1. INTRODUCTION

1.1. This Transport Assessment (TA) has been prepared by PFA Consulting on behalf of Robert Hitchins Limited (RHL) and its successors in title to the land, to accompany an outline planning application for a retail development comprising a garden centre and retail outlet centre on land at Ashchurch, Gloucestershire.

1.2. The location of the Application Site is shown in Figure 1 with the site boundary and local highway network shown in Figure 2. The Proposed Development site is situated at Ashchurch to the east of M5 Motorway Junction 9 and south of the A46(T) approximately 3 kilometres from Tewkesbury Town Centre.

1.3. The description of the Proposed Development is:

“Outline planning application (with all matters reserved except access) for proposed garden centre, retail outlet centre and ancillary facilities together with associated infrastructure works (including access), car parking and landscaping.”

1.4. The main components of the Proposed Development are:

- a Garden Centre of up to 8,000m² gross external area
- a Retail Outlet Centre of up to 17,545m² gross external area

1.5. The Proposed Development will involve highway works along the A46(T) to provide new points of access including modifications to the existing A46(T) / Alexandra Way junction, carriageway widening, the realignment of Fiddington Lane and its junction with the A46(T) and associated works to create vehicular, pedestrian and cyclist accesses.

1.6. A reduced scale version of the ‘Indicative Masterplan’ produced by Robert Limbrick Architects is reproduced at Appendix A.

Scope of Transport Assessment

1.7. The National Planning Policy Framework (NPPF), published in March 2012, states at paragraph 32 that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Paragraph 32 goes on to identify three main elements that decisions should take into account. They are:

- whether the opportunities for sustainable transport modes have been taken up;
- whether safe and suitable access can be achieved; and
- whether improvements can be undertaken within the transport network that cost effectively limits the significant impacts of the development.

1.8. The paragraph concludes by stating:

“Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”

1.9. The Department for Transport (DfT) published national guidance on the preparation of TAs in March 2007, Guidance on Transport Assessment (GTA). Reference has been made to the GTA throughout the preparation of this TA. Reference has also been made to Circular 02/2013 ‘The Strategic Road Network and the Delivery of
Sustainable Development’ published in September 2013 which is the key policy document for the Strategic Road Network (SRN).

1.10. The importance of early pre-application discussions, in relation to establishing the level and scope of assessment required, is emphasised by the GTA (paragraph 2.1). The GTA (paragraph 2.2) goes on to say that pre-application discussions should be held with the Local Planning Authority and Local Highway Authority, and, where applicable, the Highways Agency.

1.11. PFA Consulting undertook a scoping study to identify the main transport issues to be addressed by the TA and prepared a Scope of TA report in December 2012, which outlined the proposed TA methodology. This was submitted to Gloucestershire County Council (GCC) in its role as local highway authority and the Highways Agency (HAg) in its role as the highway authority responsible for the strategic road network. A revised Scope of TA was produced in March 2013 following comments received from both GCC and the HAg dated 18 January 2013 and following meetings held on 14 February 2013 with the HAg and on 19 February 2013 with GCC.

1.12. Further comments on the revised Scope of TA were received from the HAg on 11 April 2013 and from GCC on 3 May 2013. These further comments have been addressed in the TA and other material being submitted with the planning application.

1.13. A further pre-application meeting was held with the HAg and its consultant JMP Consulting on 4 July 2013.

1.14. The relevant correspondence from both GCC and the HAg in respect of the TA scoping study is reproduced at Appendix B.

1.15. To assess the traffic impact of the Proposed Development, the HAg required a micro-simulation traffic model to be built of the A46(T) corridor. Accordingly PFA Consulting built an S-Paramics model following guidance contained in the ‘Micro-simulation Good Practice Guide’, produced by SIAS Limited. As part of this process a separate ‘Model Development and Validation Report’ and a ‘Model Forecasting Report’ has been produced by PFA Consulting in tandem with this TA.

1.16. The Application Site is located in the vicinity of land that may be subject to future development. Figure 3 shows the location of the Application Site in the context of potential future developments.

1.17. The former Trelleborg employment site located opposite the Application Site is currently the subject of a planning application submitted by WYG Planning & Environment on behalf of Sainsbury’s Supermarkets Ltd in June 2012 (reference: 12/00640/FUL). The main components of this Proposed Development are a new foodstore with a gross internal floor area (GFA) of 6,338m² and an 8-pump petrol filling station, with access to be taken off the A46(T). The application is currently pending consideration.

1.18. The site access arrangements that have now been agreed with the HAg comprise a new signal controlled junction onto the A46(T) with crossing facilities over the site access and the A46(T) on the western arm of the junction.
1.19. The proposed site access arrangements to serve the Sainsbury’s store proposals are shown on Connect Consultants’ Drawing Number S1-09051-2000, which is reproduced at a reduced scale at Appendix C.

1.20. In March 2013 the Ministry of Defence (MoD) announced that it is to vacate an existing vehicle storage depot located on the north side of the A46(T) to the northeast of the Application Site. The Joint Core Strategy ‘Developing the Preferred Option’ document identifies this as a potential redevelopment site for 2,100 homes. A public consultation event for the redevelopment of the site was held in March 2012, but there is uncertainty over the future use of the site.

1.21. The TA scoping exercise identified the need for the TA to assess the Sainsbury’s proposals. Consequently, scenarios have been tested both with and without Sainsbury’s in assessing the impact of the Proposed Development on the surrounding highway network.

Report Structure

1.22. The TA has examined the transport and highway issues relating to the Proposed Development. It considers the expected travel demand and has also investigated methods of containing car based travel to produce a more sustainable development in line with national and local planning guidance.

1.23. The TA is structured as follows:
- Transport Policy Framework – Section 2 considers the development in the context of relevant national, strategic and local transport policies.
- Existing Conditions – Section 3 examines the local transport conditions in the vicinity of the site.
- Proposed Development – Section 4 provides a description of the development proposals and proposed means of access.
- Transport Sustainability and Accessibility – sustainability and accessibility to non-car modes of travel are covered in Section 5.
- Trip Generation, Distribution and Parking Demand – the predicted trip generation, distribution and parking demand are set out in Section 6.
- Highway Impact - Section 7 examines the impact of development traffic on the highway network.
- Construction Traffic – Section 8 considers the impact of construction traffic.
- Mitigation Measures – Section 9 identifies the measures proposed to mitigate the impact of the Proposed Development.
- Conclusions are set out in Section 10.
2. TRANSPORT POLICY FRAMEWORK

Overview

2.1. The following provides a brief review of existing and emerging transport planning policy at national and local level, which is considered relevant to the proposed retail development on land at Ashchurch.

National Policy

1. National Planning Policy Framework

2.2. National guidance on planning is set out in the document ‘National Planning Policy Framework’ (NPPF) published in March 2012. It sets out the Government’s planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development.

2.3. Chapter 4 of the NPPF deals with ‘Promoting Sustainable Transport’. It states at paragraph 29 that:

“transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainable and health objectives”

2.4. The paragraph goes on to say that:

“the transport system needs to be balanced in favour of sustainable transport modes”.

2.5. Paragraph 30 states that:

“encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion.”

2.6. Paragraph 32 states that:

“All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment”

2.7. It goes on to identify three main elements that decisions should take into account. They are;

- whether the opportunities for sustainable transport modes have been taken up;
- whether safe and suitable access can be achieved; and
- whether improvements can be undertaken within the transport network that cost effectively limits the significant impacts of the development.

2.8. Paragraph 32 concludes by stating:

“Development should only be prevented or refused on transport grounds where the residual cumulative impacts of a development are severe.”

2.9. With regards to development that is likely to generate significant movement, the NPPF suggests at paragraph 34 that plans and decisions should ensure that these developments are located “where the need to travel will be minimised and the use of sustainable travel modes can be maximised”.

2.10. Paragraph 35 expands on opportunities for the use of sustainable transport modes, stating that:
“...developments should be located and designed where practical to:
- accommodate the efficient delivery of goods and supplies;
- give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;
- incorporate facilities for charging plug-in and other ultra-low emission vehicles; and
- consider the needs of people with disabilities by all modes of transport.”

2.11. Paragraph 36 highlights Travel Plans will be a key tool to facilitate this and will be a requirement for developments which generate significant amounts of movement.

2.12. With regards larger scale development in particular, paragraph 38 states that: “planning policies should promote a mix of uses in order to provide opportunities to undertake day-to-day activities including work on site.”

2.13. Paragraph 56 states that the Government attaches great importance to the design of the built environment, and good design is a key aspect of sustainable development.

2.14. The DfT has set out the Government’s vision for a sustainable local transport system that supports the economy and reduces carbon emissions in its local transport White Paper, published in January 2011.

2.15. The Government’s vision is for a transport system that is an engine for economic growth but one that is also greener and safer and improves quality of life in local communities. The White Paper is about translating that vision into practice, providing that short-term boost to growth and reduction in carbon emissions.

2.16. The Government believes that it is at the local level that most can be done to enable people to make more sustainable transport choices and to offer a wider range of sustainable transport modes – environmentally sustainable as well as fiscally, economically and socially sustainable.

2.17. The White Paper sets out what the Government believes is the best way in the short term to reduce carbon emissions at the local level, principally by encouraging people to make more sustainable travel choices for shorter journeys, whilst facilitating access to local jobs that will boost economic growth.

2.18. The Government’s priority for local transport is to: “Encourage sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion.”

3. DfT Circular 02/2013 ‘The Strategic Road Network and the Delivery of Sustainable Development’

2.19. The Highways Agency (HAg) is responsible for implementing the Government’s development control policy concerning Trunk Roads on behalf of the Secretary of State for Transport. The policy is outlined in DfT Circular 02/2013 ‘The Strategic
2.20. Circular 02/2013 provides new policy that aligns to the NPPF, promotes development and economic growth, and devolves decisions for determination at the local level wherever it is appropriate.

2.21. Some of the key policy issues of Circular 02/2013 are that it:

- places more emphasis on the HAg’s role as a delivery partner to growth and as a development enabler; the role that the SRN can play in enabling economic growth; and the removal of protectionist and/or negative statements that may be seen to block development;
- removes the expectation that the traffic impact on the SRN as a result of development should be mitigated so as to be no worse off after the 10 year review period;
- allows any capacity within the network to be used after traffic demand has been managed down through the implementation of travel plans and other appropriate measures;
- provides that where proposals would take a road or junction over capacity after impact reduction measures, mitigation will only be required to the extent that capacity is adequate at time of opening, thus removing the requirement to cater for future background growth; and
- eases restrictions on new access/junctions on motorways to enable delivery of strategic growth where this is identified as appropriate using a sequential approach during Local Plan formation.

2.22. Paragraphs 7 to 11 of Circular 02/2013 deal with Policy Aims and Application, which highlights the key role the strategic road network has in supporting economic growth. Paragraph 9 states that:

“Development proposals are likely to be acceptable if they can be accommodated within the existing capacity of a section (link or junction) of the strategic road network, or they do not increase demand for use of a section that is already operating over-capacity levels...”

2.23. Paragraph 9 goes on to say that this position would take into account any travel plan, traffic management and/or capacity enhancement measures that may be agreed. In line with NPPF policy, Paragraph 9 concludes that:

“development should only be prevented or refused on transport grounds where the residual cumulative impacts of a development are severe.”

2.24. Paragraphs 12 to 20 deal with Plan Making, highlighting the preparation and delivery of Local Plans provides an opportunity to identify and support a pattern of development that minimises trip generation and encourages the use of sustainable modes of transport. Capacity enhancements should be identified at the Local Plan stage.

2.25. Paragraphs 25 to 27 deal with the assessment of development impact. Paragraph 25 requires the overall forecast demand, defined by footnote 7 as the existing flow plus...
traffic likely to be generated by development already committed, plus traffic likely to be generated by the development under consideration, less any reduction arising from any travel plan or demand management measures that are being proposed, should be compared to the ability of existing network to accommodate traffic over the review period.

2.26. Paragraph 34 deals with capacity enhancements. It states “Where insufficient capacity exists, to provide for overall forecast demand at the time of opening, the impact of the development will be mitigated to ensure that at that time, the strategic road network is able to accommodate existing and development generated traffic”.

2.27. The paragraph goes on to state: “Any associated mitigation works should be appropriate to the overall connectivity and capacity of any affected part of the strategic road network”.


2.28. The HA’s Protocol was first published in August 2010 to assist developers and their representatives in working alongside the HAg when submitting planning applications for development which could have an impact on the SRN. It was last updated in November 2012 and therefore requires updating to address the policy revision in Circular 02/2013.

5. The Highways Agency ‘Pinch Point’ Programme

2.29. In November 2011, the Chancellor’s Autumn Statement allocated £200m to the Highways Agency for the Pinch Point Programme to deliver focused improvements to the SRN for the period 2012/13 – 2014/15. An additional £100m was allocated to the programme in the 2012 Autumn Statement.

2.30. The Pinch Point Programme is focusing on delivering smaller scale improvements to the SRN that will help to stimulate growth in the local economy and relieve congestion and/or improve safety. The schemes must be ‘ready-to-go’ and be completed no later than April 2015.

2.31. Tranches one and two of the programme were announced by the Roads Minister in July 2012 and Secretary of State in October 2012 respectively and comprise 65 improvement schemes across the network. The third tranche of the programme was announced by the HAg on 10 April 2013, bringing the total investment for the programme to £317 million.

2.32. Among the schemes announced for the third tranche is a scheme for the A46(T) Ashchurch Road and M5 Junction 9. The scheme with a value of £1.67m is scheduled for completion in 2014. The scheme will include:
   - provision of an additional through lane on the A46(T) westbound between the junction with Alexandra Way and the M5 Junction 9;
   - extension and realignment of a right turning lane on the A46(T) westbound approach to the junction with the B4079 at Aston Cross; and
   - pedestrian/cycle facilities at M5 Junction 9 combined with signal control of the A438 approach from Tewkesbury.

2.33. The Highways Agency’s website states the benefits of the scheme are:
   - to reduce congestion by realigning junctions and installing traffic signals;
• the improvement will help to deliver around 800 jobs and 2,000 new homes in neighbouring areas.

2.34. The Highways Agency’s consultants Amey has worked up preliminary drawings showing the elements of the scheme; they are reproduced at reduced scale in Appendix D.

Local Policy

1. Regional Planning Guidance for the South West (RPG10) and Gloucestershire Structure Plan

2.35. RPG10 and the Gloucestershire Structure Plan have been revoked by way of the Regional Strategy for the South West (Revocation) Order 2013, which came into force on 20 May 2013. As a consequence neither now form part of the Development Plan.

2. Third Gloucestershire Local Transport Plan 2011 – 2026

2.36. Gloucestershire County Council adopted its third Local Transport Plan (LTP3) in March 2011. It covers the 15-year period from April 2011 to March 2026.

2.37. The overall vision of LTP3 is:

“Providing a safe and sustainable transport network within Gloucestershire where safe means a transport network that people feel safe and secure using, and sustainable means a transport network that is both environmentally and financially sustainable.”

2.38. LTP3 has to address national transport priorities at the local level and the County Council has aligned these to four main themes, which are:

• a greener, healthier Gloucestershire;
• sustainable economic growth;
• a safer, securer transport system; and
• good access to services.

2.39. LTP3 covers all modes of transport and provides an implementation plan to cover three specific periods, these being 2011-14 (detailed programme), 2014-19 (indicative programme), 2019-26 (identification of major projects only) as required by the Department for Transport (DfT).

2.40. In relation to the location of new development, Policy P6D in LTP3 states that new developments should be located where sustainable modes of transport are, or can be made realistic alternatives for journeys to settlements with services and facilities and that new developments should be designed in a manner that will encourage travel by walking, cycling, and public transport.

2.41. LTP3 sets out ‘Area Transport Strategies’ for five areas within Gloucestershire. Ashchurch falls under the Tewkesbury Borough Area Transport Strategy. Headline issues identified for this area include the potential impact of development around the Tewkesbury town area, the impact of the Air Quality Management Area in Tewkesbury High Street, road maintenance and the need to improve the reliability and frequency of rail services.
2.42. The main transport actions developed specifically for Tewkesbury Borough includes working with local train and bus operators to improve access to rail services at Ashchurch Station, promotional activities to encourage use of walking and cycling facilities, and to continue working with Tewkesbury Borough Council to help with the masterplanning process and to implement traffic management measures in Tewkesbury town centre to support economic development, air quality improvements, road safety improvements and local health initiatives.

3. Manual for Gloucestershire Streets

2.43. The Manual for Gloucestershire Streets (MfGS) published in September 2011 replaced the policies and guidance previously contained in 'Highway Requirements for Development'. The third edition of MfGS was adopted on 12 June 2013.

2.44. MfGS provides guidance to developers, their consultants and design engineers, Local Planning Authorities, Parish and Town Councils and the public on how new development within Gloucestershire can contribute towards the provision of a safe and sustainable transport network within the County.

2.45. The main aim of MfGS set out in paragraph 1.2 is to:
   "reflect the advice given in national guidance, such as Manual for Streets, Manual for Streets 2, and the Design Manual for Roads and Bridges, as well as a wide range of best practice documents covering different aspects of the transport system."

2.46. Paragraph 1.2 goes on to state that MfGS:
   "seeks to strike the right balance between allowing the designer the flexibility needed to create distinctive high quality developments, whilst also ensuring that layouts stand the test of time and are cost-effective to maintain."

4. GCC’s Highways Information Pack for Forest & part Tewkesbury – June 2013

2.47. The Highways Information Pack for Forest and part Tewkesbury published in June 2013 provides GCC’s best ‘estimate’ of their Capital Works Programmes for the year(s) ahead and sets out its planned capital investment in highways infrastructure. It includes GCC’s Integrated Transport Programme which covers highway improvement schemes to improve safety, accessibility, quality of life, or reduce congestion, the four key LTP3 themes. These schemes range from simple signing changes, to more complex traffic calming or junction improvement schemes.

2.48. The Integrated Transport Programme covering the part Tewkesbury area includes the following schemes:

- Scheme Number 6606: Cycle link improvements between Alexandra Way and Warren Road;
- Scheme Number 6616: Resurfacing of centre section of existing Newtown cycle track and associated drainage works;
- Scheme Number 9172: Provision of shared footway/cycleway alongside the disused railway bridge on Northway Lane.

2.49. Scheme Number 6606 is on hold due to the lack of support from the adjacent landowner to enter into negotiations. Scheme Number 6616 is at the detailed design stage but delivery could be affected by results of the ecological surveys to be undertaken in May / June 2013 and also the extent of drainage works that may be
required. Scheme Number 9172 is at preliminary design stage but is on hold until developer funding is obtained. No development is currently expected.

2.50. The preliminary design of Scheme Number 9172 is shown on Gloucestershire Highways’ Drawing Number 25981/01 Rev A, which is reproduced at Appendix E. The Proposed Development is well placed to take advantage of the scheme.

5. Adopted Tewkesbury Borough Local Plan

2.51. The Tewkesbury Borough Local Plan was adopted on 31 March 2006 and sets out the policies and proposals to guide development in the Tewkesbury Borough up to 2011. In the light of the delays in bringing forward the replacement plan, most of the policies have been ‘saved’ and remain extant.

2.52. With regard to new retail proposals, Policy RET6 states that developments outside of existing centres will assessed against the following criteria:

- the impact on the Development Plan Strategy;
- the impact on the vitality and viability of existing centres;
- the accessibility of the Proposed Development by a choice of means of transport;
- the impact on travel and car use.

2.53. More specifically with regard to new garden centres, Policy RET8 of the Local Plan states that proposals that facilitate access by a choice of means of transport will be encouraged.

2.54. The key transport objectives as set out in the Local Plan are:

- to encourage the increased use of public transport, cycling and walking;
- to reduce the use of private motor vehicles;
- to reduce average trip distances;
- to improve the safety of highway users;
- to encourage the implementation of a high quality public transport system to link the centres and suburbs of Cheltenham and Gloucester and their surrounding areas;
- to move towards the creation of an integrated public transport network;
- to alleviate traffic problems in historic town centres; and
- to ensure proper access and appropriate parking provision for all new development.

2.55. Policy TPT1 addresses access to development. It states:

“Development will be permitted where:

a) Provision is made for safe and convenient access to the development by pedestrians and cyclists;

b) an appropriate level of public transport service and infrastructure is available, or can be made available;

c) the traffic generated by and/or attracted to the development, together with that arising from other existing or planned development, would not impair the safety or satisfactory operation of the highway network, and

d) highway access can be provided to an appropriate standard which would not adversely affect the safety or satisfactory operation of the
highway network, nor cause an unacceptable loss of amenity to users of adjacent land. “

2.56. Policy TPT3 seeks to protect and enhance existing pedestrian networks and Policy TPT5 seeks to enhance the cycle network.

2.57. Policy TPT6 addresses cycle parking and seeks an adequate provision to be made for secure cycle parking in proposals for non-residential development in accordance with the stated standards.

2.58. Policy TPT9 deals with public transport corridors; it states:

“the main public transport corridors are identified on the Proposals Map, development proposals which give rise to traffic impact upon one or more of these corridors may be required to contribute towards the provision of sustainable transport measures on the relevant route(s) through bus quality partnership contributions and by the provision of improved pedestrian and cycling facilities.”

2.59. Policy TPT13 addresses traffic issues on the A46(T) between M5 Junction 9 and Aston Cross. It states:

“the Borough Council will seek the design and implementation of measures to alleviate the traffic problems which exist on the A46 between M5 junction 9 and Aston Cross, subject to environmental considerations.

6. Emerging Gloucester, Cheltenham and Tewkesbury Joint Core Strategy

2.60. The Planning and Compulsory Purchase Act 2004 required Tewkesbury Borough Council to replace the Tewkesbury Borough Local Plan by a Local Development Framework (LDF).

2.61. Tewkesbury Borough Council is working in partnership with Gloucester City Council and Cheltenham Borough Council to prepare a Joint Core Strategy that will guide development in the area up to 2031.

2.62. The Joint Core Strategy will be an overarching strategic plan for the wider area covered by the three councils, setting out strategic objectives and site allocations for the respective local authority areas. It will deal with key strategic issues including Green Belt; flooding; transport; housing/employment and the direction, timing and location of growth.

2.63. A ‘Developing the Preferred Option’ document was subject to public consultation between 13 December 2011 and 12 February 2012. This document identified the Ministry of Defence (MoD) vehicle storage depot at Ashchurch as a potential strategic allocation site for 2,100 homes. The location of which is shown in Figure 3.

2.64. A Preferred Option document is currently being prepared. This will be a detailed plan setting out the preferred approach to development, including the allocation of key sites for development. A draft of this document is due to be published in October 2013, subject to agreement by the local authorities, with consultation scheduled for October – November 2013.
3. **EXISTING CONDITIONS**

3.1. This section of the TA describes the existing local transport conditions in the vicinity of the site.

**Site Context**

3.2. The location of the Application Site is shown in Figure 1 with the site boundary and local highway network shown in Figure 2. The Proposed Development site is situated at Ashchurch to the east of M5 Motorway Junction 9 and south of the A46(T) approximately 3 kilometres from Tewkesbury town centre.

3.3. The A46(T) is part of the Strategic Road Network (SRN) for which responsibility for maintaining, operating and improving the road rests with the Highways Agency (HAg). Ashchurch Industrial Estate, which comprises a significant employment area, is located on the opposite side of the A46(T), as is Ashchurch railway station which is approximately 200m from the site’s north-eastern boundary.

3.4. The former Dowty and Trelleborg employment site at Easter Park is located opposite the site. This land is currently the subject of a planning application for a Sainsbury’s foodstore with the access proposed to be taken from the A46(T), the details of which are shown at Appendix C.

**The Highway Network**

3.5. The Application Site is situated to the south of the A46(T). The A46(T) is designated primary route status in the vicinity of the Application Site and connects to the M5 Motorway and the A438 at Junction 9 to the west.

3.6. The A46(T) is single carriageway, street lit and is subject to a 40mph speed limit between M5 junction 9 and a point 80m to the west of Northway Lane where it reduces to 30mph as it passes through Ashchurch.

3.7. There are two signal controlled junctions in the vicinity of the Application Site; the A46(T) / Alexandra Way junction and the A46(T) / Northway Lane junction.

3.8. The A46(T) / Alexandra Way junction has two lane approaches on all arms and a crossing facility over Alexandra Way. Cyclists are required to dismount at the crossing. The HAg is planning to provide an additional lane commencing at the A46(T) westbound approach to the junction, continuing to M5 Junction 9 under the Pinch Point Programme.

3.9. The A46(T) / Northway Lane junction has two lanes on the approach from Northway Lane and three lanes on the eastbound and westbound approaches of the A46(T). There is a crossing facility over Northway Lane for pedestrians and cyclists.

3.10. A number of priority junctions have also been formed along the A46(T). These include the junctions with the petrol filling station located on the south side of the A46(T) adjacent to the northern boundary of the Application Site and Fiddington Lane located adjacent to the eastern boundary of the Application Site.

3.11. To the west of the Application Site, the A46(T) connects to the M5 Motorway and the A438 in the form of a 4-arm partially signalised grade separated roundabout; this is M5 Junction 9. The motorway off-slips are signal controlled. The HAg plans to
3.12. In respect of the traffic flows on the A46(T), summary traffic flow information from an Automatic Traffic Counter (ATC) installed on the A46(T) between M5 Junction 9 and Alexandra Way from Tuesday 16 April to Monday 22 April 2013 is set out in **Table 3.1**.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Two-Way Flow (vehicles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday AM Peak Hour (08:00-09:00)</td>
<td>2,440</td>
</tr>
<tr>
<td>Weekday PM Peak Hour (17:00-18:00)</td>
<td>2,331</td>
</tr>
<tr>
<td>Weekday 24 Hours</td>
<td>27,469</td>
</tr>
<tr>
<td>Saturday Peak Hour (11:00-12:00)</td>
<td>1,551</td>
</tr>
<tr>
<td>Saturday 24 Hours</td>
<td>18,153</td>
</tr>
</tbody>
</table>

Note: Traffic flows derived from ATC installed on A46(T) between M5 Junction 9 and Alexandra Way from Tuesday 16 April to Monday 22 April 2013.

3.13. The following graphs show the traffic flow on the A46(T) for each day of the week and the traffic flow profiles for the weekdays, Saturday and Sunday as derived from the ATC.

**Graph 3.1: Daily Two-Way Traffic Flow on A46(T)**
Queue length and journey time surveys have been carried out as described below. They show that there is existing queuing and delay on the A46(T) and A438 particularly on the eastbound approach to M5 Junction 9 in the AM peak period and on the westbound approach to M5 Junction 9 during the PM peak period.

In the vicinity of the Application Site there is a shared footway / cycleway on the north side of the A46(T). This facility commences at the eastern corner of the Ashchurch MoD Depot to the east of the Application Site and provides a mainly traffic free route along the A46(T) and A438 Ashchurch Road towards Tewkesbury. There is a footway / cycleway link from the A46(T) to Ashchurch railway station via Northway Lane. There is also a footway on the south side of the A46(T) to the east of Fiddington Lane. Approximately 25m to the east of Fiddington Lane there is a pedestrian crossing over the A46(T) that incorporates a pedestrian refuge island.

As discussed in Section 2, improvements to the existing pedestrian/cycle facilities at M5 Junction 9 are proposed by the HAg under the Pinch Point Programme. The provision of a shared footway/cycleway alongside the disused railway bridge on Northway Lane is also being promoted by GCC. The Proposed Development is shown in the context of existing cycle routes in Figure 4.

In respect of Public Rights of Way, an extract from GCC’s on-line Public Rights of Way Map is reproduced at Appendix F. The Map shows no Public Rights of Way crossing the Application Site.
Traffic Data

3.18. In order to produce an accurate 2013 base year model a comprehensive traffic survey exercise was undertaken.

3.19. The following traffic surveys were undertaken:
   - Classified junction turning counts and queue length surveys
   - Link count surveys
   - Automatic Number Plate Recognition (ANPR) camera surveys
   - Automatic Traffic Count (ATC) surveys
   - Journey time surveys

3.20. The traffic survey locations are shown in Figure 5. The surveys were carried out by an independent specialist survey company in April 2013.

3.21. A summary of the junction turning count and link count surveys for the 3-hour Thursday AM and PM peaks (07:00-10:00 and 16:00-19:00 respectively) and 5-hour Saturday peak (11:00-16:00) surveyed periods are included at Appendix G. These surveys were undertaken on Thursday 18 April and Saturday 20 April 2013.

3.22. The Automatic Traffic Count (ATC) surveys were undertaken for a 7-day period in April 2013.

3.23. ANPR surveys were undertaken at the traffic model external cordon points consisting of the main routes into the network. The ANPR survey locations are shown in Figure 6. The ANPR survey provided vehicle movements in both directions between each of the survey sites comprising the external cordon. The vehicles were classified into ‘Lights’ (Car and LGV) and ‘Heavies’ (OGV1, OGV2 and Coaches) with results broken down into 15 minute intervals.

3.24. Summary tables showing the factored up ANPR matrices for both Lights and Heavies for each of the survey time periods are provided at Appendix H.

3.25. In addition to the traffic count surveys, a journey time survey was undertaken along the following route, which is shown in Figure 7:
   - A438 Ashchurch Road – M5 Junction 9 – A46/B4079 Teddington Hands Roundabout

3.26. The journey time along this route was recorded for both the weekday AM and PM peaks and the Saturday peak periods with a minimum of 10 journeys in each direction.

Road Safety

3.27. A detailed report of all collisions including a plan has been obtained from GCC for the study area from the junction of the A38 / A438 to the junction of the A46(T) / B4079, Aston Cross incorporating the M5 Motorway Junction 9. The collision records cover a period of five years from 1 January 2008 to 31 December 2012. The collision plan showing collisions in the study area is reproduced at Appendix I.

3.28. The collision records identify that there have been a total of 58 collisions during the five year period. Tables 3.2 - 3.5 set out an overview of the collision data within the study area.
### Table 3.2: Collision Severity

<table>
<thead>
<tr>
<th>Severity</th>
<th>No. of Collisions</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Serious</td>
<td>6</td>
<td>10%</td>
</tr>
<tr>
<td>Slight</td>
<td>50</td>
<td>86%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>58</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Note: Summation errors due to rounding

### Table 3.3: Collision Lighting

<table>
<thead>
<tr>
<th>Lighting</th>
<th>No. of Collisions</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark &amp; Street Lit</td>
<td>10</td>
<td>17%</td>
</tr>
<tr>
<td>Dark Not Street Lit</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Light</td>
<td>46</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>58</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Note: Summation errors due to rounding

### Table 3.4: Collision Road Surface

<table>
<thead>
<tr>
<th>Road Surface</th>
<th>No. of Collisions</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet/Damp</td>
<td>22</td>
<td>38%</td>
</tr>
<tr>
<td>Dry/Fine</td>
<td>34</td>
<td>59%</td>
</tr>
<tr>
<td>Frost/Ice</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>58</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### Table 3.5: Casualty Class

<table>
<thead>
<tr>
<th>Class</th>
<th>No. of Casualties</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorcyclist</td>
<td>5</td>
<td>6%</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>7</td>
<td>9%</td>
</tr>
<tr>
<td>Cyclist</td>
<td>4</td>
<td>5%</td>
</tr>
<tr>
<td>Driver</td>
<td>42</td>
<td>53%</td>
</tr>
<tr>
<td>Passenger</td>
<td>21</td>
<td>27%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>79</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

3.29. Two collisions resulting in fatalities have been recorded within the study area over the last five years. One of these occurred south of Junction 9 on the northbound side of the M5 and involved a single car colliding with the safety barrier on the central reservation. The other fatal collision occurred at the A438 Barton Road / Barton Court junction and involved an elderly pedestrian stepping into the road from Barton Court and colliding with a car travelling northeast.

3.30. A total of six collisions involving slight injury to pedestrians have been recorded within the study area over the last five years. One of these collisions occurred on Wilding Close and involved a bailiff being struck by a car while attempting to remove vehicles from a property. One collision involved a car turning into Walton Cardiff Lane to turn around and reversing back towards the A438 and colliding with a pedestrian crossing the junction. One collision involved a car reversing out of a car park located off the A46(T) and into a pedestrian. The remaining three slight collisions involved injury to child pedestrians, of which two occurred on the A46(T) near the petrol filling station located east of the A46(T) / Alexandra Way junction. The other collision involving injury to a child pedestrian occurred on the A438 near Tewkesbury School. In each of these cases the child pedestrian stepped into the road and was struck by an oncoming car.
3.31. A total of four collisions involving injury to cyclists have been recorded within the study area over the last five years, all of which occurred within 20m of a junction. One collision was recorded as serious. This occurred at the A46(T) / B4079 junction and involved a cyclist being knocked under a towed caravan after contact with the car’s wing mirror. The remaining three collisions were recorded as slight. The first of these occurred when a car turning left from the A438 into Canterbury Leys struck a cyclist and failed to stop. One collision occurred at M5 Junction 9 interchange. This involved a cyclist travelling west from the A46(T) to the A438 being struck by a car approaching the roundabout from the M5 southbound off-slip. The remaining collision occurred at the junction of Alexandra Way / Ashchurch Business Centre and involved a car pulling out into the path of a cyclist.

3.32. Collision records for junctions located in the immediate vicinity of the Application Site have been analysed, incorporating junctions located on the corridor between M5 Junction 9 and the A46(T) / Northway Lane junction. A total of twelve collisions have been recorded within 20m of junctions on this corridor over the last five years, all of which were recorded as slight.

3.33. Eight collisions have been recorded at M5 Junction 9, of which five were rear-end shunts. The remaining three collisions at this location involved a cyclist (see paragraph 3.30), a car pulling out from the junction into the path of motorcycle, and an overtaking car colliding with a van travelling in the same direction. Two collisions have been recorded within 20m of the A46(T) / Alexandra Way signal controlled junction, both of which were rear-end shunts. The remaining two collisions on this corridor occurred at the A46(T) / Northway Lane junction. One of these was a rear-end shunt and one involved a car turning into the path of another car.

**Junction Collision Analysis**

3.34. In order to give an indication as to whether any of the key junctions in the study area has a poor accident record, a comparison has been carried out with predicted accident rates derived from parameters in DMRB Volume 13 – ‘Economic Assessment of Road Schemes’.

3.35. DMRB predicts personal injury accidents per annum based on the type of junction and the volume of traffic passing through the junction. Table 3.6 shows both the observed and predicted number of accidents per annum for each of the key junctions. The junction accident analysis including the calculations is presented in detail at Appendix J.

**Table 3.6: Comparison of Observed and Predicted Accidents per annum**

<table>
<thead>
<tr>
<th>Junction</th>
<th>Observed Total 1 Jan 2008 - 31 Dec 2012</th>
<th>Observed per annum</th>
<th>Predicted per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>A46 / B4079 Aston Cross</td>
<td>3</td>
<td>0.6</td>
<td>2.91</td>
</tr>
<tr>
<td>A46 / Northway Lane</td>
<td>2</td>
<td>0.4</td>
<td>1.38</td>
</tr>
<tr>
<td>A46 / Alexandra way</td>
<td>2</td>
<td>0.4</td>
<td>1.41</td>
</tr>
<tr>
<td>M5 / A46 / A438 (J9)</td>
<td>8</td>
<td>1.8</td>
<td>2.59</td>
</tr>
<tr>
<td>A438 / Shannon Way</td>
<td>1</td>
<td>0.2</td>
<td>1.38</td>
</tr>
<tr>
<td>A438 / A38</td>
<td>1</td>
<td>0.2</td>
<td>1.28</td>
</tr>
</tbody>
</table>
3.36. **Table 3.6** indicates that the observed accident rate per annum for all of the key junctions is lower than the predicted rate. Overall, it is considered that the accident records do not point to any existing highway safety issues which require more detailed examination.

**Bus Services**

3.37. The existing bus services which serve Ashchurch are shown in **Figure 8**. Each of these existing services stop in the vicinity of the Proposed Development. There is a bus stop on the A46(T) to the west of Alexandra Way for westbound journeys which includes the provision of a bus shelter south of the road. For eastbound journeys there is a bus stop on the A46(T) to the east of Alexandra Way opposite the petrol filling station. There are also bus stops on Northway Lane, with a bus shelter adjacent to the bus stop on the east side of the road. All the bus stops are served by bus service 41/42. None of the bus stops have crossing facilities; this is to be rectified for the bus stops on the A46(T) as part of the improvements to the A46(T) / Alexandra Way junction to be carried out under the HAg’s Pinch Point Programme.

3.38. **Table 3.7** sets out summary route and timetable information for the bus services which serve Ashchurch. This shows that regular services routing to and from Tewkesbury and Cheltenham provide the opportunity to travel to the Application Site by bus.

**Table 3.7: Summary Route and Timetable Information for Existing Bus Services**

<table>
<thead>
<tr>
<th>Service No.</th>
<th>Route</th>
<th>Days</th>
<th>Daytime Frequency</th>
<th>First Service</th>
<th>Last Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3</td>
<td>Pinvin - Tewkesbury</td>
<td>Wed</td>
<td>1 per day</td>
<td>10:24</td>
<td>10:24</td>
</tr>
<tr>
<td></td>
<td>Tewkesbury - Pinvin</td>
<td>Wed</td>
<td>1 per day</td>
<td>13:20</td>
<td>13:20</td>
</tr>
<tr>
<td>41/42</td>
<td>Cheltenham - Tewkesbury - Northway</td>
<td>Mon-Fri</td>
<td>15 minutes</td>
<td>06:28</td>
<td>23:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat</td>
<td>15 minutes</td>
<td>07:13</td>
<td>23:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sun</td>
<td>Hourly</td>
<td>09:21</td>
<td>19:21</td>
</tr>
<tr>
<td></td>
<td>Northway - Tewkesbury - Cheltenham</td>
<td>Mon-Fri</td>
<td>15 minutes</td>
<td>06:26</td>
<td>23:12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat</td>
<td>15 minutes</td>
<td>06:26</td>
<td>23:12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sun</td>
<td>Hourly</td>
<td>09:33</td>
<td>19:33</td>
</tr>
</tbody>
</table>

Note: Times shown are for the A46(T) Alexandra Way bus stops

3.39. Bus service 41/42 is the key bus service in respect of the Proposed Development. This service is a regular and frequent service that would mean that the Proposed Development would be accessible by bus for the majority of the residents of Tewkesbury and many of the residents of Cheltenham. The journey time from Tewkesbury town centre and Cheltenham town centre to the Alexandra Way bus stop are approximately 10 minutes and 40 minutes respectively.

**Rail Services**

3.40. The railway line and station that serves Ashchurch and the rail network in Gloucestershire are shown in **Figure 9**. Ashchurch railway station is located to the
north east of the Application Site off Northway Lane. It is managed by First Great Western and is located on the Bristol – Birmingham railway line.

3.41. **Table 3.8** provides a summary of the facilities available at Ashchurch railway station.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Parking</td>
<td>55 spaces (24hr Mon-Sun)</td>
</tr>
<tr>
<td>Disabled Car Parking</td>
<td>Yes</td>
</tr>
<tr>
<td>Taxi Rank</td>
<td>Yes</td>
</tr>
<tr>
<td>Cycle Storage</td>
<td>Yes (Sheltered and unsheltered)</td>
</tr>
<tr>
<td>Staffing / Ticket Office Times</td>
<td>Unstaffed</td>
</tr>
<tr>
<td>Self Service Ticket Machines</td>
<td>No</td>
</tr>
</tbody>
</table>

Note: Station facility information obtained from www.nationalrail.co.uk

3.42. **Table 3.9** sets out summary route and timetable information for the rail services which serve Ashchurch.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Route</th>
<th>Days</th>
<th>Frequency and Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Great Western &amp; Cross Country Trains</td>
<td>Worcester - Ashchurch - Cheltenham - Gloucester - Bristol</td>
<td>Mon-Fri</td>
<td>1 – 2 Hours 05:40 00:01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat</td>
<td>1 – 2 Hours 06:33 21:51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sun</td>
<td>2 Hours 15:50 20:54</td>
</tr>
<tr>
<td>Bristol - Gloucester - Cheltenham - Ashchurch - Worcester</td>
<td>Mon-Fri</td>
<td>1 – 2 Hours 06:20 22:23</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sat</td>
<td>1 – 2 Hours 06:09 21:57</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sun</td>
<td>2 Hours 15:00 19:57</td>
</tr>
</tbody>
</table>

Note: Times shown are departure times from Ashchurch railway station.

3.43. On weekdays 14 rail services stop in each direction at Ashchurch. On Saturday 13 northbound services stop and 10 southbound services stop at Ashchurch, while on Sunday 4 services stop in each direction. Most, but not all, trains that stop at Ashchurch also stop at Gloucester and Cheltenham railway stations. Connections to the wider rail network can be made at Worcester, Gloucester, Cheltenham and Bristol.

3.44. The approximate journey times from Worcester, Cheltenham, Gloucester and Bristol are set out below:

- Worcester 20 minutes
- Cheltenham 10 minutes
- Gloucester 20 minutes
- Bristol Temple Meads 70-90 minutes
3.45. The National Rail Regulator maintains records of station usage based on the numbers of passenger ‘entries and exits’. The recorded passenger numbers at Ashchurch railway station are set out in Table 3.10. The records show usage increased between 2004/5 – 2011/12, albeit with some fluctuation in the intervening years. The records show that usage increased by over 50% between 2004/5 and 2011/12.

Table 3.10: Recorded Passenger numbers at Ashchurch Railway Station

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of entries and exits</th>
<th>Change since 2004/5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004/5</td>
<td>47,501</td>
<td>-</td>
</tr>
<tr>
<td>2005/6</td>
<td>56,513</td>
<td>+ 19.0%</td>
</tr>
<tr>
<td>2006/7</td>
<td>64,592</td>
<td>+ 36.0%</td>
</tr>
<tr>
<td>2007/8</td>
<td>58,212</td>
<td>+ 22.5%</td>
</tr>
<tr>
<td>2008/9</td>
<td>67,390</td>
<td>+ 41.9%</td>
</tr>
<tr>
<td>2009/10</td>
<td>64,622</td>
<td>+ 36.0%</td>
</tr>
<tr>
<td>2010/11</td>
<td>68,964</td>
<td>+ 45.2%</td>
</tr>
<tr>
<td>2011/12</td>
<td>74,174</td>
<td>+ 56.2%</td>
</tr>
</tbody>
</table>

Source: Office of the National Rail Regulator (www.rail-reg.gov.uk).

3.46. The increase in passenger numbers is positive and supports GCC’s LTP3, which states at paragraph 8.5 that it intends to work with rail operators to provide improved rail park and ride and more frequent services at Ashchurch if demand dictates.
4. PROPOSED DEVELOPMENT

4.1. The main components of the Proposed Development are:
   - a Garden Centre of up to 8,000m² gross external area
   - a Retail Outlet Centre of up to 17,545m² gross external area

4.2. The Proposed Development will involve highway works along the A46(T) to provide new points of access including modifications to the existing A46(T) / Alexandra Way junction, carriageway widening, the realignment of Fiddington Lane and its junction with the A46(T) and associated works to create vehicular, pedestrian and cyclist accesses.

4.3. The opening hours of the garden centre and retail outlet centre are anticipated to be 10:00-19:00 Monday to Saturday and 10:00-17:00 on Sunday.

4.4. Roberts Limbrick Architects has produced an Indicative Masterplan that shows how the Proposed Development could be accommodated on the site. The Indicative Masterplan is reproduced at a reduced scale at Appendix A.

Proposed Access Arrangements

4.5. The type and location of the Proposed Development requires high quality access for all modes of transport which would be achieved as described below.

1. Vehicular Access

4.6. With respect to access, paragraph 43 of DfT Circular 02/2013 relating to the formation or intensification of use of accesses to the remainder of the strategic road network (as opposed to motorways and routes of near motorway standard) states:

   "The Highways Agency will adopt a graduated and less restrictive approach to the formation or intensification of use of access to the remainder of the strategic road network. However, the preference will always be that new development should make use of existing junctions. Where a new junction or direct means of access is agreed, the promoter will be expected to secure all necessary consents, and to fund all related design and construction works."

4.7. It is proposed to take vehicular access from the existing A46(T) at the Alexandra Way signal controlled junction by means of a fourth arm to the junction. This modified junction is the primary access, known as the western access. The proposal includes widening the road to a dual carriageway standard, the provision of an additional lane in both directions on the A46(T) west of Alexandra Way and a third lane at the westbound entry to the M5 Junction 9.

4.8. A second access is proposed at the eastern end of the site which incorporates a realignment of Fiddington Lane into a new signal controlled junction to replace the existing priority junction. This would form part of a left-right staggered junction with Northway Lane.

4.9. The two points of access off the A46(T) will be joined by means of an on-site link road, which will be provided with roundabout junctions at either end to distribute the development traffic. The proposed site access arrangements are shown at a reduced scale on PFA Consulting’s Drawing No. H439/02 Rev G at Appendix K.
4.10. Further details of the two proposed access junctions with the A46(T) are also provided at Appendix K. PFA Consulting’s Drawing Number H439/03 Rev F details the proposed access at the Alexandra Way signal controlled junction; PFA Consulting’s Drawing Number H439/04 Rev F details the traffic signal controlled junction of the revised Fiddington Lane access junction. Both drawings are reproduced at a reduced scale.

4.11. The primary western access has been designed to best accommodate the predicted traffic flows associated with the proposed development. The design of the access deliberately excludes a right turn movement out to the east given that the vast majority of traffic leaving the site will be travelling to the west via M5 Junction 9. Omitting this right turn movement enables a more efficient stage sequence to be introduced providing greater capacity and reducing delays to A46(T) through traffic. Traffic with destinations to the east will be able to use the eastern access.

4.12. The proposed access arrangements have been designed such that they are compatible with both the HAg’s pinch point improvement scheme and Sainsbury’s proposals on the former Trelleborg site.

4.13. A Stage 1 Road Safety Audit has been undertaken of the proposed access arrangements and improvements to the A46(T) in accordance with the HAg Protocol for dealing with planning applications. The Audit and Designer’s Response is reproduced at Appendix L.

2. Access for Large Vehicles

4.14. The Proposed Development will be designed to accommodate the efficient delivery of goods and supplies. The layout will ensure that where possible service vehicles will be segregated from other traffic on site.

4.15. Coaches, servicing, refuse and emergency vehicles will need to be accommodated by the Proposed Development. In order to demonstrate that these large vehicles can be accommodated, bespoke swept path analysis has been undertaken using the computer program Autotrack.

4.16. PFA Consulting’s Drawing H439/08 RevA showing the swept path analysis for an articulated vehicle and a midi bus is reproduced at a reduced scale at Appendix M. This shows that the proposed access arrangements can facilitate the movement of these vehicle types to/from the Proposed Development.

3. Pedestrian and Cyclist Access

4.17. Pedestrian and cyclist access to the site is proposed from the existing purpose-built footway/cycleway along the A46(T) which includes the link to the railway station. The HAg has proposed enhancements to the facility where it passes through the motorway junction. These improvements will be introduced as part of the ‘pinch point’ scheme. Three points of access are proposed. One point is at the western access integrated into the traffic signals controlling the modified Alexandra Way junction. The second is an uncontrolled pedestrian/cyclist crossing of the A46(T) proposed at point east of the existing petrol filling station. The location of this crossing facility is compatible with the proposed access arrangements serving the Sainsbury’s proposals for a superstore on the former Trelleborg site situated to the north of the A46. The third point of pedestrian and cyclist access is via the existing
alignment of a section of Fiddington Lane which would be downgraded to become a segregated route for pedestrians and cyclists in conjunction with its realignment.

4.18. The proposed pedestrian and cyclist accesses would provide direct links into the existing pedestrian and cyclist facilities on the north side of the A46(T). These pedestrian / cyclist links are shown in Figure 10.

4.19. The layout of the Proposed Development will give priority to pedestrian and cyclist movements providing a safe environment which minimise conflicts between traffic and cyclists and pedestrians.

Shuttle Bus

4.20. It is envisaged that the Proposed Development would provide a shuttle bus service between the railway station, the new development and Tewkesbury town centre to enhance opportunities to travel by bus and train. A plan showing the potential route of a shuttle bus service is shown in Figure 11.

4.21. The proposed bus shuttle service would be coordinated with rail services at Ashchurch Railway Station to provide the opportunity for rail passengers to travel to the Proposed Development by bus.

4.22. The shuttle bus service would also provide visitors of the proposed retail development the opportunity to travel to Tewkesbury town centre for shopping or leisure activities as part of a linked trip.

4.23. GCC in their response to the TA scope considered that a shuttle bus service between the Proposed Development and Tewkesbury town centre would be of benefit in terms of the economic viability of the town centre.

4.24. The household survey undertaken as part of the Retail Impact Assessment (RIA) found that 49% of respondents stated that they would be encouraged to use a free bus shuttle service to visit Tewkesbury town centre as part of a linked trip. 32% of respondents stated that they would be encouraged to use rail if a free bus shuttle service was provided linking the proposed retail development to Ashchurch railway station.

Parking Provision

4.25. An adequate level of parking for different classes of vehicles including coaches, cycles and motorcycles will be provided for the Proposed Development. The level of parking will need to be agreed with the planning and highway authorities to ensure that there is no parking on the adjoining highway which could be a source of danger to other road users whilst ensuring that an ample supply does not result in additional journeys that could be made by more sustainable modes. The parking arrangements will be managed to ensure spaces are used by visitors to the development and not for commuter parking. The management arrangements will be integrated with the travel plan arrangements for the development as a whole that will encourage visitors to use public transport and/or organised transport such as coach parties.

4.26. Manual for Gloucestershire Streets (MfGS) states that there are currently no local car parking standards for Gloucestershire. In the absence of standards, developers are encouraged to calculate the parking demand that would be generated by the Proposed Development. PFA Consulting has undertaken estimates of the traffic generation for the Proposed Development using trips rates derived from traffic
surveys undertaken at York Designer Outlet and at Blooms Garden Centre, Gloucester as set out in Section 6. The profiles of traffic arriving and departing at both the York Designer Outlet and at Blooms Garden Centre have enabled estimates of parking demand to be made for the Proposed Development.

4.27. Based on the estimates of parking demand, it is anticipated that the Proposed Development would need to accommodate around 2,100 car parking spaces across the site as a whole. Accordingly, the Indicative Masterplan shows 2,112 car parking spaces across the site as a whole. 1,245 spaces are shown in the vicinity of the Retail Outlet Centre in multi-storey car parking and 867 spaces are shown in the vicinity of the Garden Centre. A parking management plan would be needed to ensure appropriate and efficient use of parking.

4.28. Bicycle, motorcycle and coach parking would be provided in accordance with the parking standards prevailing at the reserved matters stage.
5. TRANSPORT SUSTAINABILITY AND ACCESSIBILITY

General

5.1. A fundamental consideration in all new development is the achievement of sustainability. This covers a broad range of issues, one of the most important of which is the reduction in the need to travel by car. Paragraph 34 of the NPPF states:

“Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.”

and paragraph 35 states:

“...developments should be located and designed where practical to:
• give priority to pedestrian and cycle movements, and have access to high quality public transport facilities; ..”

5.2. The provision of alternative modes of sustainable transport, the encouragement of opportunities for walking and cycling and the close proximity of employment and other day-to-day facilities to residential areas are the basic elements of achieving transport sustainability.

Walking & Cycling

5.3. Walking and cycling are the most sustainable modes of transport, and encouraging walking and cycling not only reduces the overall vehicular travel demand but also has major benefits to the health of the population.

5.4. ‘Guidelines for Providing for Journeys on Foot’, published by The Institution of Highways and Transportation in 2000, provides advice on walking distances. It suggests a maximum preferred walking distance of 2km for commuting. With regard shopping, it makes reference to the advice of Carley and Donaldson (1996) that ‘acceptable’ distances depend on the quality and size of shopping centres and length of stay of the shopper. Given the scale and type of the proposed retail development, it is considered that the walking catchment for shoppers can be taken to be around 1km for the proposed retail outlet centre. Clearly, for those visiting the garden centre to purchase heavy and bulky goods, the most likely mode of transport would be by car, however, in sustainability terms, a short trip to a local garden centre would be preferable to the longer trips that are currently being undertaken.

5.5. Figure 12 shows the existing land uses in the vicinity of the Application Site. For shopping trips, it can be seen that the Ashchurch Industrial Estate and part of the Northway residential area are within walking distance of the Application Site. For commuting trips, it can be seen that both the residential areas of Northway and Newtown are within walking distance. For trips of greater distance, the existing and proposed network of cycle routes linking the Application Site with Tewkesbury provides opportunities to cycle for both shopping and commuting trips.

5.6. Figure 13 shows the pedestrian and cycle accessibility of the Proposed Development in the form of pedestrian / cyclist routes to key locations namely: the residential area of Northway; Ashchurch Village; Newtown and Tewkesbury; and Ashchurch railway station. It can be seen that the Proposed Development would be accessible for employees and shoppers both on foot and by bicycle and the Proposed Development
5.7. The Proposed Development will have good access for pedestrians and cyclists ensuring that opportunities for use of sustainable travel will be maximised as required by the NPPF.

**Public Transport**

5.8. The provision of attractive public transport services allow opportunities for sustainable travel over longer distances complementing the provision of walk and cycle links for shorter journeys.

5.9. As identified in Section 3 of this TA, there are regular bus services that stop in the vicinity of the Application Site which serve Tewkesbury and Cheltenham and Ashchurch railway station is nearby. It is envisaged that the Proposed Development would provide a shuttle bus service between the railway station, the new development and Tewkesbury town centre to enhance opportunities to travel by bus and train. *Figure 11* shows the route of the proposed bus shuttle service.

5.10. The Proposed Development will have good access to both bus and rail public transport which will encourage sustainable travel in accordance with the NPPF.

**Travel Plan**

5.11. A Travel Plan has been produced alongside this TA for the overall development. It provides a framework for the developer working in conjunction with the local highway authority to promote sustainable travel behaviour without reducing mobility or accessibility. The Travel Plan details proposed measures aimed at encouraging travel by public transport, cycling and walking.
6. **TRIP GENERATION, DISTRIBUTION & PARKING DEMAND**

6.1. This section of the TA deals with the trip generation, distribution and parking demand of the Proposed Development using data derived from comparable sites.

**Comparable Sites**

6.2. In accordance with the agreed Transport Assessment Scoping Study surveys were undertaken at both the York Designer Outlet Centre and at Blooms Garden Centre, Gloucester to provide representative trip rates to enable the trip generation of the Proposed Development to be predicted.

1. York Designer Outlet Centre

6.3. The York Designer Outlet Centre is located to the south of York adjacent to the A64 Southern Ring Road. The outlet centre has a gross floor area of 30,500 m² with parking for 2,700 cars. The outlet centre has over 100 boutique retail units along with cafes and restaurants. The outlet centre includes a Park and Ride, which provides a 10 minute daytime frequency bus service to/from York city centre and railway station. Further details of the outlet centre are provided at Appendix N.

6.4. Classified directional link counts were undertaken at 30 minute intervals between 07:00-21:00 for all modes of travel on the main access road on St Nicholas Avenue and bus only link to Naburn Lane. Occupancy counts for each vehicle class were also undertaken to establish total person trips by mode.

6.5. The surveys were undertaken on the following days in April 2013:
   - Thursday 18 April 2013 (07:00 - 21:00)
   - Saturday 20 April 2013 (07:00 - 21:00)
   - Easter Bank Holiday Monday 1 April 2013 (07:00 - 21:00)

6.6. **Appendix N** details the person trips by mode and person and vehicle modal shares for each of the survey days at York Designer Outlet. It also provides the results of the manual classified traffic counts broken down by vehicle type for both arrivals and departures for various time periods for each of the three survey days. The surveys enabled trip rates to be calculated which are also included.

6.7. In addition to the manual classified counts, automatic traffic counters were installed on the site access road at the York Designer Outlet Centre. The ATCs were installed for 7-days for three separate weeks as follows:
   - 29 March to 4 April 2013
   - 18 April to 24 April 2013
   - 27 May to 2 June 2013

6.8. **Table 6.1** sets out the traffic generation (07:00 - 21:00) derived from the ATCs at York Designer Outlet Centre for an average Weekday and Saturday (both school term and school holiday), and for a Bank Holiday Monday (both Easter and Spring). The total traffic generation (two-way) for each are shown graphically in **Graph 6.1**.
2. Blooms Garden Centre, Gloucester

6.9. The Blooms Garden Centre is located to the south of Gloucester adjacent to the M5 Motorway. The garden centre has a gross floor area of some 7,536 m² with parking for 230 cars. The garden centre includes concessionary outlets such as, Laura Ashley and Cotton Traders, together with a restaurant. Further details of the garden centre are provided at Appendix O.

6.10. Classified directional link counts were undertaken at 30 minute intervals between 07:00-21:00 for all modes of travel on the site access road to Blooms Garden Centre. Occupancy counts for each vehicle class were also undertaken to establish total person trips by mode.
6.11. The surveys were undertaken on the following days in April 2013:
- Thursday 18 April 2013 (07:00 - 21:00)
- Saturday 20 April 2013 (07:00 - 21:00)
- Easter Bank Holiday Monday 1 April 2013 (07:00 - 21:00)

6.12. **Appendix O** details the person trips by mode and person and vehicle modal shares for each of the survey days at Blooms. It also provides the results of the manual classified traffic counts broken down by vehicle type for both arrivals and departures for various time periods for each of the three survey days. The surveys enabled trip rates to be calculated which are also included.

6.13. In addition to the manual classified counts, automatic traffic counters were put down on the site access road at Blooms Garden Centre. The ATCs were put down for 7-days for two separate weeks as follows:
- 29 March to 4 April 2013
- 16 April to 22 April 2013

6.14. **Table 6.2** details the traffic generation (07:00 - 21:00) derived from the ATCs at Blooms Garden Centre for an average Weekday and Saturday (school term), and the Easter Bank Holiday Monday. The total traffic generation (two-way) for each are represented graphically in **Graph 6.2**.

<table>
<thead>
<tr>
<th>Survey Dates</th>
<th>Inbound</th>
<th>Outbound</th>
<th>Two-Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Weekday (School Term)</td>
<td>897</td>
<td>908</td>
<td>1,805</td>
</tr>
<tr>
<td>(16, 17, 18, 19, 22 April 2013)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical Saturday (School Term)</td>
<td>1,397</td>
<td>1,410</td>
<td>2,807</td>
</tr>
<tr>
<td>(20 April 2013)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank Holiday Monday (Easter)</td>
<td>1,515</td>
<td>1,501</td>
<td>3,016</td>
</tr>
<tr>
<td>(01 April 2013)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Graph 6.2**: Daily Two Way Traffic Flow on Blooms Garden Centre Site Access
Proposed Development Trip Generation

6.15. Applying the results of the surveys undertaken at York and Gloucester to the proposed retail outlet centre of 17,545m² GFA and garden centre of 8,000m² GFA provides a prediction of the trip generation of the Proposed Development.

1. Multi-Modal Person Trips

6.16. Table 6.3 estimates the person trips by mode of the proposed retail outlet centre applying the person trip rates and modal shares derived from the York Designer Outlet Centre.

Table 6.3: Proposed Retail Outlet Centre – Multi-Modal Person Trips (17,545m² GFA)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Weekday 07:00-19:00</th>
<th>Saturday 07:00-19:00</th>
<th>Bank Holiday 07:00-19:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Driver</td>
<td>2,179</td>
<td>2,998</td>
<td>4,102</td>
</tr>
<tr>
<td>Car Passenger</td>
<td>1,314</td>
<td>2,950</td>
<td>4,775</td>
</tr>
<tr>
<td>LGV Driver</td>
<td>85</td>
<td>75</td>
<td>64</td>
</tr>
<tr>
<td>LGV Passenger</td>
<td>25</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>OGV Driver</td>
<td>27</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Bus or Coach Passenger</td>
<td>652</td>
<td>759</td>
<td>778</td>
</tr>
<tr>
<td>Motor Cycle</td>
<td>5</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>Bicycle</td>
<td>7</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>32</td>
<td>46</td>
<td>28</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>4,326</strong></td>
<td><strong>6,911</strong></td>
<td><strong>9,823</strong></td>
</tr>
</tbody>
</table>

6.17. The above table may indicate a higher number of bus passengers than would be expected at Ashchurch given that the York Designer Outlet Centre includes a Park and Ride facility providing 10 minute bus service to the centre of York.

6.18. Table 6.4 estimates the person trips by mode for the proposed garden centre applying the person trip rates and modal shares derived from Blooms Garden Centre, Gloucester.

Table 6.4: Proposed Garden Centre – Multi-Modal Person Trips (8,000m² GFA)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Weekday 07:00-19:00</th>
<th>Saturday 07:00-19:00</th>
<th>Bank Holiday 07:00-19:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Driver</td>
<td>877</td>
<td>1,343</td>
<td>1,505</td>
</tr>
<tr>
<td>Car Passenger</td>
<td>577</td>
<td>1,321</td>
<td>1,803</td>
</tr>
<tr>
<td>LGV Driver</td>
<td>42</td>
<td>44</td>
<td>55</td>
</tr>
<tr>
<td>LGV Passenger</td>
<td>11</td>
<td>27</td>
<td>37</td>
</tr>
<tr>
<td>OGV Driver</td>
<td>19</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Bus or Coach Passenger</td>
<td>0</td>
<td>0</td>
<td>252</td>
</tr>
<tr>
<td>Motor Cycle</td>
<td>1</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Bicycle</td>
<td>5</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>7</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,540</strong></td>
<td><strong>2,845</strong></td>
<td><strong>3,672</strong></td>
</tr>
</tbody>
</table>
2. Traffic Generation

6.19. The traffic generation derived from manual classified traffic counts undertaken in April 2013 at the York Designer Outlet has enabled trip rates per 100m$^2$ GFA to be calculated for various time periods. These trip rates can be applied to the proposed retail outlet centre to estimate the likely traffic generation.

6.20. Appendix P details the estimated traffic generation of the proposed retail outlet centre at Ashchurch broken down by vehicle type, a summary of which is provided in Table 6.5 below.

Table 6.5: Predicted Traffic Generation of Proposed Retail Outlet Centre (17,545m$^2$ GFA)

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Inbound</th>
<th>Outbound</th>
<th>Two-Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday AM Peak (07:00-10:00)</td>
<td>307</td>
<td>53</td>
<td>360</td>
</tr>
<tr>
<td>Weekday PM Peak (16:00-19:00)</td>
<td>426</td>
<td>663</td>
<td>1,090</td>
</tr>
<tr>
<td>Weekday (07:00-19:00)</td>
<td>2,294</td>
<td>2,302</td>
<td>4,596</td>
</tr>
<tr>
<td>Saturday Peak (11:00-16:00)</td>
<td>1,930</td>
<td>1,685</td>
<td>3,615</td>
</tr>
<tr>
<td>Saturday (07:00-21:00)</td>
<td>3,079</td>
<td>3,084</td>
<td>6,163</td>
</tr>
<tr>
<td>Bank Holiday Monday Peak (11:00-16:00)</td>
<td>2,971</td>
<td>2,521</td>
<td>5,492</td>
</tr>
<tr>
<td>Bank Holiday Monday (07:00-21:00)</td>
<td>4,175</td>
<td>4,179</td>
<td>8,354</td>
</tr>
</tbody>
</table>

6.21. The traffic generation derived from manual classified traffic counts undertaken in April 2013 at the Blooms Garden Centre has enabled trip rates per 100m$^2$ GFA to be calculated for various time periods. These trip rates can be applied to the proposed garden centre at Ashchurch to estimate the likely traffic generation.

6.22. Appendix P also details the estimated traffic generation of the proposed garden centre for various time periods broken down by vehicle type, a summary of which is provided in Table 6.6 below.

Table 6.6: Predicted Traffic Generation of Proposed Garden Centre (8,000m$^2$ GFA)

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Inbound</th>
<th>Outbound</th>
<th>Two-Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday AM Peak (07:00-10:00)</td>
<td>124</td>
<td>34</td>
<td>158</td>
</tr>
<tr>
<td>Weekday PM Peak (16:00-19:00)</td>
<td>106</td>
<td>201</td>
<td>307</td>
</tr>
<tr>
<td>Weekday (07:00-19:00)</td>
<td>938</td>
<td>937</td>
<td>1,876</td>
</tr>
<tr>
<td>Saturday Peak (11:00-16:00)</td>
<td>979</td>
<td>967</td>
<td>1,946</td>
</tr>
<tr>
<td>Saturday (07:00-21:00)</td>
<td>1,479</td>
<td>1,483</td>
<td>2,962</td>
</tr>
<tr>
<td>Bank Holiday Monday Peak (11:00-16:00)</td>
<td>1,211</td>
<td>1,151</td>
<td>2,362</td>
</tr>
<tr>
<td>Bank Holiday Monday (07:00-21:00)</td>
<td>1,570</td>
<td>1,577</td>
<td>3,148</td>
</tr>
</tbody>
</table>

6.23. The above traffic generation is considered robust for the purpose of traffic assessment as no discount has been made with respect to ‘linked-trips’ for those who visit both the proposed outlet centre and garden centre as part of a single trip.
Traffic Distribution

6.24. The distribution of the Proposed Development traffic onto the surrounding highway network has been based on the results of the Retail Impact Assessment (RIA) study undertaken by CgMs Consulting which calculated the likely trade draw from competing centres by catchment zone.

6.25. Appendix Q details the RIA catchment zone plan together with the trade draw impact tables (Tables 12 & 13) from the RIA for both the proposed retail outlet centre and the proposed garden centre.

6.26. The RIA trade draw impact tables have been interrogated to estimate the proportion of trips from each of the catchment zones to the Proposed Development at Ashchurch (both the retail outlet centre and garden centre). The routes which these trips would likely take to get to the new retail facility at Ashchurch has been estimated by use of the Google route mapping software taking the centre of each catchment zone.

6.27. Appendix R details the estimated trade draw from the various catchment zones for both the proposed retail outlet centre and garden centre, together with the estimated distribution onto the surrounding local highway network.

6.28. The percentage distribution of trips to/from the proposed retail outlet centre at Ashchurch onto the surrounding local highway network is shown in Table 6.7 and represented graphically in Figure 14.

Table 6.7: Trip Distribution of Proposed Retail Outlet Centre

<table>
<thead>
<tr>
<th>Route</th>
<th>% Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4079</td>
<td>3.4%</td>
</tr>
<tr>
<td>M5 South</td>
<td>42.1%</td>
</tr>
<tr>
<td>A38</td>
<td>0.8%</td>
</tr>
<tr>
<td>A438</td>
<td>0.8%</td>
</tr>
<tr>
<td>M5 North</td>
<td>40.3%</td>
</tr>
<tr>
<td>A46</td>
<td>7.9%</td>
</tr>
<tr>
<td>B4077</td>
<td>1.3%</td>
</tr>
<tr>
<td>A435</td>
<td>3.4%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

6.29. The percentage distribution of trips to/from the proposed garden centre at Ashchurch onto the surrounding local highway network is shown in Table 6.8 and represented graphically in Figure 15.

Table 6.8: Trip Distribution of Proposed Garden Centre

<table>
<thead>
<tr>
<th>Route</th>
<th>% Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4079</td>
<td>5.4%</td>
</tr>
<tr>
<td>M5 South</td>
<td>45.0%</td>
</tr>
<tr>
<td>A38</td>
<td>2.2%</td>
</tr>
<tr>
<td>A438</td>
<td>2.2%</td>
</tr>
<tr>
<td>M5 North</td>
<td>25.6%</td>
</tr>
<tr>
<td>A46</td>
<td>12.4%</td>
</tr>
<tr>
<td>B4077</td>
<td>1.8%</td>
</tr>
<tr>
<td>A435</td>
<td>5.4%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
6.30. The above distribution does not include for any local trips from within the study area that would likely use either the proposed garden centre or retail outlet centre. To allow for these trips the traffic modelling has assumed that 10% of the garden centre trips and 5% of the retail outlet centre trips would be from zones within the study area. These local trips have been distributed to all residential zones in the traffic model based on household numbers.

**Assignment of Proposed Development Traffic**

6.31. **Appendix S** represents the assignment of the Proposed Development traffic onto the local highway network based on the distribution estimated from the RIA. The Proposed Development traffic assignment is provided for both the retail outlet centre and garden centre for the following time periods:

- Weekday AM Peak (07:00-10:00)
- Weekday PM Peak (16:00-19:00)
- Weekday (07:00-19:00)
- Saturday Peak (11:00-16:00)
- Saturday (07:00-21:00)
- Bank Holiday Monday Peak (11:00-16:00)
- Bank Holiday Monday (07:00-21:00)

**Parking Demand**

6.32. The profiles of traffic arriving and departing at both the York Designer Outlet Centre and at Blooms Garden Centre have enabled estimates of parking demand to be made for the proposed retail development at Ashchurch.

6.33. **Appendix T** estimates the parking accumulation for the proposed outlet centre and garden centre at Ashchurch throughout the day for a typical weekday and Saturday, together with the Easter Bank Holiday Monday.

6.34. The parking accumulation analysis indicates that on a typical weekday some 916 car parking spaces (between 12:00-13:00) would be needed to accommodate the predicted parking demand. This increases to 1,340 car parking spaces on a typical Saturday (13:00-14:00) and 2,057 car parking spaces on the Easter Bank Holiday Monday (12:00-13:00).

6.35. The parking analysis has not made an allowance for any ‘linked-trips’ which would reduce parking demand on the site.

6.36. It is anticipated that the proposed retail development at Ashchurch would provide some 2,100 car parking spaces across the site as a whole. This level of car parking provision can be seen to be sufficient to cater for the likely demand for car parking, even at the busiest times, such as the Easter holiday period.
7. **HIGHWAY IMPACT**

7.1. In order to accurately assess the effects of the Proposed Development on the operation of the surrounding highway network, an S-Paramics micro-simulation traffic model has been built by PFA Consulting. The model has been built in accordance with the ‘Micro-simulation Good Practice Guide’, produced by SIAS Limited, the developers of S-Paramics. As part of this process a separate ‘Model Development and Validation Report’ and a ‘Model Forecasting Report’ have been produced in tandem with this TA.

7.2. The objective of the modelling exercise is to adequately represent the existing network operation to enable the impact of the Proposed Development and associated changes to the highway network to be predicted.

7.3. S-Paramics represents a contemporary approach to the understanding, representation and analysis of traffic. Individual vehicles moving through the network are modelled in detail as is the highway network which can include, for example: VA signal control, bus priority measures and traffic calming. It allows variable demand over a specified time period to be input and models the interaction of junctions with one another. One of its major benefits is the visual output allowing models to be readily understood by elected representatives and the general public.

7.4. **Figure 16** illustrates the extent of the S-Paramics modelled highway network, with more detail provided on the S-Paramics model output plot at Appendix U.

7.5. The traffic model zone plan is shown in **Figure 17**. The internal zones are based as far as possible on the land-use type (residential, employment, education, etc.). The external zones represent the main routes entering the study area.

**2013 Base Year Traffic Model**

7.6. The S-Paramics base model has been developed for a base year of 2013 covering the following time periods:

- Weekday AM Peak Period (07:00-10:00)
- Weekday PM Peak Period (16:00-19:00)
- Saturday Peak Period (11:00-16:00)

7.7. In developing the 2013 base year traffic model significant data was collected which included the following:

- Automatic Number Plate Recognition Surveys (ANPR)
- ATC surveys
- Junction Counts
- Link Counts
- Queue Length Surveys
- Journey Time Surveys
- Traffic Signal Timings

7.8. Details of the above surveys are set out in Section 3 of the TA.

7.9. A ‘Model Development and Validation Report’ was produced which provided details of the 2013 base year S-Paramics model and the results of the validation. The report included an independent audit of the model which was carried out by SIAS Limited.
7.10. The models for the weekday AM, PM and Saturday peak periods were shown to perform well against the DMRB criteria guidelines for acceptability. The models gave a good representation of the 2013 base year traffic situation and provided a suitable basis for ‘forecasting’ future highway and development proposals in the study area.

Model Forecasting

7.11. A ‘Model Forecasting Report’ has been produced by PFA Consulting which details the methodology adopted in assessing the proposed retail development at Ashchurch. The forecasting has allowed for traffic growth, planned highway improvements, potential future development in the area, as well as the proposed retail development proposals at Ashchurch.

1. Assessment Year

7.12. The year of registration of the planning application is likely to be 2013 and, in accordance with paragraph 4.47 of DfT’s ‘Guidance on Transport Assessment’, concerning the local highway network, and in accordance with DfT Circular 02/2013, concerning the Strategic Road Network, the assessment year for the model forecasting has been taken to be 2016, corresponding to the anticipated opening year of the proposed retail development.

2. Traffic Growth

7.13. Traffic growth has been applied using the recommended current practice for factoring vehicular trips derived from the latest TEMPRO (6.2) datasets and adjusted using the National Transport Model (NTM).

7.14. The Gloucestershire County car driver trip ends have been calculated from TEMPRO for both AM and PM peak periods and Saturday (all day) and adjusted using the NTM. The 2013 to 2016 growth rates for urban trunk roads are set out in Table 7.1 below with the calculations provided at Appendix V.

| Table 7.1: TEMPRO/NTM Growth - 2013 to 2016 |
|-----------------|-----------------|
| **Future Year** | **Road Type**   | **Period** | **Growth** |
| 2016            | Urban Trunk     | AM Peak    | 1.0227     |
|                 |                 | PM Peak    | 1.0252     |
|                 |                 | Sat (All Day) | 1.0274   |

3. Planned Highway Improvements

7.15. The planned highway improvements to the A46(T) which are proposed by the HAg under the Pinch Point Programme are as follows:

- provision of an additional through lane on the A46(T) westbound between the junction with Alexandra Way and the M5 Junction 9;
- extension and realignment of a right turning lane on the A46(T) westbound approach to the junction with the B4079 at Aston Cross; and
- pedestrian/cycle facilities at M5 Junction 9 combined with signal control of the A438 approach from Tewkesbury.

7.16. The latest design drawings showing the Pinch Point schemes are provided at Appendix D. These have been included in the 2016 model forecasts as funding has been secured with the works programmed for 2014.
4. Sainsbury’s Proposal

7.17. The Sainsbury’s proposals at the former Trelleborg site located north of the A46(T) opposite the site has been allowed for in the model forecasting. As no decision has yet been made on the Sainsbury’s planning application, assessments have been carried out for scenarios both ‘with’ and ‘without’ the Sainsbury’s development.

7.18. In modelling the Sainsbury’s proposals the Transport Assessment (August 2013) produced by Connect Consultants on behalf of Sainsbury’s has been used to establish the proposed site access arrangements, traffic generation, trip types and traffic distribution.

7.19. The Sainsbury’s proposed access arrangements and proposed improvements to the A46(T) are detailed in Connect Consultants’ Drawing reproduced at Appendix C. This shows a 3-arm signal controlled access junction with a two lane approach from the proposed site and three lanes for both A46(T) approaches to the junction. The proposed highway works include the widening of the A46(T) between the proposed site access and Northway Lane to provide two full lanes in each direction. The A438 between the M5 Motorway Junction and Shannon Way is also proposed to be widened to accommodate two full lanes between the junctions for westbound traffic.

7.20. In modelling the Sainsbury’s site access proposals within the S-Paramics model the signal stages and signal timings used have been based on the LINSIG model produced by Connect Consultants included as part of their Transport Assessment.

7.21. The TRICS data used to establish peak hour traffic generation for the Sainsbury’s proposal was used to establish the traffic generation for the weekday 3-hour AM peak and PM peak periods, and 5-hour Saturday peak periods required for the S-Paramics model. Having estimated the traffic generation over the modelled time periods the trip type proportions (Pass-by, Transferred and New) assumed by Connect Consultants were assumed in the modelling.

i. Pass-by Trips

7.22. To establish the origins and destinations of potential pass-by trips ‘Select Link Analysis’ was undertaken for each of the modelled time periods of existing traffic using the A46(T) at the Sainsbury’s point of access. The modelling assumed a proportion of these pass-by trips would turn into the proposed Sainsbury’s store before continuing on their journey.

ii. Transferred Trips

7.23. The modelling has assumed a proportion of trips currently using the existing Morrison’s store at Ashchurch Road and stores within Tewkesbury town centre would transfer to the new Sainsbury’s store at Ashchurch.

iii. New Trips

7.24. Both the pass-by and transferred trips described above are trips which are already on the local highway network. ‘New trips’ represent additional trips travelling to the proposed new Sainsbury’s store. In the traffic model these ‘new trips’ have been distributed as that assumed by Connect Consulting in their Transport Assessment which was based on the trade draw analysis from the retail impact assessment. For those trips which have an origin/destination within the study area these were distributed amongst the residential zones in the model based on household numbers.
7.25. **Appendix W** provides details of the Sainsbury’s trip rates and traffic generation, trip type proportions and new trip distributions assumed in the S-Paramics traffic modelling.

7.26. The Sainsbury’s development traffic has been represented in the model as a separate matrix level with the traffic demand profiles taken to be the same as that derived from traffic counts at the existing Morrison’s store on the A438 Ashchurch Road to the east of Tewkesbury.

5. Proposed Garden Centre and Retail Outlet Centre

7.27. In assessing the proposed retail development at Ashchurch, the traffic generation and distribution detailed in Section 6 of the TA has been included in the model forecasting, as have the proposed site access arrangements and associated highway works to the A46(T), the details of which are detailed in Section 4 and included at **Appendix K**.

7.28. LINSIG models have been built for both the proposed site access junctions on the A46(T) at Alexandra Way and at Northway Lane / Fiddington Lane. These models provided the appropriate stage arrangements and signal timings for input into the S-Paramics traffic model.

7.29. The proposed garden centre and the retail outlet centre have been modelled as a separate matrix levels with vehicle type proportions and traffic demand profiles derived from those observed at the comparable sites, namely Blooms Garden Centre and York Designer Outlet Centre.

**Scenarios Modelled**

7.30. **Table 7.2** describes each of the scenarios which have been assessed for traffic impact, for the weekday AM peak (07:00-10:00), weekday PM peak (16:00-19:00) and Saturday peak (11:00-16:00) time periods, using the S-Paramics traffic model.

**Table 7.2: Scenarios Assessed in Transport Assessment**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2013 Base Year</td>
</tr>
<tr>
<td>2</td>
<td>2016 with Pinch Point Scheme</td>
</tr>
<tr>
<td>3</td>
<td>2016 with Pinch Point Scheme + Proposed Development</td>
</tr>
<tr>
<td>4</td>
<td>2016 with Pinch Point Scheme + Sainsbury’s</td>
</tr>
<tr>
<td>5</td>
<td>2016 with Pinch Point Scheme + Sainsbury’s + Proposed Development</td>
</tr>
</tbody>
</table>

7.31. For all 2016 modelled scenarios the signal timings at the A438 / Shannon Way traffic signal controlled junction have been revised to provide additional ‘green time’ to A438 eastbound traffic during the AM peak period. Similarly the traffic signals at the M5 J9 northbound off-slip have been revised with additional ‘green time’ given to traffic on the off-slip in all modelled time periods.

7.32. The matrix totals for each of the above modelled scenarios are shown in **Tables 7.3 - 7.5** below. These show the totals within each matrix level for each of the modelled time periods. The matrix totals for the proposed garden centre and retail outlet centre
are shown as are the matrix totals for the proposed Sainsbury’s foodstore. It should be noted that the modelled weekday peaks are three hours in duration whereas the Saturday peak is five hours in duration.

### Table 7.3: Matrix Totals – Weekday AM Peak Period (07:00 -10:00) – 3 Hours

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Base Lights</th>
<th>Base Heavies</th>
<th>Garden Centre</th>
<th>Retail Outlet Centre</th>
<th>Sainsbury’s Store</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 Base Year</td>
<td>17,955</td>
<td>1,366</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>19,321</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme</td>
<td>18,118</td>
<td>1,381</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>19,499</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Proposed</td>
<td>18,118</td>
<td>1,381</td>
<td>160</td>
<td>359</td>
<td>-</td>
<td>20,018</td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Sainsbury’s</td>
<td>17,658</td>
<td>1,381</td>
<td>-</td>
<td>-</td>
<td>1,159</td>
<td>20,198</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Sainsbury’s +</td>
<td>17,658</td>
<td>1,381</td>
<td>160</td>
<td>359</td>
<td>1,159</td>
<td>20,717</td>
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<tr>
<td>Proposed Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 7.4: Matrix Totals – Weekday PM Peak Period (16:00 -19:00) – 3 Hours

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Base Lights</th>
<th>Base Heavies</th>
<th>Garden Centre</th>
<th>Retail Outlet Centre</th>
<th>Sainsbury’s Store</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 Base Year</td>
<td>20,425</td>
<td>739</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>21,164</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme</td>
<td>20,629</td>
<td>749</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>21,378</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Proposed</td>
<td>20,629</td>
<td>749</td>
<td>306</td>
<td>1,088</td>
<td>-</td>
<td>22,772</td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Sainsbury’s</td>
<td>19,837</td>
<td>749</td>
<td>-</td>
<td>-</td>
<td>2,139</td>
<td>22,725</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Sainsbury’s +</td>
<td>19,837</td>
<td>749</td>
<td>306</td>
<td>1,088</td>
<td>2,139</td>
<td>24,119</td>
</tr>
<tr>
<td>Proposed Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 7.5: Matrix Totals – Saturday Peak Period (11:00 -16:00) – 5 Hours

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Base Lights</th>
<th>Base Heavies</th>
<th>Garden Centre</th>
<th>Retail Outlet Centre</th>
<th>Sainsbury’s Store</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 Base Year</td>
<td>22,774</td>
<td>517</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23,291</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme</td>
<td>23,080</td>
<td>526</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23,606</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Proposed</td>
<td>23,080</td>
<td>526</td>
<td>1,947</td>
<td>3,614</td>
<td>-</td>
<td>29,167</td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Sainsbury’s</td>
<td>21,155</td>
<td>526</td>
<td>-</td>
<td>-</td>
<td>5,168</td>
<td>26,849</td>
</tr>
<tr>
<td>2016 with Pinch Point Scheme + Sainsbury’s +</td>
<td>21,155</td>
<td>526</td>
<td>1,947</td>
<td>3,614</td>
<td>5,168</td>
<td>32,410</td>
</tr>
<tr>
<td>Proposed Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
S-Paramics Model Outputs

7.33. This section provides a summary of the model outputs from S-Paramics for each of the scenarios assessed. The outputs represent an average from 10 separate random seeded runs of the model for each scenario. Performing multiple runs and combining the data is statistically more robust than relying on a single run of the model.

1. Link Flows

7.34. Figure 18 shows two-way link traffic flows (all vehicles) derived from S-Paramics for all scenarios for the Weekday AM peak hour (08:00-09:00).

7.35. Figure 19 shows two-way link traffic flows (all vehicles) derived from S-Paramics for all scenarios for the Weekday PM peak hour (17:00-18:00).

7.36. Figure 20 shows two-way link traffic flows (all vehicles) derived from S-Paramics for all scenarios for the Saturday peak hour (12:00-13:00).

7.37. A graphical representation of the traffic flows from the Proposed Development comprising the garden centre and retail outlet centre for each of the peak hours within each modelled time period are shown on the S-Paramics link flow output plots provided at Appendix X.

7.38. The plots show that traffic volumes from the Proposed Development are much greater during the Saturday peak than the critical weekday AM and PM peak periods. The plots also highlight the section of the A46(T) between M5 Junction 9 and the proposed site access at Alexandra Way to be the section of road which carries the highest amount of development traffic.

2. Overall Network Performance

7.39. To provide an indication of the overall performance of the modelled highway network for each scenario tested, graphs output from S-Paramics have been produced for network wide average journey times and are presented in Graphs 7.1 – 7.3 below for each modelled time period.

Graph 7.1: Network Wide Average Journey Times – Weekday AM Peak
The above graphs indicate that the Proposed Development would not result in any significant increases in network wide average journey times in any of the modelled time periods. During the critical PM peak period the proposed highway improvements to the A46(T) delivered as part of the Proposed Development result in reductions to average journey times.
3. Modelled Journey Times

7.41. The performance of each of the scenarios in respect of journey times along the A46(T) – A438 corridor, as shown in Figure 7, has been considered. Average modelled journey times along this corridor, in both directions, have been extracted from the S-Paramics traffic model for the peak hours within each modelled time period and are summarised in Table 7.6. Further details of the modelled journey times can be found in the Model Forecasting Report.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>AM Peak Hour (08:00 – 09:00)</th>
<th>PM Peak Hour (17:00 – 18:00)</th>
<th>Saturday Peak Hour (12:00-13:00)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eastb’d</td>
<td>Westb’d</td>
<td>Eastb’d</td>
</tr>
<tr>
<td>2013 Base Year</td>
<td>14:44</td>
<td>12:38</td>
<td>9:59</td>
</tr>
<tr>
<td>2016 With Pinch Point Scheme</td>
<td>13:21</td>
<td>12:12</td>
<td>9:54</td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016 With Pinch Point Scheme + Sainsbury’s</td>
<td>14:11</td>
<td>12:35</td>
<td>10:57</td>
</tr>
<tr>
<td>2016 With Pinch Point Scheme + Sainsbury’s +</td>
<td>15:20</td>
<td>12:54</td>
<td>11:41</td>
</tr>
<tr>
<td>Proposed Development</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.42. The Proposed Development introduces additional traffic in all time periods alongside additional highway capacity brought about by the proposed highway works. The impact of the Proposed Development on journey times on the key A46(T)–A438 corridor for scenarios both without and with the proposed Sainsbury’s at Ashchurch are summarised below.

i. Impact of Proposed Development Without Sainsbury’s

7.43. Without Sainsbury’s the impact of the Proposed Development for eastbound traffic shows no change in journey times during the AM peak hour, an increase of 50 seconds (8%) in the PM peak hour and an increase of 18 seconds (3%) in the Saturday peak hour. In the westbound direction, the journey times in the AM peak hour increase by 7 seconds (1%), decrease by 155 seconds (-19%) in the PM peak hour and increase by 35 seconds (6%) in the Saturday peak hour.

ii. Impact of Proposed Development With Sainsbury’s

7.44. With Sainsbury’s the impact of the Proposed Development on journey times for eastbound traffic shows an increase of 69 seconds (8%) in the AM peak hour, an increase of 44 seconds (7%) in the PM peak hour and an increase of 60 seconds (10%) in the Saturday peak hour. In the westbound direction, the journey times in the AM peak hour increase by 19 seconds (3%), decrease by 123 seconds (-13%) in the PM peak hour and increase by 56 seconds (10%) in the Saturday peak hour.

7.45. The average modelled journey times along the A46(T) – A438 corridor throughout each of the modelled time periods are shown in Graphs 7.4 – 7.9 below.
Graph 7.4: A46(T) - A438 Journey Times: Eastbound - Weekday AM Peak

Graph 7.5: A46(T) - A438 Journey Times: Eastbound - Weekday PM Peak
Graph 7.6: A46(T) - A438 Journey Times: Eastbound – Saturday Peak

Graph 7.7: A46(T) - A438 Journey Times: Westbound - Weekday AM Peak
Graph 7.8: A46(T) - A438 Journey Times: Westbound - Weekday PM Peak

The above graphs do not show any significant increases in journey times along the A46(T)–A438 corridor in any of the modelled time periods as a consequence of the Proposed Development.

Graph 7.9: A46(T) - A438 Journey Times: Westbound - Saturday Peak

Graph 7.8 highlights the reductions in journey times for A46(T) westbound traffic during the critical weekday PM peak period brought about by the highway works on the A46(T) which form part of the Proposed Development.
8. CONSTRUCTION TRAFFIC

Construction Traffic

8.1. Construction of the Proposed Development will give rise to deliveries of materials and products that will be transported by heavy goods vehicles. Earthworks associated with construction will aim to balance cut and fill within the site thereby reducing the need for any import or export of such material.

8.2. Construction traffic is temporary and will have a relatively short-term effect on existing roads within the adjacent highway network.

8.3. Access for construction traffic will initially be off Fiddington Lane utilising the existing field accesses. It is intended to construct the new accesses early in the construction programme. Although the Proposed Development will involve works on a large scale, the level of traffic delivering to the site will be significantly less than the traffic generation of the completed development.

8.4. In addition, there will be construction employees on site, the number varying according to construction activity. Many construction companies transport their employees in work buses, particularly for a development of this scale, and the estimated vehicle generation is unlikely to exceed the peak hour trips predicted to be associated with the completed development.

Construction Plant

8.5. In addition to vehicle deliveries, construction plant will be operating on-site during the construction phases. Such construction plant will give rise to environmental effects such as increased noise, vibration, dust and air pollution. These impacts are considered in the Environmental Statement, where the appropriate mitigation measures are identified to protect the local environment.

8.6. Mitigation of the effects of construction plant would be achieved through controls imposed by planning conditions, health and safety requirements and good construction site practices.

Construction Management Plan

8.7. The mitigation measures to address the transport impacts associated with the construction of the Proposed Development will be co-ordinated and implemented by means of a Construction Management Plan which can be secured by a planning condition. This will likely include an HGV routeing agreement which will seek to minimise the traffic effects of HGVs during the construction phases of development.
9. MITIGATION MEASURES

9.1. In order to reduce the travel demands and impacts of the Proposed Development and to ensure that, in travel terms, it is sustainable, a number of mitigation measures are proposed.

9.2. First, the internal site layout and site access arrangements will be designed in a manner which facilitates walking and cycling, providing direct pedestrian and cycle links to both existing and proposed routes to allow good access for sustainable modes of transport.

9.3. Secondly, a financial contribution would be made towards the new footway/cycleway to be constructed on the east side of Northway Lane (GCC’s Scheme Number 9172) to provide improved facilities for employees and customers travelling between Northway and the Proposed Development. A financial contribution towards improvements to the footway/cycleway between the railway station and the Proposed Development is also proposed.

9.4. Thirdly, it is envisaged that the Proposed Development would provide a shuttle bus service between the railway station, the new development and Tewkesbury town centre to enhance opportunities to travel by public transport.

9.5. Fourthly, a Travel Plan has been produced alongside this TA for the overall development. It provides a framework for the developer working in conjunction with the local highway authority to promote sustainable travel patterns and behaviour without reducing mobility or accessibility.

9.6. The above measures would be secured either by planning conditions or by funding/contributions under the provisions of a S106 Agreement.
10. CONCLUSIONS

10.1. The Proposed Development has been assessed in accordance with the requirements of the National Planning Policy Framework and in turn Circular 02/2013. The assessment carried out based on the DfT’s Guidance on Transport Assessment and the scope agreed with the highway authorities has concluded the overall forecast demand at the time of opening will exceed the capacity of the existing infrastructure.

10.2. As a consequence in accordance with paragraph 34 of Circular 02/2013 the impact of the development will be mitigated to ensure at the time of opening the strategic road network is able to cope.

10.3. The form of mitigation has been examined taking into account planned improvements to the strategic road network sought in the adopted local plan under Policy TPT13 and the proposed ‘pinch point’ scheme. As part of this examination, the distribution of traffic generated by and attracted to the development has been considered in detail and as a consequence the points of access have been located to utilise existing capacity where it exists and minimise the need for additional capacity enhancement.

10.4. The proposals involve the modification of two existing junctions. The first is the junction of the A46(T) with Alexandra Way, and the second is at the eastern end of the site where Fiddington Lane is to be realigned into a new signal controlled junction to replace the existing priority junction. The proposals includes the provision of an additional lane in both directions on the A46(T) west of Alexandra Way and a third lane at the westbound entry to the M5 Junction 9. The proposed access arrangements have been devised to cost effectively limit the significant impacts of the Proposed Development.

10.5. Circular 02/2013 advises the Highways Agency will adopt a graduated and less restrictive approach to the formation or intensification of use of access to the remainder of the strategic road network (as opposed to motorways and routes of near motorway standard). In line with that approach, there is a preference that new development should make use of existing junctions. That is the intention, albeit those junctions require modifications.

10.6. The form and layout of the modified junctions will accommodate the overall forecast demand at different times of the day including peak periods to an appropriate standard which would not impair the safety or satisfactory operation of the highway network to accord with Local Plan Policy TPT1.

10.7. This has been confirmed using the S-Paramics micro-simulation traffic model which has compared five scenarios for the weekday AM and PM peaks and the Saturday peak period. These scenarios include a forecast year of 2016 with the ‘Pinch Point’ scheme in place and no development, and scenarios with the Proposed Development only, with the Sainsbury’s development only and with both the Proposed Development and Sainsbury’s development.

10.8. The performance of the network in terms of overall network performance and journey times on the A46(T)/A438 corridor has been assessed. The modelling has shown that the Proposed Development would not result in any significant increases in journey times or delays in any of the modelled time periods within the study area.
10.9. The traffic modelling has shown that the current queuing and delays experienced by westbound traffic on the A46(T) heading towards M5 Junction 9 during the critical weekday PM peak period would be reduced as a consequence of the proposed highway works to the A46(T) delivered as part of the Proposed Development.

10.10. Overall, the TA has addressed the transport impacts of the Proposed Development. It has demonstrated that opportunities for sustainable transport modes have been taken up, safe and suitable access can be achieved, and improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development in accordance with the NPPF, Circular 02/2013 and Local Planning Policy.
Proposed Garden Centre

and Retail Outlet Centre

at Ashchurch,

Gloucestershire

Site Location Plan

Date: August 2013

Drawn By: GS

Checked By: JA

Scale: 1:2500

File Ref: H439/Figures/Doc3/Fig1.ai

Figure 1

Robert Hitchins Ltd

Project: Site Location Plan

Client: Robert Hitchins Ltd

Site Boundary (indicative only)

Stratton Park House

Wanborough Road

Swindon

SN3 4HG

T: 01793 828000

F: 01793 835500

E: admin@pfaplc.com

W: www.pfaplc.com

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Sainsbury’s Planning Application (Ref: 12/00640/FUL)

Proposed Garden Centre and Retail Outlet Centre at Ashchurch, Gloucestershire

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Figure 4

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Proposed Garden Centre and Retail Outlet Centre at Ashchurch, Gloucestershire

Cycle Routes Plan

Date: August 2013
Drawn By: GSMD
Checked By: See scale bar
Scale: H439/Figures/Doc03/Fig4.ai
File Ref: H439 Doc03

Stratton Park House
Wanborough Road
Swindon
SN3 4HG
T: 01793 828000
F: 01793 835500
E: admin@pfaplc.com
W: www.pfaplc.com
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ANPR Survey Site

AM Peak (07:00-10:00)
PM Peak (16:00-19:00)
Saturday Peak (11:00-16:00)

Proposed Garden Centre and Retail Outlet Centre at Ashchurch, Gloucestershire

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Route 1

Timing Points

Aston Cross Traffic Signals

A46/Northway Lane Traffic Signals

A46

A438/Shannon Traffic Signals

M5 Junction 9

A438/A438 Traffic Signals

Teddington Hands Roundabout

A38/A438 Traffic Signals

Proposed Garden Centre and Retail Outlet Centre at Ashchurch, Gloucestershire

Journey Time Surveys

Route Plan

Figure Title

Robert Hitchins Ltd

Date: August 2013

Drawn By: EN

Checked By: JA

Scale: See scale bar

File Ref: H439/Figures/Doc03/Fig7.ai

Doc Ref: H439 Doc03

Client: Robert Hitchins Ltd

N

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T: 01793 828000
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0.5km
Bristol to Birmingham Railway Line

Service 41/42 - weekday frequency every 15 mins

Service R3 - weekday frequency 1 per day on Wednesdays

Proposed Garden Centre and Retail Outlet Centre at Ashchurch, Gloucestershire

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Figure 13

Project: Proposed Garden Centre and Retail Outlet Centre at Ashchurch, Gloucestershire

Pedestrian and Cyclist Accessibility Plan

Date: August 2013

Drawn By: GSMD
Checked By: ND
Scale: No scale
File Ref: H439/Figures/Doc03/Fig13.ai
Doc Ref: H439 Doc03

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Trip Distribution for Proposed Retail Outlet Centre at Ashchurch, Gloucestershire

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Trip Distribution for Proposed Garden Centre at Ashchurch, Gloucestershire

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Site Boundary (indicative only)

Robert Hitchins Ltd

Proposed Garden Centre and Retail Outlet Centre at Ashchurch, Gloucestershire

Figure 15

Date: August 2013
Drawn By: ENJA
Checked By: NA
Scale: See scale bar
File Ref: H439/Figures/Doc03/Fig15.ai
Doc Ref: H439 Doc03

Stratton Park House
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