7.1.16 In addition to pedestrian safety, vehicle collisions will also be a specific issue even if deliveries are made to avoid the peak periods. If vehicle flows along Old Cross / Cowbridge are lower then vehicle speeds will be higher. This will increase the likelihood of an accident if an articulated vehicle is manoeuvring out of Hartham Lane across both lanes of traffic. This is particularly relevant for vehicles travelling northbound along Old Cross where visibility northbound is restricted due to the curvature of the carriageway.

7.1.17 The speed limit along Old Cross / Cowbridge is 30mph. For a 30mph road Manual for Streets in table 7.1 recommends a stopping sight distance of 43 metres. Diagram RJ3 in Appendix 9 indicates that the visibility around the bend is at best 33 metres if the view across the footpath is not obscured by a pedestrian and the diver is specifically looking to the left in anticipation of vehicles exiting Hartham Lane.

7.1.18 I am concerned that a vehicle travelling northbound could collide with an articulated vehicle exiting Hartham Lane, or if they manage to break suddenly, they will be at risk from rear shunt collisions, as vehicles following will not be aware of the danger.

7.1.19 When considering the point at which an exiting vehicle is visible for northbound vehicles, even if the northbound vehicle does stop, one of the vehicles will have to mount the footpath to avoid the trailer hitting the stopped vehicle. See Diagram RJ4 in Appendix 9.

7.1.20 The implications on safety as a consequence of not being able to adequately accommodate the articulated vehicles associated with the proposed development is contrary to policy in PPG13 paragraphs 29 and 76, East Herts Local Plan policy TR2, the Local Transport Plan priority of 'safer roads'' and policies 5.5, 5.17 and 5.23.

7.1.21 The proposed intensification of use of this area by articulated vehicles is also contrary to East Herts Local Plan Policy TR2, which by reference to the County Council's Roads in Hertfordshire (Core Document B4) states that 'Any road likely to be used by large vehicles must be designed to accommodate such vehicles'.

7.1.22 Guidance in the Freight Transport Association publication 'Designing for Deliveries states that in relation to width of two-way access roads, 4.1.2, 'The width of a two-way road must be sufficient to accommodate the swept paths of two vehicles passing in opposite directions. In addition, allowance must be made for safety margins between the two vehicles…..' (An extract from the Guidance is attached in Appendix 12)

7.1.23 The Freight Transport Association publication (FTA Guidance) also recommends that on straight sections of road allowing for a HGV width of 2.55 metres plus the width of rear-view mirrors, where there is substantial flow of traffic and the passing of vehicles in opposite directions is common, a clearance of 1.3 metres between the basic widths of opposing vehicles and clearances of 0.5 metres between the vehicle and the carriageway edge is usually considered necessary. This would give a carriageway width of 7.4 metres, although the standard width of most existing two-way roads is 7.3 metres.

7.1.24 The FTA Guidance goes on to recommend that where traffic flows are very light, and vehicles entering and leaving meet only infrequently, it is reasonable to

reduce safety margins to an absolute minimum of 6metres on the assumption the drivers will need to pass slowly. Although carriageway widths must be increased at bends because vehicle paths are wider and the extent of the necessary widening depends on the curvature of the bend, the total angle of turn, and the types of vehicles that use the road.

7.1.25 Figure 4.2 of the FTA Guidance (Attached in Appendix 12) indicates that for a bend of 50 metres outside radius, the width from a straight section of road to the apex of the bend should increase by 2.1 metres for an articulated vehicle, whereas by comparison for a large rigid, the increase needs only to be 1.3 metres. For a bend of 25 metres outside radius, the bend should increase by 3.5 metres for an articulated vehicle and 2.4 metres for a large rigid vehicle.

7.1.26 The width of the carriageway around this section of highway varies between 5.6 metres to 6.5 metres on the northbound approach to bend, increasing to 7.3 metres at the apex. The actual carriageway widths on the approach to the bend do not comply with the guidance outlined above and widening at the bend is insufficient, this is further demonstrated by the track runs.

7.1.27 Whilst articulated vehicles may not meet frequently along this stretch of highway they will meet other vehicles. The track runs identify that to make the manoeuvre along the highway opposing traffic could be affected for up to 35 metres (See Diagram RJ5 Appendix 9). By comparison the impact of current rigid vehicle is to affect traffic in the immediate vicinity of the junction for 13 metres.

7.1.28 When considering Manual for Streets guidance for heavy goods vehicles it does not stipulate specific standards to be achieved, however it does state in paragraph 7.2.6 that swept path analysis, or tracking, should be used to determine the space required for various vehicles.

7.1.29 It is clear from the FTA Guidance, Manual for Streets guidance, and track runs provided, that to accommodate the proposed use by articulated vehicles, the highway along Old Cross and Hartham Lane should be widened. However this is

not achievable and therefore the proposed type of development requiring use by articulated heavy goods vehicles is not appropriate.

7.1.30 If this site was developed for an alternative use such as residential, B1, small scale retail (or a mixed development comprising such uses), the site would be unlikely to be accessed by articulated heavy goods vehicles and therefore the detrimental highway safety implications detailed above would be unlikely to arise.

8 **Sustainable Transport Links**

8.1 Bus

8.1.1 The Old Cross junction is an important route for buses travelling west out of the town. Increased traffic flow and congestion as a result of the Development will delay buses along this route. Bus stops in the vicinity of the Application Site could also be affected – those on Cowbridge, Mill Bridge, The Wash and St Andrews St are all on street (except Mill Bridge, Castle Hall which is a lay-by) and would be adversely impacted by queuing traffic and on street parking. Junction capacity would be affected when buses are using the Mill Bridge Castle Hall stop. Buses stopping at the Castle Hall stops would find it more difficult to pull out due to increased traffic flows.

8.1.2 The stops along Cowbridge are approximately 290 metres from the proposed store entrance, and those along Mill Bridge are 325 metres to 345 metres from the proposed store entrance. Whilst these are within 400m of the site as recommended for a residential area, they are a considerable distance for those carrying any heavy amounts of shopping. Additionally, SSL does not specifically examine the quality of pedestrian routes to these stops or measures to improve these stops, which will be of increased importance given increased traffic flows and congestion. There are currently no formal pedestrian crossing points on Cowbridge Road or Hartham Lane, which will become more trafficked and with the new supermarket making crossing to the bus stops more difficult.

8.1.3 No provisions are proposed for bus stops at the store or diverted services to improve the frequency of service or choice of provision. Whilst I consider it likely that the provision of a bus stop at the Application Site may be problematic given the predicted congestion, site layout and lack of obvious point for a bus to turn around, it does not appear that SSL has investigated the possibility. Neither are there any measures suggested for the bus stops near the Application Site to improve accessibility and make them up to DDA standards.

8.1.4 Specific issues in relation to existing bus stops include:

a. Mill Bridge, Castle Hall – this stop is located approximately 50 metres from the Old Cross junction and is located on street. This can cause delays to traffic approaching the Old Cross junction wishing to travel straight on and thereby reducing capacity. This situation will not be taken account of in the junction modelling.

b. The Wash, opposite Castle Hall (in a lay-by) - improvements could involve the provision of a half lay-by, rather than a full lay-by, in order to discourage parking.

c. Cowbridge, opposite the church (in a lay-by) - there is the potential for buses to be delayed if the traffic volumes prevent buses from pulling out. In addition, bus lay-bys are often used for parking vehicles and this could be made worse by the proposals to reduce the amount of on street parking in the area.

d. Cowbridge Church - this stop has recently had some improvements following the development of the adjacent site. Further enhancements would be difficult as access is required by the Environment Agency to the adjacent River Beane.

e. St Andrews Street opposite Church – this stop is located within 150 metres of the Old Cross junction and if traffic queues extend over 150 metres, it is likely it will be affected.

8.1.5 Whilst the signalised junction at Old Cross enables pedestrians to cross there, customers using the bus may prefer the trip to the bus station given the greater number of routes available. However, the bus station would be approximately 441m from the store entrance with the pedestrian link to Folly Island, and this distance may not make bus use a sufficiently attractive option, especially for those unable to carry shopping far.

8.1.6 SSL proposes to contribute to the upgrade of the bus station with improved signage, improved surface of bus circulation area, and facilities for waiting passengers. Whilst this is positive, as is the improved link via the riverside footway, a number of services into the station are 1-2 hourly and many have no Sunday service.

8.1.7 Service deficiencies are most notable in Sunday and evening provisions, in-particular the 333 service which operates between Bengeo and Pinehurst. Currently operation finishes around 1830 with no Sunday provision. The HCC bus network review highlights this fact and recommends that consideration is given to improving this service. Other areas such as Horns Mill are also poorly served and would benefit from improvements.

8.1.8 Other than the proposed improvements at the bus station no further bus improvements are proposed. Considering the gaps in bus service and the implications of increased congestion around this area, I consider that if the Development is granted planning permission it would be necessary for contributions to be made to fund further bus service provision (in-particular on a Sunday and in the evenings) in addition to the s106 contributions currently offered by SSL. Detailed consideration of s106 issues and contributions is considered in section 10.2 of my Proof.

8.1.9 It is clear from the points raised above that this site has limited accessibility by public transport contrary to policy in PPG13 paragraphs 19, 74, PPG6 paragraph 3.25, East of England Plan policy T4, East Herts Local Plan policy TR1, STC1 and the LTP objective of Accessibility.

8.2 Rail

8.2.1 It is recognised that rail will not likely form a main part of shopping trips.

8.3 Pedestrian Facilities

8.3.1 SSL identifies a number of pedestrian routes to the proposed store from different directions, which is positive, however those wishing to do a significant amount of shopping will probably not do so on foot (i.e. this mode is most likely for top up shopping trips and not full weekly shops). The proposed improved signage is welcomed and would facilitate access to/from the site, although further details will be required at the detailed design stage for these proposals.

8.3.2 The new riverside walkway is a positive addition, as it creates a short cut to the town centre and also to the bus station which significantly decreases the distance for customers to/from the store. The width of this route has been increased to a minimum of 3 metres to allow shared pedestrian and cycle use. It would be essential that this link is provided SSL prior to first use of the facilities to ensure sustainable modes of transport are promoted from the outset and permanently maintained. The proposed conditions by EHDC stipulate this link must be provided prior to first use.

8.3.3 The TA outlines in paragraph 4.18 that it will be possible to walk along the old route of Hartham Lane to towards the swimming pool complex and that this will represent a significantly improved situation for pedestrians. However the route through the site may not be convenient or attractive for pedestrians as the front of the store and car park need to be negotiated. Appropriate facilities for crossings will be required within the site.

8.3.4 Further details are required in relation to the crossing of Port Hill to ensure this is feasible. This could be a main link to the store for pedestrians and cyclists and it needs to be ensured that it is deliverable. This should be provided by SSL prior to first use of the store to ensure sustainable modes of transport are promoted from

the outset and should form part of specific offsite works like the riverside walk / bridge.

8.3.5 SSL indicates that the signal cycle time phasing of the Old Cross junction will require amendment as per the TRANSYT model analysis to achieve the optimised traffic modelling results presented. This will necessitate increased pedestrian wait times (email from traffic consultant attached in Appendix 13), increasing the risk of pedestrians attempting to cross when not safe to do so.

8.3.6 Accident data for the three year period to July 2006 was presented in the TA, paragraphs 5.74 to 5.77. There were a total of 5 accidents recorded during the period, with 3 at the Old Cross junction, 1 south east of the Old Cross / Hartham Lane junction and another on Hartham Lane. The 3 accidents around the Old Cross junction all involved pedestrians.

8.3.7 While these figures do not reveal a significant problem currently in the area it is likely that the pattern will continue along with increased heavy good vehicular, general vehicular, pedestrian, and cycle activity that will be associated with the Development.

8.3.8 In addition to this safety issue, in terms of accessibility, any increase in pedestrian wait time at the Old Cross junction will have a negative impact on the attractiveness of walking around the area.

8.3.9 No consideration has been given by SSL to pedestrian links across Cowbridge or the impact the increase in traffic will have on pedestrians crossing Hartham Lane, Old Cross and Cowbridge. As outlined in paragraph 7.1.14 above, a pedestrian count was undertaken at the Hartham Lane junction on Friday 7th and Saturday 8th August 2009, with full results of the survey contained in Appendix 11. The following pedestrian flows in Table 8.1 were recorded crossing Hartham Lane and Old Cross to the south of Hartham Lane.

Table 8.1 - Pedestrian Count Data				
Time Period	**Crossing**	**Adult**	**Child**	**Total**
Friday 5-6pm	Hartham Lane	41	3	47
	Old Cross	26	0	26
Saturday 12-1pm	Hartham Lane	63	5	68
	Old Cross	70	9	79

8.3.10 It can be seen from the table above that this route is reasonably well used by pedestrians. Current vehicle flows along Hartham Lane are 216 during the Friday pm peak and 287 during the Saturday Peak. When considering the Saturday peak alone, this equates to approximately 5 vehicles per minute, 1 every 12 seconds. This low level of vehicle movement enables pedestrians to easily and safely cross the Hartham Lane junction.

8.3.11 During the Friday peak hour the Development could generate 436 additional vehicle trips turning in to and out of Hartham Lane based on average trip rates, or 371 trips based on average rates reduced by 15%.

8.3.12 During the Saturday peak hour the Development could generate 484 additional vehicle trips turning in to and out of Hartham Lane based on average trip rates, or 412 trips based on average rates reduced by 15%.

8.3.13 All of the above trips will be new to Hartham Lane and are a significant increase when considering the current flows in to and out of Hartham Lane. Even when considering the 15% reduced trip rates this equates to a 272% increase in the Friday pm peak and a 244% increase in the Saturday peak. These figures exclude trips that will be generated by the listed building.

8.3.14 If considering the Saturday scenario alone with average trip rates reduced by 15%, a total of 699 vehicles would be using the Hartham Lane junction during the peak hour. This equates to approximately 12 vehicles per minute, 1 every 5 seconds, turning in and out from the left and right.

8.3.15 This will cause significant problems for pedestrians wishing to cross the junction due to longer wait times and a need to focus on an increase in a multitude of vehicle manoeuvres. Ideally a pedestrian refuge island should be provided in Hartham Lane to assist pedestrians crossing, however space is not available within the highway to facilitate this.

8.3.16 The impact on pedestrians around this area and the increase in pedestrian wait times will be material and adverse and I consider that the proposal would therefore be contrary to policy in PPG13 paragraphs 29, 76, 77, the East of England Plan policies T1, T8 and East Herts Local Plan policy TR1.

8.4 Cycle Links

8.4.1 SSL proposes to promote (with improved signage and information provision) the existence of National Cycle Route 61 which passes close to the store. Proposed contributions to enhancing the links to the route from the west with signage and minor works, kerb build-outs and dropped kerbs for a crossing on Port Hill, and the link to the east in the direction of Ware Park Road are welcomed to improve cycle facilities in the vicinity of the site. As mentioned above further details are required to ensure the suitability of proposals for Port Hill.

8.4.2 The design of the new riverside walkway as a shared pedestrian/cycleway is positive, however it must be recognised that there is a limit to how much shopping can be done by bike and it is likely this mode will form the majority of top up shopping trips.

8.5 Taxis

8.5.1 The proposed provision by SSL of a free phone taxi service and subsidised taxi travel for Hertford residents is positive and would enable shoppers who come to the store by sustainable modes to return by taxi with shopping. It is important that taxi pick up is close to the exit in order to give priority over cars and to facilitate the use of this service.

8.5.2 It is unclear how the subsidised rate will be achieved and how long it would run for, but the details would need to be secured through a planning obligation.

8.6 Home Delivery

8.6.1 Whilst it is stated that home delivery will have a beneficial impact on reducing peak hour traffic, when considering the overall number of trips involved to the development and the uncertainty of which trips home delivery may be replacing, I am not convinced that the benefits could specifically be related to any particular time. For this proposal the store could generate around 4888 vehicle trips per day based on average trip rates, but home delivery with three vans will only replace 90 trips. Home delivery is a positive step, however the level of service provision would need to be substantial, cheap, and convenient to use to make any major impact and the provision of the service needs to be secured by a planning obligation.

8.7 Travel Plan

8.7.1 Travel Plans are an important tool in the delivery of sustainable outcomes. The Department for Transport Guidance on Transport Assessment states that, 'the Travel Plan should be tailored to address site specific issues relating to the proposed development'. PPG13 states that 'where submitted alongside a planning application they should be worked up in consultation with the local authority and local transport providers'.

8.7.2 The draft Travel Plan included in Appendix F of the TA is not acceptable. A number of issues have been raised with SSL in relation to the plan, however no attempts have been made to date to rectify them. From the comments made below it is clear that this is a standard proforma used for SSL's stores and no detailed consideration has been given to this Development's specific location or issues.

8.7.3 Even at the planning stage, I would expect an interim plan giving information such as size of store, expected numbers of employees, deliveries, transport features of

the location etc, subject to the delivery of a full plan within 6 months of occupation. The interim plan should also include indicative targets. The submission of an interim plan is supported by DfT Good Practice Guidance – Delivering Travel Plans through the Planning Process.

8.7.4 Outlined below are specific comments in relation to the travel plan.

a. Section 1 Introduction – Paragraph 1.1 states the plan is being submitted for a planning application related to a store extension but the proposal is for a new store.

b. Section 2 Accessibility and Site Audit - None of the points within this section have been completed. Although the store is only at the planning stage at present an overview should be given. I would have expected comments in all points within this section.

c. Section 3 Travel Survey and Travel Patterns - As with section 2 there are no details completed within this section. Although the application is for a new store and there may not be specific details on staff travel patterns, predicted customer travel could be gained from census data and the retail assessment to provide an indication of anticipated mode shares.

d. A full staff survey should be carried out within 3 months of opening and the full travel plan submitted within 6 months. Targets will need to be agreed by the highway and planning authorities. Owing to staff turnover and life changes there will need to be a full staff survey every three years, with a snapshot survey each year between. The proposed survey form does not contain enough information for a full survey and may be too complex for a snapshot survey.

e. Section 4 Objectives and targets - Targets must be set when a survey has been conducted, within 6 months of the store opening would be deemed acceptable, however the preliminary plan should contain indicative targets. Final and ongoing target changes to the plan will need to be agreed by the highway and planning authorities.

f. Section 5 Travel plan strategy - How the role of travel plan coordinator will be staffed should outlined within the interim plan, identifying whether it will come under the remit of a certain role in the supermarket. The Travel Plan coordinator, if not a colleague at the store, should be on site one day a week and an indication of the allocated hours for travel plan tasks once the plan is up and running is required. The appointment of the TP coordinator should be notified and agreed with both the highway and planning authorities.

g. Section 6 Measures - All of the proposed measures relating to colleague travel are perfectly acceptable, however statements such as 'Many colleagues live within an acceptable walking distance from the store' paragraph 6.1, are not an accurate reflection as at this stage this is unknown. If this is expected to be the case it should be clearly explained. Paragraph 6.2 mentions local tube lines, however there are no tube lines in the Hertford area.

h. Section 7 Monitoring and review - Considering the size and impact of this development the travel plan should run for its full life. The results of annual monitoring must be reported to the planning and highway authorities.

8.7.5 I believe there is a need for more background information on the proposed location and the acknowledgement that the plan is for the interim with a full more in depth plan, including baseline survey data, to be submitted within 6 months of the store opening.

8.7.6 Furthermore the company's national policies on freight should also be summarised with an estimate of the numbers and types of vehicles to be used per day/ week for inward deliveries. Delivery vehicles may include vehicles for customer delivery (outward deliveries) and these should be included in the plan

8.7.7 PPG13 is clear in paragraph 90 that travel plans should have measurable outputs, which might relate to targets in the local transport plan, and should set out the arrangements for monitoring the progress of the plan, as well as the arrangements for enforcement, in the event that agreed objectives are not met.

8.7.8 The Travel Plan as submitted is contrary to policy in PPG13, East Herts Local Plan policy TR4 and DfT good practice guidelines.

9 Alternative Site Uses

9.1 The TA acknowledges in paragraph 6.2 that '…it is clear that there is potential for the development to have some impact and this must be weighed against the potential benefits. However, when making this trade off, it must be borne in mind that alternative land uses will also have traffic impact..'.

9.2 A simple analysis has been undertaken in section 6 of the TA to consider alternative uses for the site including an office only scenario of 13,000m2 and a mixed alternative scenario of 40 residential units, 1000m2 retail, 5000m2 office.

9.3 It is unclear at this stage exactly what development scenarios would be appropriate for the site and further work would be required to consider different options with corresponding traffic flow profiles and trip rates.

9.4 The EHDC officers report for the 14th January 2009 committee which recommended the application be refused, also suggested in paragraph 8.5 that a mixed use development could consist of '…a broader mix of uses including A1 retail uses, commercial B1 use and some residential… This option would focus on ways to achieve a low impact traffic development…'

9.5 When considering the options put forward in the TA and the comments in the EHDC committee report, it is unlikely that a purely office based development would be taken forward. The officer report also indicated that the focus would be on ways to achieve low traffic impact.

9.6 There are significant differences in trip rates and flow profiles for various development types which could be considered in more detail. Outlined in Table 9.1 below are general trip rates for different types of development.

Table 9.1 General trip rates for different types of development			
	Total Daily Trips	AM Peak Trips	PM peak Trips
Supermarket Trips per 100m2	210	6.4	18.8
Office Trips per 100m2	17.6	2.1	1.7
Flats Trips per dwelling	2.7	0.3	0.3

9.7 It can be seen in Figure 9.1 below that the flow profile of a supermarket is significantly higher and lasts throughout the day (high rates continue from 10am to 7pm).

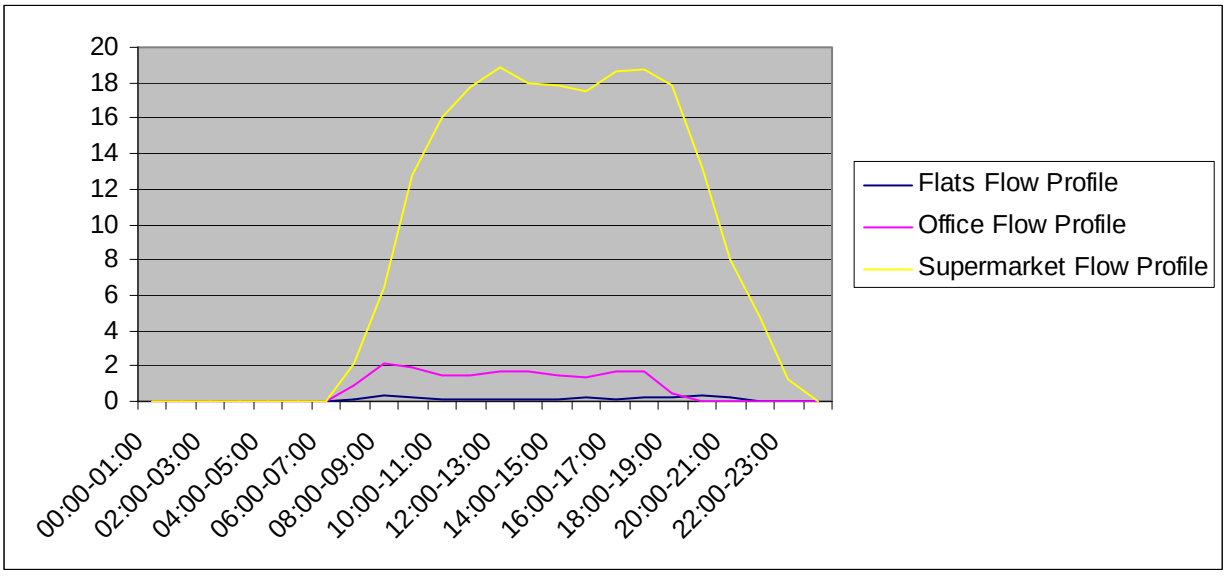

Figure 9.1 – Comparison of trip profiles

9.8 When considering the mixed alternative scenario in the TA, I have calculated that the likely trip rates of the differing elements as indicated in Table 9.2 below.

Table 9.2 – Mixed Use Scenario Trips		
	8-9am	5-6pm
Office (5000m2)	105	86
Local Shops (1000m2) with 25% discount	82	120

Residential (50 flats)	15	13
Total Trips	202	219

9.9 It can be noted from Table 9.2 above that the retail element of this alternative scenario accounts for 40% of trips in the am peak and 55% of the trips in the pm peak, however the following has not been considered:

a. Table 6.1 of the TA indicates that SSL has only attributed a small discount to the retail element of the alternative proposals, 25% of retail trips being linked to other uses on the site. By comparison, for SSL's analysis of their retail proposals, they are suggesting 50% would be pass by/diverted in the am peak and 55% in the pm peak. A further reduction for pass by/diverted trips should be attributed to the alternative proposals.

b. The retail element could be reduced.

c. The retail trip attraction of the site would be dependant on the type of retail provision. If this site was to include small shops as an extension to the town centre, focusing on comparison goods, am peak trips would be minimal.

d. If minimal / no parking was included for this extension to the town centre vehicles would utilise existing parking spaces and trip attraction would be further reduced.

9.10 It can be noted from Table 9.2 above that the office element of this alternative scenario accounts for 52% of trips in the am peak and 39% of the trips in the pm peak, however the following has not been considered:

a. The office element could be reduced.

b. If a car free office development was provided the trip attraction would be significantly reduced.

9.11 It can be noted from Table 9.2 above that the residential element of this alternative scenario accounts for 7% of trips in the am peak and 6% of the trips in the pm peak, however the following has not been considered:

a. The residential element could be increased.
b. If a minimal car parking was provided the trip attraction would be significantly reduced.
c. Other developments around Hertford which have recently received planning permission provided car parking at less than 1 space per dwelling with the provision of a car club.

9.12 The TA goes on in Table 6.4 to consider vehicle flows at the Old Cross junction, stating in Paragraph 6.12 that it is assumed 75% of trips would pass through this junction. This comparison does not take account of the comments made above which could significantly reduce trips for a proposed mixed use development. It is also unclear how the supermarket flows in Table 6.4 of the TA have been calculated.

9.13 The TA accepts in paragraph 4.49 that for supermarkets modal share for bus and cycle is generally low, 1.5 to 3.5% with walking attracting 17 – 25%. There would be a much greater potential to achieve a higher sustainable transport mode share with alternative site uses.

9.14 When considering the trends of mode share for supermarkets and the need to use a vehicle for heavy weekly shops, there is also greater potential to achieve more benefit from s106 contributions to reduce vehicle impact for a mixed use development.

9.15 Paragraph 6.3 of the TA states that HCC have carried out a simple comparison of trip rates aimed to quantify a comparison between land uses by looking solely at the generation rate per unit area. Whilst the TA puts forward a comparison of alternative scenarios based on uses / areas, as outlined above further consideration also needs to be given to increasing uses with lower trip attractions and targeting

uses where vehicle attraction may be managed, e.g. B1 business without parking, residential with minimal parking and car club.

9.16 A mixed use development could be developed for this site with further consideration of vehicle flow profiles to avoid peak hour congestion and limiting vehicle use to ensure there is less impact on the Old Cross junction and congestion in the area. In addition to reduced congestion, a mixed use site would not generate the extent of peak hour spreading as identified for the proposed Development in section 6.1 of my Proof above.

9.17 The safety implications of access by articulated vehicles would not arise with a mixed use alternative scenario.

10 **s106 Justification and Requirements**

10.1 Policy Justification for Contributions

10.1.1 The policy provision of S106 contributions is provided for in PPG13 paragraph 84 and East Herts Local Plan policy IMP1 and HE9. Policy IMP1 is backed by a Supplementary Planning Document Planning Obligations October 2008.

10.1.2 The SPD outlines that the District and County Councils will employ a two-strand approach in seeking accessibility contributions.

10.1.3 Paragraph 6.2.6 of the SPD states in relation to the first strand of contributions:

> "The first strand of the Council's approach involves the traditional process of seeking developer contributions for specific off-site improvements related to the development. Contributions facilitate development by making it work operationally in highways and accessibility terms. This conventionally involves achieving safe access and egress to a development and is typically met by road and other infrastructure improvements in the area around the development where safety issues and traffic impacts are most concentrated and significant. Such

requirements are usually identified through Transport Assessments or via site specific negotiations".

10.1.4 For this site the Development proposals will have a significant impact on the highway network as identified in section 6 of my Proof. If road space was available highway works would be carried out at cost to the developer to accommodate the increase in traffic and make the development work operationally, however this is not possible and therefore no first strand contributions are available.

10.1.5 Works which would be required to make this development appropriate include physical junction improvements to the Old Cross junction to increase capacity, widening of the carriageway along Old Cross to appropriate widths for proposed HGV artic use, widening of footpaths around Cowbridge/Old Cross to appropriate widths, widening of Hartham Lane with consideration of pedestrian refuge island, etc.

10.1.6 Paragraph 6.2.8 of the SPD states that larger developments may also be associated with planning obligations to support or improve rail and bus services and/or stations and park and ride schemes.

10.1.7 Paragraph 6.2.11 of the SPD states in relation to the second strand of contributions:

"Second strand contributions will be applied in addition to first strand contributions as they are intended to fund a different range of accessibility measures which are aimed at making an impact towards achieving a modal shift away from the private motor vehicle".

10.1.8 Paragraph 6.2.12 of the SPD states that contributions achieved under the second strand will therefore be used to fund network-related accessibility improvements in line with local transport strategies, which are co-ordinated with LTP programmes. Typical uses include:

a. footpath network development and/or improvement;
b. cycle network development and/or improvement;
c. traffic speed reduction measures;
d. Safer Routes to School initiatives;
e. passenger transport information systems;
f. other passenger transport infrastructure improvements;
g. maintenance work that can be linked to schemes to improve accessibility;
h. personal security improvements e.g. CCTV and lighting;
i. appropriate parking management schemes e.g. residents' parking
j. schemes and other on-street related initiatives, including schemes involving traffic order provision; and
k. other transport-related schemes that feature in other recognised strategies and a need has been identified that would relate to the new development.

10.1.9 Works are not possible in the highway in the vicinity of the site therefore contributions towards the second strand will need to be significant to mitigate the impact of this development.

10.1.10 Contributions towards bus services, pedestrian and cycle improvements would provide measures to directly support SSL's aspiration for no growth and reduced trip rates (although I would add that the mitigation would be greater and have more impact for a mixed use development (see above) and the provision of such mitigation measures may still not achieve the low figures put forward by SSL).

10.1.11 In relation to the rate of standard charge paragraph 6.2.17 of the SPD states that:

"The standard charge applies to development up to 50 residential units or the equivalent in commercial floorspace. The County Environment Unit will advise on commercial development. For larger developments a Transport Assessment will be required in accordance with Local Plan Policy TR3".

10.1.12 Due to the size of this proposed Development the standard charge will not apply and the level of mitigation measures required will be related to impacts and needs identified in the TA.

10.2 Recommended contributions towards mitigation measures

10.2.1 Whilst there are a number of positive suggestions and enhancements that would be welcomed (e.g. improved cycle links and bus station facilities) concerns still remain over the impact on the highway network and in relation to the adverse impact on the pedestrian/cycle environment, on bus service and bus stop operation and as to whether the location and quality of bus services and infrastructure present a sufficiently attractive option to potential customers.

10.2.2 Considering the impact of the development the original highways and transport offer of a financial contribution of £120,000 in paragraph 4.7 of the TA was significantly low. However, following the original highway authority response to the planning application and further negotiation with EHDC and HCC, SSL revised their offer of financial contributions relating to highways and transport to total £665,000 as follows:

a. Payment of £25,000 for the provision of a new pedestrian/cycle crossing of Port Hill.
b. Payment of £25,000 for the funding of consultation and traffic regulation orders in connection with potential residents parking scheme within the wider Port Vale area.
c. Payment of £15,000 to the HCC for traffic regulation orders related to parking measures around the site.
d. Contribution of £25,000 towards a Traffic Management Scheme to address increased problems of “rat running” through the Port Hill area of Bengeo.
e. Contribution of £70,000 towards the cost of constructing a pedestrian bridge at Dolphin Yard.
f. Transport schemes arising from the Hertford Transport Plan – £505,000.
g. Provision of a Travel Plan.

10.2.3 In addition to the above planning obligations it has been agreed with SSL that further payments towards the Hertford Transport Plan of £50,000 per year would be made over a five year period (£250,000 total) as part of the travel plan proposals if reduced trip rates are exceeded.

10.2.4 Even though SSL has agreed to this further contribution as part of the travel plan proposals if reduced trip rates are exceeded, it is important to note that this Development will still have a detrimental impact even if the reduced rates do materialise (as outlined in section 6 of my Proof above, the proposed Development will increase queues / congestion and lead to peak hour spreading even with average trip rates reduced by 15%). For this reason I consider that the full amount of contributions, £915,000 (£665,000 plus £250,000) should be provided without the proviso of monitoring.

10.2.5 Furthermore, considering the impact of the Development on the highway network and the need to promote accessibility, I do not consider the amended £665,000 (with possible further £250,000) contribution to be sufficient. In-particular issues in relation to bus service provision are not sufficiently addressed.

10.2.6 I set out below justification for the s106 contributions in line with Circular 05/05 and identify the areas where SSL and HCC agree/disagree.

10.2.7 The following specific contributions totalling £160,000 are agreed:

a. New pedestrian/cycle crossing of Port Hill (£25,000). This item is necessary for the promotion of pedestrian / cycle links to the proposed Development as well as mitigation of the Development's traffic impacts. The crossing will provide a direct link from the Development to the north west area of Bengeo and is therefore directly related to the Development. This obligation will enable residents to benefit from being able to access the store by sustainable transport modes and is considered fairly and reasonably related in kind to the proposed Development.
b. Potential residents parking scheme within the wider Port Vale area (£25,000). This item will mitigate against on-street parking in the residential areas around the proposed Development. The justification for this obligation is considered in detail

in the proof of Evidence for Tim Hagyard EHDC/6/A. HCC support the provision of this obligation.

c. Traffic Regulation Orders (£15,000). This item is specifically required to facilitate the promotion of Traffic Regulation Orders along Hartham Lane and Railway Approach which are essential for the implementation of the Development's highway proposals, e.g. waiting restrictions at junction of Hartham Lane/Cowbridge. The Orders are directly related to the proposed Development and necessary to control parking along the highway. This funding covers the cost of consultation and is considered to be fairly and reasonably related in kind to the proposed Development.
d. Traffic Management Scheme around the Port Hill area of Bengeo (£25,000). This item is required to mitigate against increased rat running through this residential area. As a consequence of increased congestion and peak hour spreading at the Old Cross junction rat running through this residential area will increase (as detailed in section 6 of my Proof above). It is therefore necessary and directly related to the proposed Development.
e. Pedestrian bridge at Dolphin Yard (£70,000). This item will provide a circular route for linked trips in to and around the town. The justification for this obligation is considered in detail in the proof of Evidence for Tim Hagyard EHDC/6/A. HCC support the provision of this obligation.

10.2.8 In relation to schemes arising from the Hertford Transport Plan, SSL has suggested a contribution of £505,000 plus up to an additional £250,000 (totalling £755,000) if reduced trip rates are exceeded. Whilst I consider the £505,000 is required and justified, there are two differences between HCC and SSL, I consider that:

a. The £250,000 should be provided without the proviso of monitoring.
b. A further contribution of £200,000 should be provided towards bus services (see further below).

10.2.9 As mentioned at paragraph 4.18 above, HCC is in the process of reviewing the Hertford Transport Plan which will consider highway and sustainable transport

issues around the town, therefore at present there is not the benefit of a finalised transport plan detailing specific schemes to address future development proposals and congestion issues. It has been agreed with SSL that it would be appropriate for the planning obligation to incorporate flexibility to enable the sustainable transport contribution to be generally allocated to a list of provisions to enable appropriate adaptability when the transport plan is finalised.

10.2.10 Based on my experience and my concerns as set out above, I believe the following measures are required to mitigate the impact of this development either by full or part provision (see below) from the Hertford Transport Plan contribution:

a. Improvements at Hertford Bus Station.

i. This is necessary to improve passenger facilities at the bus station to encourage users of the proposed Development to use sustainable transport modes and mitigate the Development's traffic impacts. This need is directly related to the proposed Development.

ii. Hertford bus station currently has inadequate waiting and information facilities. There are no specific shelters for waiting passengers or departure screens to facilitate future real time information.

iii. I consider that the Development should pay a proportional contribution towards these improvements. Considering the overall trip generation of the proposed Development, resulting impact (extent of peak hour spreading, increased queuing) and need to promote bus use, I consider a proportion of the sustainable transport contribution would be fairly and reasonably related in kind to the Development for use at the bus station. A breakdown of the estimated costs is included in Appendix 14.

b. Upgrade of bus stops in the vicinity of the site

i. This is necessary to improve bus stop facilities in the vicinity of the proposed Development to encourage the use of sustainable transport modes and mitigate the Development's traffic impacts.

ii. The upgrade of bus stops will ensure bus travel in the vicinity of the Development is accessible and ensure the stops are protected from the increased risk of vehicles parking in them. This need is directly related to the proposed Development.

iii. I consider that the Development should pay for these improvements. A proportion of the Hertford Transport Plan contribution would be fairly and reasonably related in kind to the Development. A breakdown of the estimated costs is included in Appendix 14.

c. Improved Pedestrian Links

i. Other than the bridge to directly link the store to the town centre, the Dolphin Yard Bridge and Port Hill crossing, the TA does not propose any measures to improve accessibility for pedestrians.

ii. This item is necessary for the promotion of pedestrian links to the proposed Development as well as mitigation of the Development's traffic impacts. Improved pedestrian links from the Development to residential areas will be directly related to the Development.

iii. I consider that a proportion of the sustainable transport contribution would be fairly and reasonably related in kind to the Development to implement measures to improve pedestrian access to the site and link to residential areas. A breakdown of the estimated costs is included in Appendix 14.

d. Improved Cycle Links

i. This item is necessary for the promotion of cycle links to the proposed Development as well as mitigation of the Development's traffic impacts. Improved cycle links from the Development to residential areas will be directly related to the Development.

ii. The TA suggested that £30,000 could be used to improve cycle links in the area (in addition to the Port Hill crossing), however this would only fund minor works and would not include sufficient provision for design costs. To implement reasonable measures to improve cycle access to the site and link to residential areas, I consider a proportion of the sustainable transport contribution would be fairly and reasonably related in kind to the Development.

e. Congestion caused by the proposed development could be managed by considering the signalisation of the A414 Gascoyne Way/ Parliament Square roundabout and linking this with other signalised junctions around the town through a SCOOT system.

i. Proposals to signalise this roundabout junction would be explored through the Hertford Transport Plan and PARAMICS model. The introduction of a SCOOT system could be used to control signal timings and could be essential to manage traffic flows around the town when considering the impact of the development. The linking of signals will give more scope to control vehicle flows between junctions, as at present the Old Cross junction and others operate in isolation.

ii. If proposals to signalise the roundabout are feasible, the cost of such a scheme would be considerable as included in Appendix 14. The Development should pay a proportional contribution towards these improvements. I consider a proportion of the sustainable transport contribution would be fairly and reasonably related in kind to the Development for this use.

iii. Unfortunately at this point in time the Hertford Transport Plan is not finalised and the PARAMICS modelling not complete, however when considering the impact of this development as outlined in section 6 of my Proof above and the limited highway space in the vicinity of the Development making physical improvements to cope with increased demand not possible, it is necessary for the Development to contribute to this, or any future proposals from the transport plan.

iv. If the SCOOT system is proved not feasible, the Hertford Transport Plan will include proposals to increase sustainable transport use and reduce congestion around the town therefore it is appropriate for the funding to be used flexibly.

v. This or any further proposals from the Transport Plan will be required to mitigate the vehicle impact of the proposed Development.

10.2.11 The total estimate of sustainable transport measures listed above amount to a figure greater than the Hertford Transport Plan contribution offered by SSL (it is acknowledged that the Development should only offer a proportion of the costs for some of the initiatives, e.g. improvements to Hertford Bus Station, signalisation of the Gascoyne Way roundabout).

10.2.12 In addition to the £775,000 towards the transport plan, measures outlined in paragraph 10.2.7 above equate to £160,000, taking the total highways and transport contribution offered by SSL to £915,000.

10.2.13 However, it is noticeable that no provision is suggested for the extension of bus services which I consider should be included to try to encourage modal shift away from the car. The provision of bus services could also support SSL's aspiration that growth will not occur and that trip rates will not fully materialise. Even though the current percentage of use by buses for supermarket trips may be low, the goal is obviously to increase their use.

10.2.14 Service deficiencies are outlined in paragraph 8.1.7 above. The provision of extra bus services is relevant because it serves a planning purpose, namely to maximise non-car accessibility and minimise car use. They are necessary to encourage users of the proposed store to use buses and mitigate the Development's traffic impacts. This item which will ensure the Development is accessible throughout the day and on Sunday's is directly related to the proposed Development.

10.2.15 For improvements to evening/Sunday bus service provision over a five year period, a contribution of £200,000 would be necessary and would also enable publicity to be undertaken. This funding covers the cost of contracting further services over this time period and is considered to be fairly and reasonably related in kind to the proposed Development.

10.2.16 The provision of adequate bus services is supported by policy in PPG13 paragraphs 74, 84, East of England Plan policy T4, East Herts Local Plan policy TR1, IMP1 and the LTP objective of Accessibility.

10.2.17 The provision of the bus service contribution will increase the overall highways and transport contributions to £1,115,000.

10.2.18 The provision of the improvements sought to bus infrastructure, cycling, walking, and aims to reduce congestion is supported by policy in PPG13 paragraphs 19,74, 76, 77, 79, 80, 84, East of England Plan policy T1, T4, T8, East Herts Local Plan policy TR1, TR12, IMP1 and the LTP objective of Tackling Congestion and Accessibility.

10.2.19 When considering Circular 05/05, the above obligations are required to mitigate the impact of the development compliant with paragraph B3.

10.2.20 The requests for sustainable transport contributions are necessary from a transport planning point of view to bring about the development in line with local, regional and national planning policies, which are compliant with the Circular.

10.2.21 The sums sought by HCC are necessary and are fairly and reasonably related in scale and kind to the proposed development. When considering the impact of this proposal and the inability to physically improve the highway, the requests made above are required to mitigate the development's specific impact.

10.2.22 Circular 05/05 contemplates the pooling of contributions and states the policies on pooling of payments should be set out in LDFs. As the Hertford Transport Plan is still being developed and there is currently not a specific list of proposed schemes, it would be appropriate for the planning obligation to incorporate flexibility to enable any parts of the Hertford Transport Plan contribution not used in the ways set out above, to be generally allocated to a list of transport plan provisions to enable future appropriate adaptability, if some of the measures set out above do not come forward. This principle was agreed by SSL's Consultant's during a meeting on the 3rd December 2008.

10.2.23 I would request that if the Secretary of State is minded to grant planning permission that the provisions requested by HCC are required to mitigate the impact of this Development.

11 **Conclusion**

11.1 This evidence sets out the views of HCC as Highway Authority on the adequacy of the proposed access arrangements and the impact of the proposed Development on the operation of the local road network.

11.2 HCC recommended refusal of planning permission for a number of highway related issues including adverse impact on safety, congestion, and inadequate proposals to mitigate the impact of the Development.

11.3 Peak hour congestion currently occurs at the Old Cross junction during the AM, PM and Saturday periods. Increased traffic volumes attracted by the proposed Development through the Old Cross junction will increase congestion, traffic queues and generate peak hour spreading leading to longer periods of the junction operating over capacity.

11.4 It is clear that the impact of this Development is significant and adverse with both scenarios considering average trip rates and average trip rates reduced by 15%.

11.5 The implications of increased queuing and peak hour spreading at the Old Cross junction include:

a. Increased delay, journey time and general disruption across the general highway network.
b. Impact on the reliability of bus services causing disruption and a downward trend in reliability and hence patronage of bus services.
c. Increased risk of accidents.
d. Increased rat running through residential areas.

11.6 The impact of this Development on the highway network is contrary to policy in PPG13, East of England Plan, East Herts Local Plan and the LTP.

11.7 The whole methodology of the TA in assessing the proposed Development is overly optimistic leading to an analysis with unrealistically low traffic predictions. The combination of analysing the Development's impact with high pass by/diverted trip distribution percentages, lower trip attraction rates and excluding future growth gives an unrealistic underestimate of the impact of the Development. Whilst some of these combinations may occur periodically, for all three reduced circumstances to occur on a regular basis is unrealistic.

11.8 In addition to the general modelling scenarios, SSL has also provided outputs optimising the TRANSYT model. The use of optimised TRANSYT model results is not acceptable and is considered to be an inappropriate use of the modelling process, which has produced unrealistic results. Optimisation of the signals has been applied to reduce queues at the Old Cross Junction. Added to the issues raised in paragraph 11.7 above, this analysis adds more optimism to SSL's assessment of the proposed Development.

11.9 It is noticeable that no provisions are suggested for the extension of bus services or upgrade of nearby bus stops. If the Development is permitted these measures are required to be included to try to encourage modal shift away from the car.

11.10 The bus station is over 400m from the entrance to the store and other nearby bus stops are also a considerable distance from the entrance (over 290m) for those carrying any heavy amounts of shopping. The site is has limited accessibility by public transport contrary to policy in PPG13, East of England Plan, East Herts Local Plan and the LTP.

11.11 The proposed Development will cause significant problems for pedestrians wishing to cross the Hartham Lane junction due to longer wait times and a need to focus on an increase in a multitude of vehicle manoeuvres.

11.12 The proposed intensification of use of this area by articulated vehicles and the resulting implications on safety would be material and adverse. Even though SSL proposes to limit deliveries between 7pm to 7am, Hertford has a busy evening economy with numerous pedestrians visiting restaurants and public houses during the evening.

11.13 Pedestrian counts indicate that this is a popular route for pedestrians who will be put at risk by the introduction of use of large articulated vehicles no matter what time of day. The impact on pedestrians around the area and the increase in pedestrian wait times would be material and adverse and would be contrary to policy in PPG13 and the East of England Plan and East Herts Local Plan policy TR1.

11.14 In addition to pedestrian safety, vehicle collisions will also be a specific issue even if deliveries are made to avoid the peak periods. The constrained highway network around this area is not appropriate for articulated vehicle use.

11.15 The draft Travel Plan is not acceptable and as submitted is contrary to policy in PPG13, East Herts Local Plan policy TR4 and DfT good practice guidelines.

11.16 Even though this application should be considered on its own merits, basic options in relation to alternative site uses have been explored in the TA. There are significant differences in trip rates and flow profiles for various development types which could be considered in more detail. The flow profile of a supermarket is significantly higher than alternative uses and lasts throughout the day (high rates continue from 10am to 7pm).

11.17 If this site was developed for an alternative use such as residential, B1, small scale retail (or a mixed development comprising such elements), the highway safety concerns in relation to articulated heavy goods vehicles would be unlikely to arise and the impact of additional congestion around the Old Cross junction would be reduced.

11.18 Whilst there are a number of positive suggestions and enhancements that would be delivered through a s106planning obligation (e.g. improved cycle links and bus station facilities) concerns still remain over the impact on the highway network and the adverse impact on the pedestrian/cycle environment, on bus services and bus stop operation.

11.19 The Inspector is respectfully requested to recommend to the Secretary of State that the application is refused planning permission.

11.20 However, I would request that if the Secretary of State is minded to grant planning permission, the s106 provisions requested by HCC are required to mitigate the impact of the Development.