



LAND AT OAKLEY FARM, BATTLEDOWN, CHELTENHAM

TRANSPORT ASSESSMENT

ROBERT HITCHINS LIMITED

MARCH 2020



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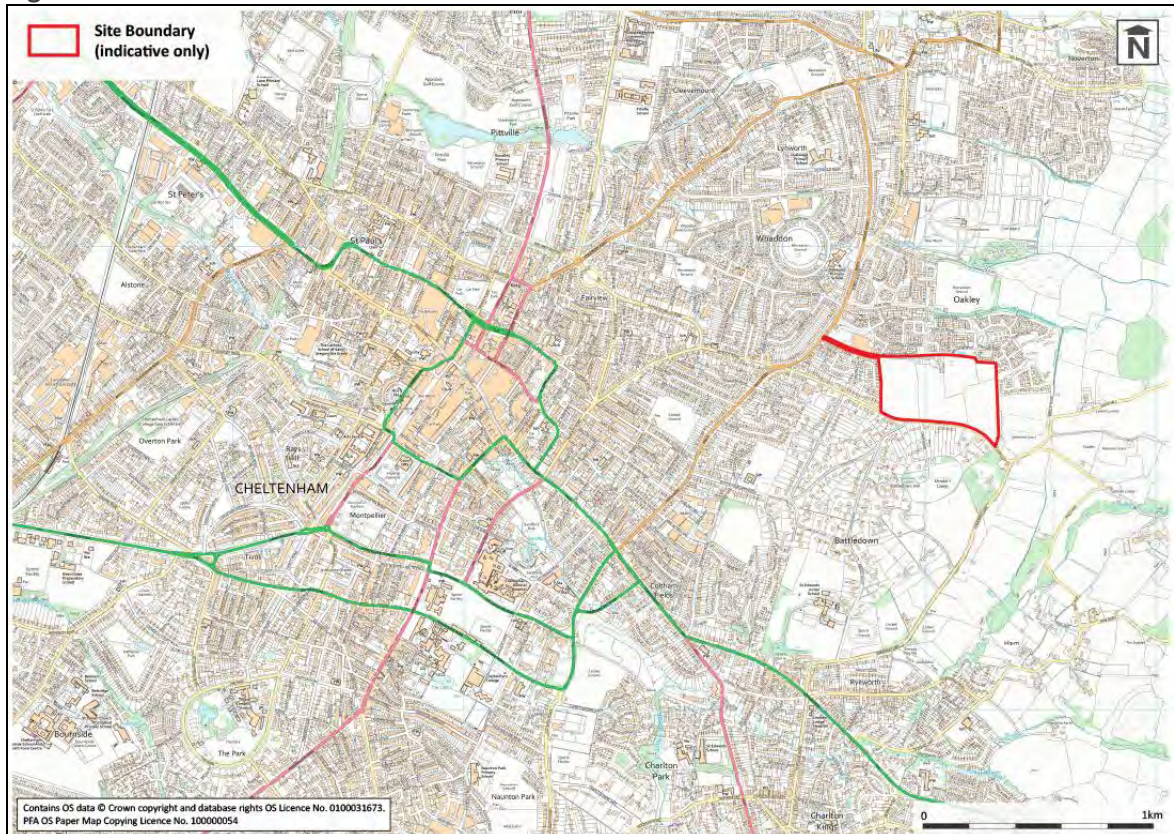
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1. INTRODUCTION

- 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, for submission with a planning application for residential development on Land at Oakley Farm, Battledown, Cheltenham. The planning application is in outline with all matters reserved.
- 1.2. The location of the application site is shown in the context of Cheltenham and the surrounding local highway network in **Figure 1.1**.

Figure 1.1: Site Location Plan



- 1.3. The development proposals comprise a residential development for up to 250 dwellings including open space and landscaping, vehicular access from Harp Hill, parking, and supporting infrastructure and utilities. Pedestrian and cycle access, plus a potential emergency access, will be provided to the northwest onto Priors Road. A copy of the Illustrative Masterplan, produced by RHL, is reproduced at **Appendix A**.

Scope of Transport Assessment

- 1.4. The National Planning Policy Framework (NPPF), published in February 2019, states that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment.
- 1.5. This Transport Assessment has been prepared with reference to the Government's Planning Practice Guidance to the NPPF, which is a web-based resource launched by the Department of Communities and Local Government (DCLG) on 6 March 2014. The category dealing with Transport Assessments is contained in 'Travel Plans, Transport Assessments and Statements in Decision-taking' (Reference ID: 42 Updated 06 03 2014).

- 1.6. In accordance with the Planning Practice Guidance, a scoping study was undertaken and submitted to Gloucestershire County Council (GCC), in its role as the local highway authority, on 10 May 2019 to establish the level and scope of assessment required.
- 1.7. A response to the transport scope was received from GCC Highways Development Management dated 13 June 2019. Overall, the Local Highway Authority agreed the proposed scope of assessment and has no objection in principle to the proposed development subject to the transport impacts of the development being adequately addressed at the next application stage.
- 1.8. GCC'S response to the transport scope is included at **Appendix B**.

Other Consultation

- 1.9. A public consultation event for the proposed development was held in Cheltenham on Wednesday 26 June 2019. Following the public consultation event, Pegasus Group collated the public comments received and prepared a Public Consultation Report summarising the comments and PFA Consulting provided responses in respect of transport and access matters.

Outline of the Transport Assessment

- 1.10. Section 2 of this Transport Assessment places the proposed development in the context of the national and local transport planning policy framework. The existing transport network, including opportunities for walking, cycling and public transport, is described in Section 3. Section 4 provides a description of the proposed development, with the application site's accessibility to non-car modes of travel covered in Section 5. Trip generation and distribution is considered in Section 6, the impact on the highway network is covered in Section 7 and development construction is addressed in Section 8. Mitigation measures are summarised in Section 9. The conclusions of the Transport Assessment are set out in Section 10.

2. PLANNING POLICY FRAMEWORK

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

National Policy

National Planning Policy Framework

2.2. National guidance on planning is set out in the updated National Planning Policy Framework (NPPF) published in February 2019 by the Ministry of Housing, Communities and Local Government. It sets out the Government's planning policies for England and how these should be applied. At the heart of the NPPF is a presumption in favour of sustainable development.

2.3. Chapter 9 of the NPPF deals with 'Promoting sustainable transport' and states at paragraph 102 that:

"Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- a) the potential impacts of development on transport networks can be addressed;**
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised ...**
- c) opportunities to promote walking, cycling and public transport use are identified and pursued;**
- d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account ...**
- e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places."**

2.4. Paragraph 103 states that:

"The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes."

2.5. It goes on to say that:

"This can help to reduce congestion and emissions, and improve air quality and public health."

2.6. In considering development proposals the NPPF at paragraph 108 identifies three main elements that the assessment of sites for plans or specific applications for development should take into account, which are whether:

- a) appropriate opportunities to promote sustainable transport modes can be – or have been - taken up, given the type of development and its location;**
- b) safe and suitable access to the site can be achieved for all users; and**

- c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.7. Paragraph 109 states that:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.”

2.8. Paragraph 110 expands on this, stating that applications for development should:

- a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
- b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

2.9. Paragraph 111 states that:

“All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.”

Planning Practice Guidance

2.10. The Government’s planning practice guidance to the NPPF was launched as a web-based resource by the Department for Communities and Local Government (DCLG) on 6 March 2014. The guidance is live and updated as appropriate. Planning practice guidance will, where necessary, be updated in due course to reflect changes to the NPPF, the new version of which was published in July 2018. Guidance on Transport Assessments falls within the category ‘Travel Plans, Transport Assessments and Statements’ (Reference ID: 42 Revision date: 06 03 2014).

2.11. This category contains three sections with a total of 15 paragraphs:

- Overarching Principles on Travel Plans, Transport Assessments and Statements (Paragraphs 001-008)
- Travel Plans (Paragraphs 009-012)
- Transport Assessments and Statements (Paragraphs 013-015)

- 2.12. Paragraph 002 (Reference: ID: 42-002-20140306) states that Travel Plans, Transport Assessments and Statements are all ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements.
- 2.13. Paragraph 006 (Reference: ID: 42-006-20140306) of the guidance considers that Travel Plans, Transport Assessments and Statements can positively contribute to:
- **encouraging sustainable travel;**
 - **lessening traffic generation and its detrimental impacts;**
 - **reducing carbon emissions and climate impacts;**
 - **creating accessible, connected, inclusive communities;**
 - **improving health outcomes and quality of life;**
 - **improving road safety; and**
 - **reducing the need for new development to increase existing road capacity or provide new roads.**
- 2.14. The information which should be included in a Transport Assessment is set out in Paragraph 015 (Reference: ID: 42-015-20140306) as follows:
- **information about the Proposed Development, site layout, (particularly proposed transport access and layout across all modes of transport);**
 - **information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;**
 - **data about existing public transport provision, including provision/frequency of services and proposed public transport changes;**
 - **a qualitative and quantitative description of the travel characteristics of the Proposed Development, including movements across all modes of transport that would result from the development and in the vicinity of the site;**
 - **an assessment of trips from all directly relevant committed development in the area (i.e. development that there is a reasonable degree of certainty will proceed within the next three years);**
 - **data about current traffic flows on links and at junctions (including by different modes of transport and the volume and type of vehicles) within the study area and identification of critical links and junctions on the highways network;**
 - **an analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high accident area;**
 - **an assessment of the likely associated environmental impacts of transport related to the development, particularly in relation to proximity to environmentally sensitive areas (such as air quality management areas or noise sensitive areas);**
 - **measures to improve the accessibility of the location (such as provision/enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms;**
 - **a description of parking facilities in the area and the parking strategy of the development;**
 - **ways of encouraging environmental sustainability by reducing the need to travel; and**
 - **measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing walking and cycling facilities, physical improvements to existing roads).**

- 2.15. Paragraph 015 (Reference: ID: 42-015-20140306) considers that assessments should normally be based on normal flow usage conditions (e.g. non-school holiday periods, typical weather conditions). Traffic flow projections should be based on local traffic forecasts such as TEMPRO, with the timeframe for the assessment being agreed with the local authority, except when development has an impact on the national transport network, for which the assessment period will be set out in the relevant Government policy.

Local Policy

- 2.16. The current Local Transport Plan for Gloucestershire covers the period 2015-2031. It sets out the issues and priorities for the county and identifies the approach to managing the increases transport demand which will go hand in hand with projected housing development and accelerated economic growth.
- 2.17. The current planning policies for Cheltenham are contained in the Joint Core Strategy and Cheltenham Borough Local Plan Second Review. Cheltenham Borough Council is in the process of preparing a new Local Plan, The Cheltenham Plan, which will guide development in the local area and will be used in combination with the Joint Core Strategy for Gloucester, Cheltenham and Tewkesbury (JCS).

Gloucestershire Local Transport Plan

- 2.18. Gloucestershire's vision for transport is for:

"A resilient transport network that enables sustainable economic growth by providing door to door travel choices"

- 2.19. The Local Transport Plan includes six mode policy documents which together provide the context of local transport delivery within the county. Mode policies relevant to development are set out below.

- 2.20. Policy LTP PD 1.7 of Policy Document 1 - Bus states:

"GCC will work with Local Planning Authorities and developers (through the use of planning obligations and site master planning) to ensure connectivity between new developments and existing bus infrastructure and to ensure that realistic opportunities for travel choice are provided and consistently and comprehensively promoted to residents, employers and visitors."

- 2.21. Policy LTP PD 2.3 of Policy Document 2 – Cycle states:

"LTP PD 2.3 – GCC will liaise with Local Planning Authorities and developers to ensure connectivity between new developments and existing infrastructure and to ensure that realistic opportunities for travel choice are taken up in new developments."

- 2.22. Policy LTP PD 6.2 of Policy Document 6 - Thinktravel states:

"GCC will liaise with Local Planning Authorities and developers to secure Development Plan compliant contributions from developers, businesses and local partners to deliver travel plans and promote smarter travel choices including marketing and incentives to encourage sustainable travel and ensure that realistic opportunities for travel choice are taken up in new developments."

Joint Core Strategy for Gloucester, Cheltenham and Tewkesbury (JCS)

2.23. The JCS is an important part of the development plan for Gloucester City, Cheltenham Borough and Tewkesbury Borough. It sets out the long-term vision and objectives for the area together with strategic policies for shaping new development and locations for new development up to 2031.

2.24. Policy SP1 outlines the need for development and states:

“During the plan period, provision will be made to meet the need for approximately 35,175 new homes and a minimum of 192 hectares of B-class employment land to support approximately 39,500 new jobs

2. This is to be delivered by development within existing urban areas through District plans, existing commitments, urban extensions to Cheltenham and Gloucester, and the provision of Strategic Allocations at Ashchurch. This strategy aims to locate jobs near to the economically active population, increasing sustainability, and reducing out-commuting thereby reducing carbon emissions from unsustainable car use

3. The housing requirement for each local authority will be as follows:

i. Gloucester at least 14,359 new homes;

ii. Cheltenham at least 10,917 new homes;

iii. Tewkesbury at least 9,899 new homes”.

2.25. Policy INF1 addresses the Transport Network and states:

“1. Developers should provide safe and accessible connections to the transport network to enable travel choice for residents and commuters. All proposals should ensure that:

2. Planning permission will be granted only where the impact of development is not considered to be severe. Where severe impacts that are attributable to the development are considered likely, including as a consequence of cumulative impacts, they must be mitigated to the satisfaction of the Local Planning Authority in consultation with the Highway Authorities and in line with the Local Transport Plan

3. Developers will be required to assess the impact of proposals on the transport network through a Transport Assessment. The assessment will demonstrate the impact, including cumulative impacts, of the prospective development on:

i. Congestion on the transport network;

ii. Travel safety within the zone of influence of the development;

iii. Noise and / or atmospheric pollution within the zone of influence of the development”

2.26. The Core Strategy does not allocate the application site within the ‘Strategic Allocations Policy’ but the quantum of growth to be accommodated in the District for the plan period (2011 - 2031) would indicate that development outside of the strategic policy area is required in order to meet housing targets.

Cheltenham Borough Local Plan – Adopted 2006 (Saved Policies)

2.27. Some policies adopted from the Cheltenham Borough Local Plan Second Review have been carried forward and the policies relevant to the application are set out below.

2.28. Policy TP1 addresses ‘Development and Highway Safety’ and states:

“Development will not be permitted where it would endanger highway safety, directly or indirectly, by:

(a) creating a new access, altering an access or increasing the use of an existing access on to the main highway network, or at other points where it would be hazardous to highway users, unless a satisfactory improvement has been carried out; or

(b) generating high turnover on-street parking”.

2.29. Policy TP2 addresses ‘Highway Standards’ and states:

“Highways should be designed and constructed to appropriate standards, taking account of environmental and design considerations”.

2.30. Policy TP6 addresses ‘Parking Provision in Development’ and states:

“Development will be permitted where it makes provision for parking in accordance with the standards in table 16, taking account of design considerations.

Note 1 Parking standards will be applied to new build, redevelopment or change of use”.

The Cheltenham Plan - Emerging Local Plan

2.31. The new Cheltenham Plan is reaching its final stages of production, having been sent to the Secretary of State for independent inspection in October 2018. The Cheltenham Plan will be a new planning document which will guide development in the local area and will be used in combination with the Joint Core Strategy for Gloucester, Cheltenham and Tewkesbury (JCS).

2.32. The JCS covers strategic housing (including gypsy and travellers), employment and infrastructure requirements across the JCS area. A new Cheltenham Plan will be able to address the more detailed local policies, non-strategic allocations, local infrastructure issues and development management policies relevant to Cheltenham.

Manual for Gloucestershire Streets (temporarily revoked)

2.33. The fourth edition of the Manual for Gloucestershire Streets (MfGS) was published on 1 April 2016. This document has been temporarily revoked until account can be taken of the DfT’s Inclusive Transport Strategy. However, the content is still considered relevant to the proposed development and therefore has been given some consideration.

2.34. MfGS provides guidance on how new development within Gloucestershire can contribute towards the provision of a safe and sustainable transport network within the County.

2.35. 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.”

2.36. 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.”

2.37. With regard to car parking standards, MfGS states:

“There are currently no local car parking standards for Gloucestershire. However, Developers are encouraged to calculate the parking demand that would be generated by the proposed development using the methodology set out in the NPPF and submit this evidence with the planning application. 2011 Census data in respect of car ownership is available for super output areas and this should be the starting point for determining likely car ownership levels for your development.”

2.38. With regard to cycle parking standards, MfGS states:

“A minimum provision of 1 cycle parking space per dwelling is required for residential developments. It is anticipated that in the majority of cases cycle parking can be adequately accommodated within garages, sheds or other secure storage areas, subject to sufficient internal space being provided.”

3. EXISTING CONDITIONS

Site Context

- 3.1. The location of the application site is shown in the context of Cheltenham and the surrounding local highway network in **Figure 1.1**.
- 3.2. The application site covers an area of approximately 14.9 hectares of land at Oakley Farm, Battledown, Cheltenham, approximately 3km east of Cheltenham Town Centre, and lies within the administrative area of Cheltenham Borough Council. It is bounded by Harp Hill to the south, existing residential development to the west and north, and further residential development and Hewlett's Reservoir site to the east. Cheltenham Footpath 86, a Public Right of Way, routes along the western boundary connecting Harp Hill with the B4075 Priors Road, via the existing farm access track. The farm access track extends eastwards from the B4075 Priors Road along the northern extent of the application site.

Local Highway Network

Harp Hill

- 3.3. Harp Hill borders the site to the south and is subject to a 30mph speed limit within the vicinity of the application site and street lighting is present. There is no provision for pedestrians along the majority of the site frontage, although an informal path appears to have been formed along the verge on the southern side of the carriageway in front of the existing residential properties.
- 3.4. Towards the western end of the application site's frontage with Harp Hill, there is a footway on the southern side of Harp Hill, to the west of the junction with Stanley Road, which continues westwards towards the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout. A further 230m to the west of Stanley Road, there are footways on both sides of Harp Hill leading towards the double roundabout and Cheltenham town centre.

Photograph 3.1 shows a view to the west along Harp Hill.



Photograph 3.1: View to the west along Harp Hill

B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout

- 3.5. The existing B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout comprises two 3-arm roundabouts, one of which is a mini roundabout, located approximately 45m apart, measured from the central islands. There is one traffic lane on all approaches. There are footways on both sides of the carriageway with uncontrolled crossing points on all external approaches to the junction as well as across the centre section between the junctions, the majority of which have dropped kerbs and tactile paving.

Priors Road (B4075)

- 3.6. Priors Road is located to the west of the application site and connects with Cheltenham Footpath 86, the key existing pedestrian access route to the application site. Priors Road routes between the double roundabout junction with Harp Hill, to the south, and Prestbury Road, to the north. Priors Road is a single carriageway with one lane in each direction, with the exception of the signalised junction with Redmarley Road, where there are additional lanes for right and left turning traffic. Staggered Toucan crossing facilities are provided at the junction across Priors Road and Redmarley Road. Priors Road has street lighting, a footway on either side and is subject to a 30mph speed limit.

- 3.7. **Photograph 3.2** shows a view to the north along Priors Road from the egress to Cheltenham Footpath 86.

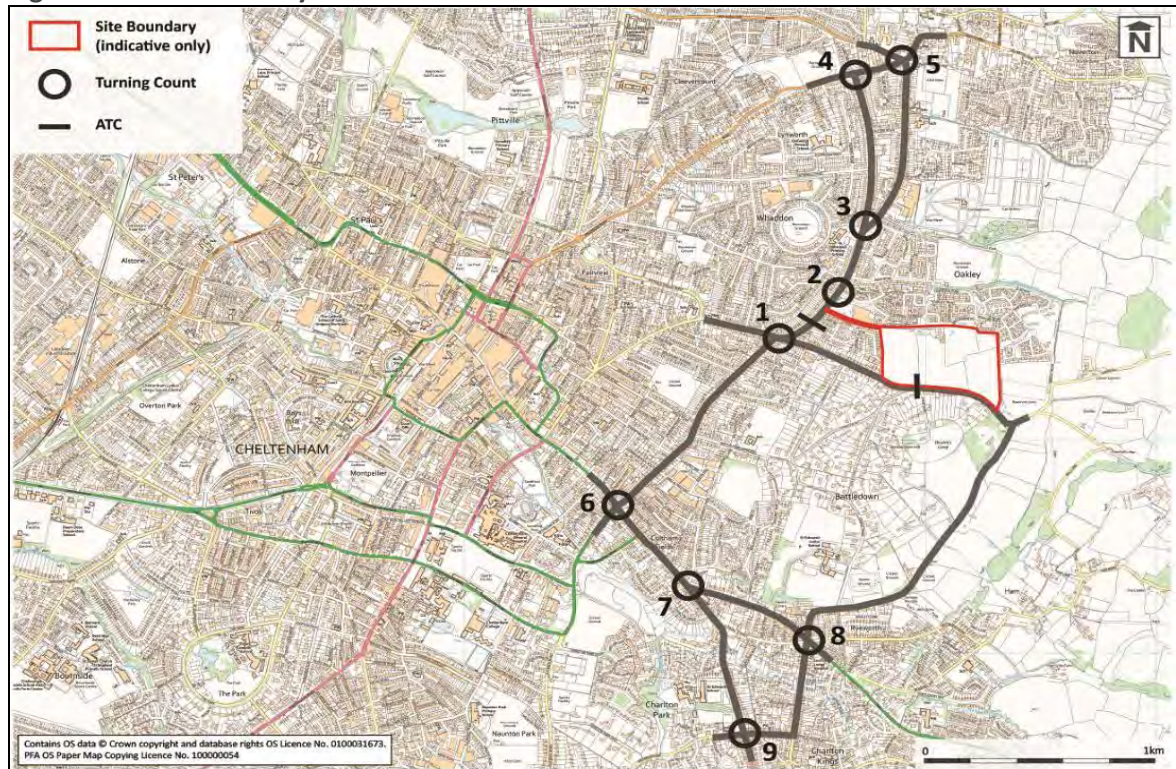


Photograph 3.2: View to the North along Priors Road from Cheltenham Footpath 86

Existing Traffic Data

- 3.8. To establish the current traffic flows on the road network in the vicinity of the application site, traffic surveys were undertaken by an independent specialist survey company in September 2019. The locations of the traffic surveys are shown on **Figure 3.1**.

Figure 3.1: Traffic Survey Locations



3.9. Junction turning counts for the weekday AM and PM peak periods were undertaken at the following junctions:

1. B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout
2. B4075 Priors Road / Redmarley Road Traffic Signals
3. B4075 Priors Road / Bouncers Lane Priority Junction
4. B4075 Priors Road / B4632 Prestbury Road Priority Junction
5. B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane Double Mini-Roundabout
6. A40 London Road / A40 Old Bath Road / B4075 Hales Road Traffic Signals
7. A40 London Road / A345 Cirencester Road / Haywoods Road Traffic Signals
8. A40 London Road / Greenway Lane / Ryeworth Road / Copt Elm Road Traffic Signals
9. A345 Cirencester Road / Moored Road / Lyefield Road West Traffic Signals

3.10. 2019 Base Year AM and PM peak hour turning movements at these junctions are summarised on the spreadsheet model worksheets in **Appendix C**.

3.11. Automatic Traffic Counters (ATCs) were put down for a 7-day period on the following streets:

- Harp Hill
- B4075 Priors Road

3.12. A summary of the results of the ATC on Harp Hill is provided in **Table 3.1**. Approximately 1% of the vehicles travelling along Harp Hill on an average weekday 24-Hour time period were recorded as HGVs.

3.13. A summary of the results of the ATC on the B4075 Priors Road is provided in **Table 3.2**. Approximately 2% of the vehicles travelling along the B4075 Priors Road on an average weekday 24-Hour time period were recorded as HGVs.

Table 3.1: Summary of Existing Average Weekday Traffic Flows on Harp Hill

Time Period	Direction	Total Vehicles
AM Peak Hour (08:00-09:00)	Eastbound	225
	Westbound	282
	Total	507
PM Peak Hour (17:00-18:00)	Eastbound	168
	Westbound	221
	Total	389
24-Hour	Eastbound	1,730
	Westbound	2,055
	Total	3,785

Table 3.2: Summary of Existing Average Weekday Traffic Flows on the B4075 Priors Road

Time Period	Direction	Total Vehicles
AM Peak Hour (08:00-09:00)	Northbound	631
	Southbound	1,034
	Total	1,665
PM Peak Hour (17:00-18:00)	Northbound	984
	Southbound	690
	Total	1,674
24-Hour	Northbound	9,603
	Southbound	9,291
	Total	18,894

- 3.14. The ATCs also recorded traffic speeds. Average weekday mean and 85th percentile speeds are summarised in **Table 3.3**.

Table 3.3: Average Weekday Traffic Speeds (mph)

Harp Hill			B4075 Priors Road		
Direction	Average Mean Speed (mph)	Average 85%ile Speed (mph)	Direction	Average Mean Speed (mph)	Average 85%ile Speed (mph)
Eastbound	28.7	33.9	Northbound	24.9	29.7
Westbound	27.3	31.7	Southbound	22.5	26.9

Walking and Cycling

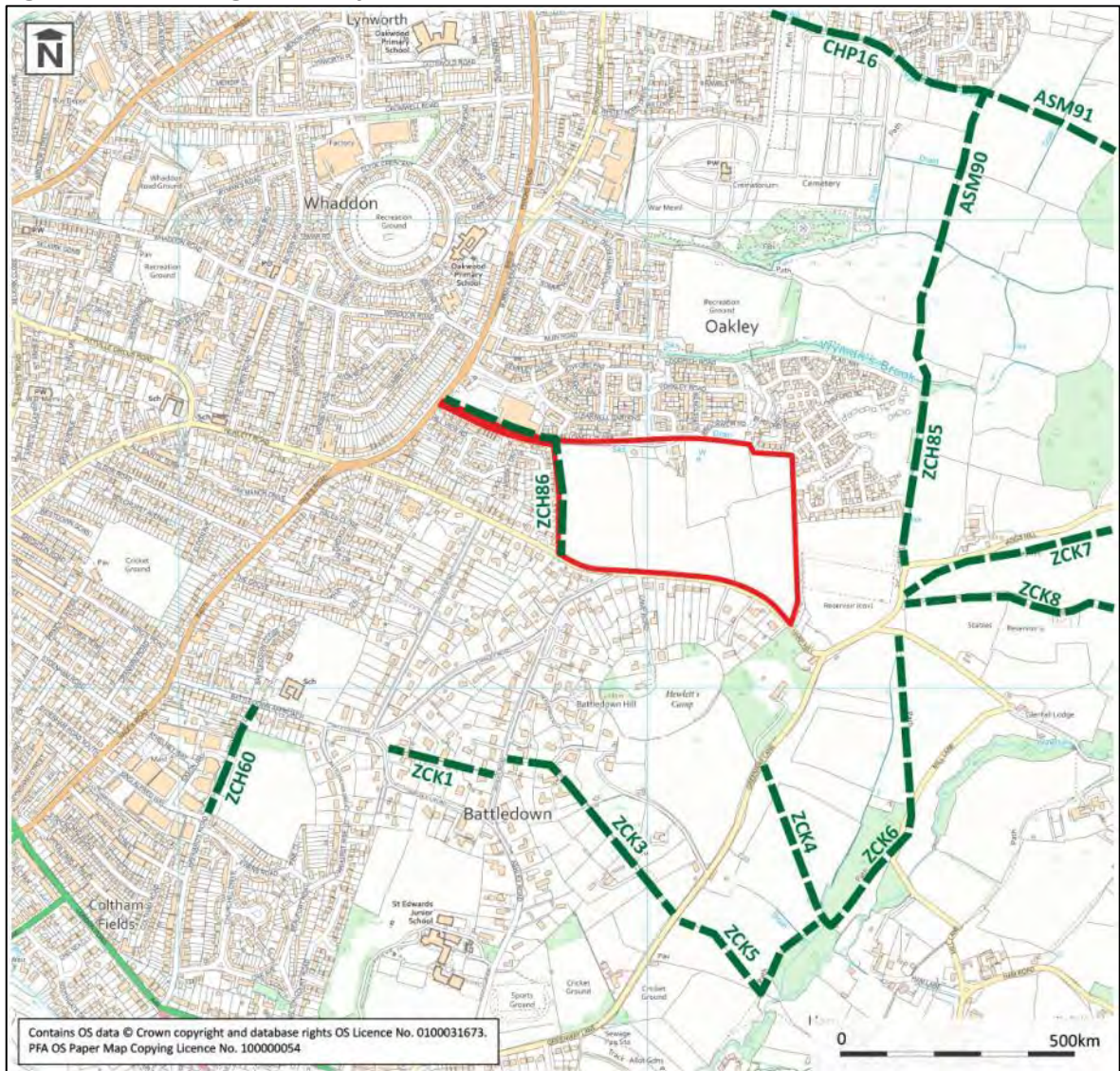
Pedestrian Facilities

- 3.15. There is no provision for pedestrians along the majority of the application site's Harp Hill frontage, although an informal path appears to have been formed along the verge on the southern side of the carriageway in front of the existing residential properties. There is a footway on the southern side of Harp Hill, to the west of the junction with Stanley Road, which continues westwards towards the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout. A further 230m to the west of Stanley Road, there are footways on both sides of Harp hill leading towards the double roundabout and Cheltenham town centre.
- 3.16. To the west of the application site, there are footways on both sides of the B4075 Priors Road and Toucan crossing facilities at the Priors Road / Redmarley Road signal controlled junction, to the north west of the application site.
- 3.17. Cheltenham town centre is within 3km of the site. From Priors Road and Harp Hill towards the town centre, the network of pedestrian facilities is comprehensive with lit footways and pedestrian crossing points.

Public Rights of Way

3.18. Public rights of way in the vicinity of the application site are shown in **Figure 3.2**, with reference to the GCC Rights of Way online map.

Figure 3.2: Public Rights of Way



Source: Gloucestershire County Council Rights of Way online map

3.19. Cheltenham Footpath 86 (ZCH86) routes along the western edge of the application site, from Harp Hill to the north-western corner of the site. This section of footpath is fairly steep and narrow, it is surfaced but has no lighting. A kissing gate is present at either end of the footpath. **Photograph 3.3** shows the section of Cheltenham Footpath 86 which routes along the west of the site.

3.20. Cheltenham Footpath 86 then routes west from the northwest corner of the site, providing a connection to Priors Road and access to local facilities, including bus stops and Sainsbury’s supermarket. This section of the path is wider and also provides existing access to properties on Oakley Farm. The surface is formed of crushed stone and there is no street lighting.



Photograph 3.3: Cheltenham Footpath 86 looking north towards Harp Hill

- 3.21. Kissing gates are present at each entry point to the footpath, including at Harp Hill, Wessex Drive, Priors Road. At the south-western corner of the site, where Cheltenham Footpath 86 connects to Harp Hill, there is currently no footway on the northern side of Harp Hill; pedestrians must cross the carriageway to join the footway on the southern side of Harp Hill. There is also no existing formal or informal crossing at this point. **Photograph 3.4** shows where Cheltenham Footpath 86 emerges onto Harp Hill.



Photograph 3.4: Kissing gate exit onto Harp Hill

- 3.22. There are no existing formal connections between the application site and Pillowell Close, part of the GCHQ development to the north of the application site. However, there is an informal

connection to the existing farm access track from Pillowell Close, towards the northwestern corner of the application site, in the vicinity of Cheltenham Footpath 86. This link has presumably been formed by existing residents of the GCHQ development wishing to access both the public footpath and Priors Road via the existing farm track.

- 3.23. The Battledown Estate is a private residential estate located to the southwest of the site. No public rights of way are afforded through the estate from Harp Hill.

Cycling Facilities

- 3.24. There is no specific provision for people travelling by cycle on Harp Hill; however, the Cheltenham Cycle Map, a copy of which is included at **Appendix D**, classes the road as a route which is suitable for people with a moderate level of experience/confidence. Other residential streets surrounding the site are generally considered as quiet roads suitable for most people to cycle on.
- 3.25. There is a signposted route for cycles from Priors Road to the town centre via Whaddon Road, Prestbury Road and Winchcombe Street. This route is direct but has limited cycle-specific infrastructure. There are Toucan crossing facilities at the B4075 Priors Road / Redmarley Road junction plus a section of shared footway / cycleway on the Redmarley Road approach to the junction and a short section on Priors Road to the south of the junction, to allow cyclists travelling southbound to rejoin the carriageway. However, on the west side of Priors Road, there is no specific provision for cyclists and therefore the route via the Toucan crossing appears to terminate at the junction, without a connection to Whaddon Road for cyclists. Currently, the existing cycle infrastructure on Priors Road does not provide a continuous route for cyclists between the application site and the existing signposted route to the town centre via Whaddon Road.

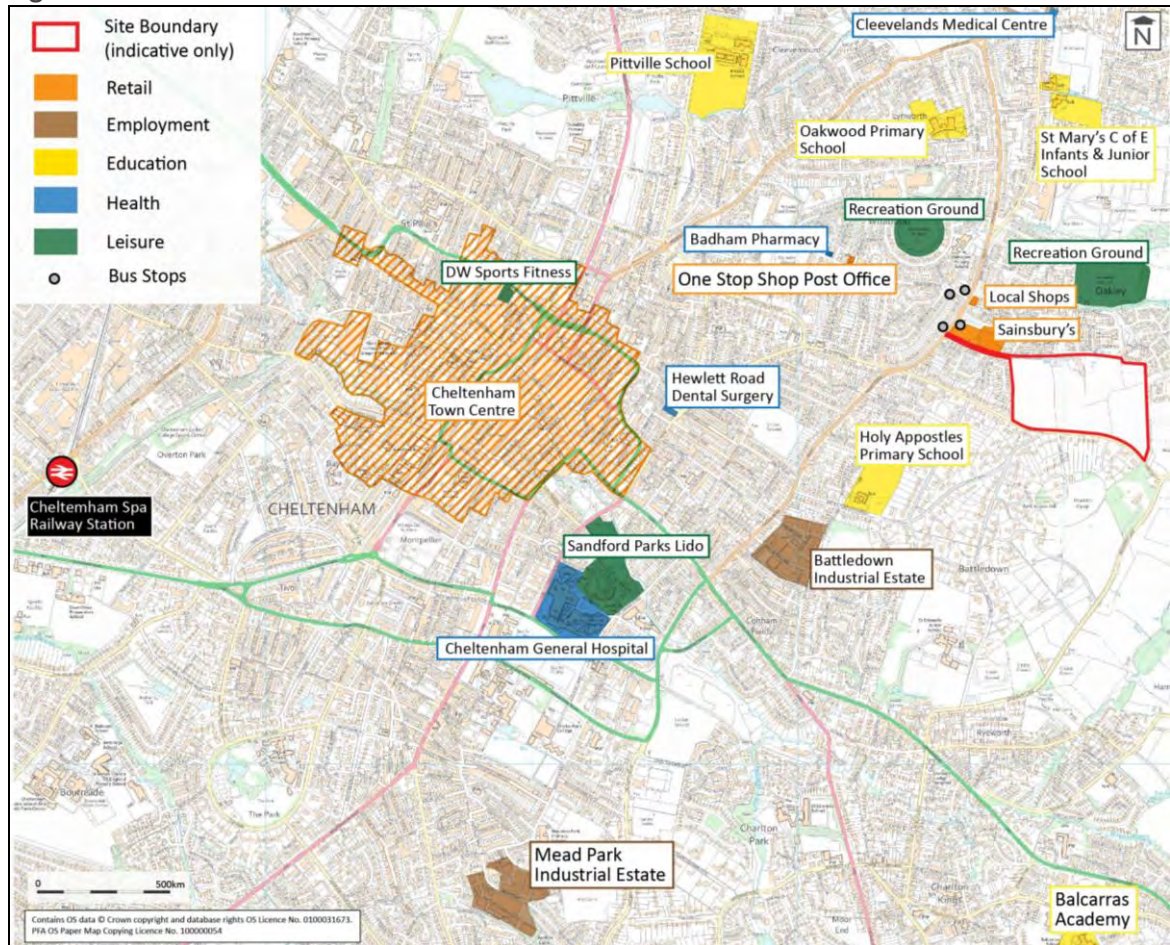
Review of Routes

- 3.26. A review of routes to key facilities has been carried out with the aim of identifying locations within the transport network where improvements would be desirable for pedestrians and cyclists. The routes to the following facilities have been reviewed:
- Sainsbury's (Priors Road)
 - Priors Road and Whaddon Road Bus Stops
 - Oakwood Primary School
 - Pitville School (secondary)
 - Cheltenham Town Centre
- 3.27. The routes and locations on the routes where improvements would be desirable are shown in two plans reproduced at **Appendix E**. The review of routes will assist discussions with GCC to reach agreement over an appropriate financial contribution towards enhancements to the routes to encourage walking and cycling.

Local Facilities

- 3.28. **Figure 3.3** shows the existing facilities in the vicinity of the application site. The walking and cycling distances to key facilities from the proposed development are provided in Section 5 of this report.

Figure 3.3: Local Facilities



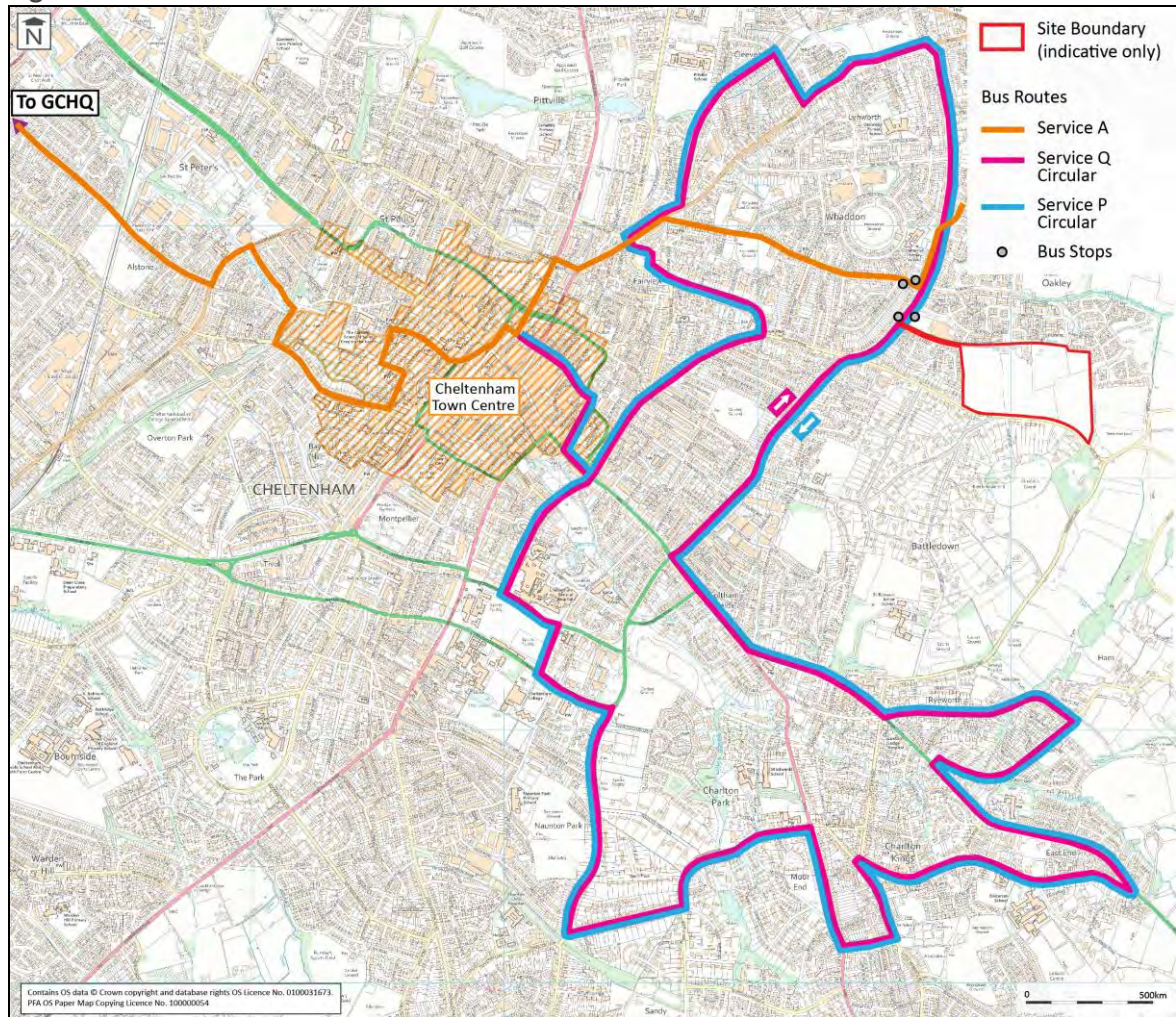
Public Transport

3.29. Existing public transport services operating in the vicinity of the application site have been identified with reference to current timetable and routing information. A plan showing the location of bus stops and the routes of services in the vicinity of the application site is shown in **Figure 3.4**.

Bus Services

- 3.30. The nearest bus stops to the application site are located in the existing built up area to the north west of the application site in the vicinity of Sainsbury's on Priors Road and in the vicinity of the Community Centre on Whaddon Road.
- 3.31. The Sainsbury's bus stops on Priors Road are approximately 650m walk from the centre of the application site. There are currently no waiting facilities at these stops, with the location of the stop demarked by a flagpole only.
- 3.32. Bus routes Q and P, which serve the Sainsbury's bus stops, provide a regular circular town route, via the town centre. These routes, which operate in opposite directions, currently both operate on a 120 minute frequency.
- 3.33. The northbound stop serves Pulham Coaches service 'Q', whilst the southbound stop serves Pulham Coaches service 'P'.

Figure 3.4: Bus Services



3.34. A summary of the bus services are set out below in **Table 3.4**.

Table 3.4: Summary of Bus Services from Sainsbury’s Bus Stops

Service	Route	Days	First Service	Approximate Frequency	Last Service
Q (Circular Route)	Cheltenham - Charlton Kings - Ewens Farm - Little Cleevemount - Cheltenham	Mon - Sat	10:08	Every 120 minutes	16:08
		Sunday	No service		
P(Circular Route)	Cheltenham - Little Cleevemount - Ewens Farm - Charlton Kings – Cheltenham	Mon - Sat	08:46	Every 120 minutes	14:46
		Sunday	No service		

Information taken from Traveline South East, August 2019

3.35. The ‘Community Centre’ bus stops on Whaddon Road are located approximately 800m walk from the centre of the application site. The eastbound bus stop has a flagpole, shelter, bus information and bench. The westbound bus stop is demarked by a flagpole only.

- 3.36. Bus route A offers a more frequent service, which also serves Cheltenham town centre, but also provides longer distance travel options to destinations including GCHQ, a key employment site. The service operates at a frequency of approximately every 12 minutes during the week and every 15 – 20 minutes at weekends. A summary of this service is provided below in **Table 3.5**.

Table 3.5: Summary of Bus Services from ‘Community Centre’ Bus Stop (eastbound)

Service	Route	Days	First Service	Approximate Frequency	Last Service
A	Prestbury - Whaddon - Cheltenham - Hester's Way - Benhall	Mon - Fri	06:44	Every 12 minutes	23:22
		Saturday	07:40	Every 20 minutes	23:22
		Sunday	09:12	Every 15- 20 minutes	18:32

Information taken from Traveline South East, August 2019. N.B. Westbound services not shown as service terminates at following stop.

- 3.37. There are existing frequent and attractive bus services available in the vicinity of the application site. These services provide access to Cheltenham town centre and GCHQ, a key employment site. Regular services are available to suit commuters and shoppers and services run until late in the evening. Service A takes approximately 12 minutes to get from the Community Centre bus stop to Cheltenham High Street and approximately 40 minutes to reach GCHQ.

Train Services

- 3.38. Cheltenham Spa Railway Station is located approximately 4.6 km from the centre of the application site. Cheltenham Spa Station has excellent rail links to destinations across the country. CrossCountry, GWR, Transport for Wales and West Midlands Trains all operate from the station providing hourly services to destinations including Cardiff Central, London Paddington, Birmingham and Nottingham, as well as Bristol Temple Meads and Manchester Piccadilly. Services to Gloucester operate at a typical frequency of 2-4 services per hour. A summary of key services is shown in **Table 3.6** below.

Table 3.6: Summary of Key Services from Cheltenham Spa Station

Route	Weekday Frequency		
	Morning Peak (07:00-10:00)	Daytime	Evening Peak (16:00-19:00)
Cheltenham Spa – Gloucester – Swindon – Reading – London Paddington	2 direct trains (plus 4 services with a change)	Direct services every 2 hours	2 direct trains (plus 5 services with a change)
Cardiff – Cheltenham Spa – Birmingham – Derby - Nottingham	3 services	Every hour	3 services
Manchester – Stoke-on-Trent – Birmingham – Cheltenham Spa – Bristol Temple Meads	3 services	Every hour	3 services

- 3.39. The approximate journey time to key locations is shown below:

- Gloucester – 10 minutes
- Bristol Temple Meads – 45 minutes
- Birmingham New Street – 45 minutes
- Cardiff Central – 80 minutes
- London Paddington – 125 minutes

- 3.40. Cheltenham Station offers good connections to destinations across the country. The station is accessible by cycle, and sheltered cycle parking is available outside the station. Bus route A stops on Arle Road, which is approximately 1km walk from the station.

Road Safety

- 3.41. An analysis of historic personal injury road traffic collision records has been undertaken in accordance with the Planning Practice Guidance.
- 3.42. Collision data was obtained from GCC for the 5-year period from 1 January 2014 to 31 December 2018. GCC supplied a plan showing the location of each of the recorded collisions together with a detailed report of each collision. The plan and the collision report is reproduced in **Appendix F**.
- 3.43. A total of 4 collisions were recorded within the study area over the 5-year period. Summary information from the collision records is set out in **Tables 3.7** and **3.8** below.

Table 3.7: Severity of Collisions

Severity	Number of Collisions	Percentage (%)
Fatal	0	0%
Serious	1	25%
Slight	3	75%
Total	4	100%

Table 3.8: Casualty Class

Casualty Class	Number of Casualties	Percentage
Pedestrian	0	0%
Cyclist	2	50%
Motorcycle Driver	1	25%
Motorcycle Passenger	0	0%
Car/Van Driver	1	25%
Car/Van Passenger	0	0%
Total	4	100%

- 3.44. Within the study area a total of four collisions were recorded with three of the collisions resulting in slight injuries and one collision resulting in serious injuries being sustained.
- 3.45. Two collisions have occurred along the B4075 Hales Road. One collision involved a motorcyclist travelling along the B4075 Hales Road colliding with the rear of a cyclist turning right into Eldon Road resulting in the cyclist sustaining slight injuries. The second collision involved a car travelling across the B4075 Hales Road from Oak Manor Drive to Hales Close and failing to give way to a vehicle travelling along the B4075 Hales Road and resulting in slight injuries being sustained by the driver who failed to give way.
- 3.46. The other two collisions occurred along Hewlett Road. One collision involved a car turning right into Pitville Circus Road colliding with a cyclist travelling in the opposite direction along Hewlett Road resulting in the cyclist sustaining slight injuries. The second collision involved a car turning out of Cleeve View Road and colliding with a motorcyclist travelling along Hewlett Road resulting in the motorcycle rider sustaining serious injuries.
- 3.47. No collisions during the most recent 5 year period have been recorded on Harp Hill in the vicinity of the application site or at the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout junction.
- 3.48. All the collisions recorded within the study area during the most recent 5 year period involved turning traffic and three of the four collisions involved a cyclist and/or a motorcyclist; however,

there is no one specific location where more than one collision has occurred. Therefore, overall it is considered that the collision records do not point to any existing highway safety issue which requires more detailed examination.

4. PROPOSED DEVELOPMENT

Development Proposals

- 4.1. The development proposals comprise a residential development for up to 250 dwellings including open space and landscaping, vehicular access from Harp Hill, parking, and supporting infrastructure and utilities. A copy of the Illustrative Masterplan, produced by RHL, is reproduced at **Appendix A**.

Means of Access

Vehicular Access

- 4.2. It is proposed that vehicular access to the proposed development will take the form of a priority junction from Harp Hill located generally centrally within the application site's frontage. The new site access junction will be designed in accordance with the Design Manual for Roads and Bridges, Manual for Streets, and local authority design guidance, as appropriate, to ensure that it is safe and suitable.
- 4.3. The preliminary access arrangements are shown on **Drawing Number H628/02 Rev B** reproduced at **Appendix G**. Pedestrian access to Harp Hill is not proposed via the main vehicular access junction; instead a network of footpaths are proposed within the application site with linkages to the existing network at more beneficial and appropriate locations elsewhere. The junction visibility splays are shown as 2.4m x 49m to the west and 2.4m x 44m to the east, which are in accordance with the recorded average 85th percentile speeds (ATC survey, September 2019).
- 4.4. A potential emergency vehicular access is proposed via the route of the shared pedestrian / cycle link from Priors Road, to the north west of the application site, along the route of the existing farm access track.

Pedestrian and Cyclist Access

- 4.5. The main pedestrian and cycle access to the application site is proposed via a new shared pedestrian / cycle link along the route of the existing farm access track from Priors Road, a key desire line to/from local facilities and the town centre. Pedestrian and cycle access will also be provided to the application site from Harp Hill to the south, including proposed pedestrian linkages at the eastern and western extents of the application site's Harp Hill frontage, and cycle linkages to Harp Hill via the new site access junction.
- 4.6. The shared pedestrian / cycle link to Priors Road is considered to be the principal pedestrian / cyclist access to the application site. There is an existing signposted route for cycles from Priors Road to the town centre via Whaddon Road, Prestbury Road and Winchcombe Street. However, the existing cycle infrastructure on Priors Road does not provide a continuous route for cyclists between the application site and the existing signposted route to the town centre via Whaddon Road.
- 4.7. Toucan crossing facilities are provided at the B4075 Priors Road / Redmarley Road signal controlled junction. There are sections of shared footway / cycleway on the Redmarley Road approach to the junction and the east side of Priors road, south of the junction, although this short section is to allow cyclists travelling southbound to rejoin the carriageway. On both the west side of Priors Road and the east side, north of the junction, there is no specific provision for cyclists and therefore the route for cyclists via the Toucan crossings terminates at the junction, without onward connection to Whaddon Road, for example.

- 4.8. A financial contribution will be made towards the provision of a controlled Toucan crossing facility on Priors Road and a section of shared footway/cycleway on the western side of the carriageway to link with the existing signposted cycle route towards the town centre via Whaddon Road.
- 4.9. A preliminary arrangement of the proposed B4075 Priors Road pedestrian / cycle linkages is shown in **Drawing No. H628/06 Rev A** at **Appendix H**.
- 4.10. The internal site layout will be designed in a manner which facilitates walking and cycling, providing linkages to existing routes to allow good access for sustainable modes of transport. The Illustrative Masterplan incorporates a network of footpaths, including a route along the Harp Hill frontage but within the application site, which would provide a dedicated and safe alternative route along this section of Harp Hill, benefiting both new residents of the proposed development as well as existing residents and pedestrians using Harp Hill. The proposed footpath network would connect to the existing public right of way, Cheltenham Footpath 86, which routes along the western boundary of the site, and links to both the B4075 Priors Road and Harp Hill.
- 4.11. As identified in the Existing Conditions, there is currently no footway on the northern side of Harp Hill, where Cheltenham Footpath 86 connects to Harp Hill at the south-western corner of the application site. Pedestrians must cross the carriageway to join the footway on the southern side of Harp Hill and there is no existing formal or informal crossing at this point. Although the route to/from Priors Road is considered to be the principal pedestrian and cyclist desire line for future residents of the proposed development, Harp Hill also provides a route to local facilities and the town centre, for both future residents of the proposed development as well as existing residents of Harp Hill. Therefore, it is considered appropriate that improvements to this route are incorporated in the development proposals.
- 4.12. Accordingly, a financial contribution will be made towards a new section of footway on the northern side of Harp Hill, to provide a link between the proposed development, via Cheltenham Footpath 86 where it emerges onto Harp Hill, and the existing footway on the northern side of Harp Hill, which currently terminates approximately 70m to the west of the application site's western boundary. In addition, a financial contribution will be made towards an uncontrolled pedestrian crossing facility on Harp Hill, located towards the western end of the application site's frontage. The crossing will provide a link between the existing public right of way and the existing footway provision on the south side of Harp Hill.
- 4.13. A preliminary arrangement of the proposed Harp Hill pedestrian linkages is shown in **Drawing No. H628/05 Rev A** at **Appendix I**.
- 4.14. Following review of the existing pedestrian and cycle network as part of the Existing Conditions, it is considered that a connection between the application site and Pillowell Close to the north should be explored further. A connection here is not considered necessary for the proposed development; however it would be of particular benefit to the existing residents of the GCHQ development, allowing direct access to the existing public right of way as well as the proposed shared pedestrian/cycle link to Priors Road.
- 4.15. Overall, it is considered that safe and suitable access can be achieved in accordance with the NPPF and local planning policy.

Parking Provision

- 4.16. The applicant recognises the importance of providing appropriate parking provision within the proposed development. Car and cycle parking would be provided in accordance with the relevant local authority's adopted standards and/or appropriate guidance, at the time of the reserved matters application(s).

5. ACCESSIBILITY AND SUSTAINABLE TRANSPORT

5.1. The NPPF requires new development to be sustainable, with the emphasis placed on encouraging walking, cycling and public transport modes of transport. The provision of alternative modes of sustainable transport, the encouragement of opportunities for walking and cycling and the close proximity of day-to-day destinations to residential areas are the basic elements of achieving transport sustainability.

Local Facilities

5.2. The use of sustainable means of transport is more attractive and convenient when local facilities and services are within a short walking or cycling distance. **Figure 3.3** shows the existing local facilities in the vicinity of the application site.

5.3. Advice on walking distances is set out in *Guidelines for Providing for Journeys on Foot*, published by the Institution of Highways and Transportation (IHT) in 2000. It suggests preferred maximum walking distances of 2km. Cycling distances of 5km are generally considered acceptable.

5.4. The distance to local facilities surrounding the application site is set out below in **Table 5.1**.

Table 5.1: Local Facilities and Distances

Local Facilities	Location	Distance from Site Centroid (m)
Bus Stops	'Sainsbury's' bus stops	750m
	'Community Centre' bus stops	850m
Supermarket (inc. ATM)	Sainsbury's, Priors Road	800m
Local Shops	Priors Road (takeaway food and hairdressers)	800m
Child Care	Oakwood Children's Centre, Clyde Crescent	1100m
Primary School	Oakwood Primary School	1600m
	Holy Apostles (CofE) Primary School, Battledown Approach	1600m
	Prestbury St Mary's C of E Infants/Junior School	1700m
Secondary School	Pitville School, Albert Road	2600m
	Balcarras Academy, E End Road	3800m
Leisure	Clyde Crescent Playground	1200m
	Sandford Parks Lido, Keynsham Road	2200m
	DW Sports Fitness, St Margret's Road	2500m
Dentist	Hewlett Road Dental Surgery	1800m
Pharmacy	Badham Pharmacy, Whaddon Road	100m
Doctor	Cleavelands Medical Centre	1800m
Post Office	OneStop Shop, Whaddon Road	1300m
Hospital	Cheltenham General Hospital, Sandford Road	2600m
Town Centre	Cheltenham Town Centre	2500m
Employment	Battledown Industrial Estate	1600m
	Mead Park Industrial Estate	3500m
	Kingsditch Trading Estate	4500m
	GCHQ	6000m
Railway Station	Cheltenham Spa Railway Station	4600m

Distances are by foot or cycle on the most direct routes, it has been assumed that access is not available by foot or cycle via Battledown Estate.

5.5. **Table 5.1** shows that there are some local facilities within the proximity of the application site. The key facilities are Sainsbury's supermarket and nearby bus stops. It is important that the route

to these locations is made as direct and attractive as possible to residents to encourage them to travel by foot and cycle rather than drive.

- 5.6. Cheltenham Town Centre is also within approximately 30 minutes' walk or 15 minutes cycle from the application site.

Walking and Cycling Accessibility

- 5.7. 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.
- 5.8. As shown in **Table 5.1** there are local facilities which residents will use on a daily basis available at the Sainsbury's supermarket and Priors Road local shops. These facilities are within 10 minutes' walk from the centre of the application site.
- 5.9. All other facilities are typically located within 3km of the application site, which equates to a walk of 30 minutes or less, or a cycle journey of approximately 10 minutes. Such facilities include Cheltenham Town Centre and a range of Primary and Secondary Schools.
- 5.10. The proposed development will promote walking and cycling by the creation of safe, direct and attractive routes for pedestrians and cyclists. This will include connections into existing pedestrian infrastructure and a financial contribution towards off-site routes based on the review of routes set out in Section 3 of this TA. Consultation with Gloucestershire County Council will determine the appropriate level of contribution which is to be fairly and reasonable related in scale and kind to the proposed development.

Public Transport Accessibility

- 5.11. 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.
- 5.12. Existing bus services operating in the vicinity of the application site have been identified in Section 3. Circular bus services P and Q are accessible from 'Sainsbury's' bus stops, located on Priors Road to the west of the application site. They are approximately 650m (an 8 minute walk at 1.4m/s) from the centre of the application site. In combination, services P and Q provide a daytime bus service every 40 – 80 minutes to the north, east and centre of Cheltenham Monday to Saturday.
- 5.13. A more attractive bus service is available from Whaddon Road, at the 'Community Centre' bus stops. These stops are approximately 800m (a 10 minute walk) from the centre of the application site. Service 'A' routes every 12 minutes between Whaddon Road, Cheltenham Town Centre and GCHQ from approximately 07:00 to 23:00 Monday to Friday. A weekend service is also available at 15-20 minute frequencies.
- 5.14. If required, a proportionate contribution will be made towards enhancement to bus services in the local area.
- 5.15. Cheltenham Spa Railway Station is located approximately 4.6km from the centre of the application site. The station offers excellent connections across the area to destinations such as Cardiff Central, Great Malvern, Plymouth, Nottingham, Bristol Temple Meads, London Paddington and Manchester Piccadilly. The station can be accessed by bike in approximately 15 minutes and cycle parking is available at the station. Bus service 'A' stops on Arle Road, which is approximately 1km walk from the station.

Travel Plan

- 5.16. A Residential Travel Plan has been produced alongside this TA, which would be implemented to encourage walking, cycling and public transport use, to reduce the traffic generation of the proposed development. It is anticipated that the developer will follow Option 2 of the County Council's funding options, which are set out in Advice Sheet No.7 'Residential Travel Plans', under which the developer will make a financial contribution to GCC who would take on the responsibility for the implementation of the Travel Plan including the appointment of a Travel Plan Co-ordinator.

6. TRIP GENERATION AND DISTRIBUTION

- 6.1. This section of the TA sets out the trip generation and distribution of the proposed development for the weekday AM and PM peak hour time periods.
- 6.2. The methodology that has been adopted in respect of deriving the trip generation rates and the distribution of the generated trips on the local highway network formed part of the TA scoping exercise and therefore is considered to be agreed.

Trip Generation

- 6.3. Trip generation, in terms of both person and vehicle trips, has been estimated for the proposed development using trip rates obtained from an interrogation of the TRICS database.
- 6.4. **Table 6.1** sets out person trip rates derived from TRICS for the weekday AM peak hour (08:00-09:00) and weekday PM peak hour (17:00-18:00) time periods. The TRICS outputs are reproduced at **Appendix J**.

Table 6.1: TRICS Trip Rates (trips per dwelling)

Time Period	Walk		Cycle		Public Transport		Vehicle Passenger		Vehicle Driver		Total	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM Peak (08:00-09:00)	0.036	0.117	0.005	0.017	0.000	0.022	0.024	0.247	0.119	0.374	0.184	0.777
PM Peak (17:00-18:00)	0.061	0.045	0.019	0.008	0.012	0.002	0.143	0.062	0.339	0.154	0.575	0.271

- 6.5. Applying the above trip rates to the proposed development of up to 250 dwellings provides an estimate of person trip generation of the proposed development during the weekday AM and PM peak hours, as shown in **Table 6.2**.

Table 6.2: Person Trip Generation of Proposed Development (250 dwellings)

Time Period	Walk		Cycle		Public Transport		Vehicle Passenger		Vehicle Driver		Total	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM Peak (08:00-09:00)	9	29	1	4	0	6	6	62	30	94	46	194
PM Peak (17:00-18:00)	15	11	5	2	3	1	36	16	85	39	144	68

Notes: Minor errors due to rounding

- 6.6. **Tables 6.3** and **6.4** show the estimated two-way person trips by mode for the proposed development and corresponding mode share for the weekday AM and PM peak hours respectively. The percentage mode share for each of the peak periods shows the Vehicle Driver mode of travel to be the highest, representing 51% of all person trips in the AM peak hour and 58% in the PM peak hour.

Table 6.3: Two-Way Trips by Mode and Mode Share – AM Peak Hour

	Walk	Cycle	Public Transport	Vehicle Passenger	Vehicle Driver	Total
Two-Way Trips	38	5	6	68	124	240
Mode Share	16%	2%	3%	28%	52%	100%

Notes: Minor errors due to rounding

Table 6.4: Two-Way Trips by Mode and Mode Share – PM Peak Hour

	Walk	Cycle	Public Transport	Vehicle Passenger	Vehicle Driver	Total
Two-Way Trips	26	7	4	52	124	212
Mode Share	12%	3%	2%	25%	58%	100%

Notes: Minor errors due to rounding

Traffic Generation

- 6.7. Based on the trip rates set out above, the proposed development would generate the following vehicle trips during the weekday AM and PM peak hours, as set out in **Table 6.5**.

Table 6.5: Proposed Development Vehicular Trips

Time Period	Arrivals	Departures	Totals
AM Peak (08:00-09:00)	30	94	124
PM Peak (17:00-18:00)	85	39	124

Traffic Distribution

- 6.8. The distribution of development traffic onto the surrounding highway network has been based on 2011 Census journey to work data for car driver mode of travel.
- 6.9. The data for the Middle Super Output Area (MSOA) 'Cheltenham 006', which includes a residential area of Cheltenham, has been interrogated to establish a likely trip distribution for vehicular trips generated by the proposed development. Taking account of trip destination, the trips have been assigned to the most logical route using Google Mapping. The resultant trip distribution is summarised in **Table 6.6**.

Table 6.6: Distribution of Development Traffic on Highway Network

Route	Distribution %
Deep Street	6%
B4075 Tatchley Lane	18%
Hewlett Road	11%
A40 London Road	14%
A40 Old Bath Road	30%
Moorend Road	2%
A435 Cirencester Road	4%
Redmarley Rd	2%
Harp Hill	1%
A435 London Road	8%
B4632 Prestbury Rd	3%
Total	100%

- 6.10. Further details are included in **Appendix K**, including a plan identifying the area of MSOA 'Cheltenham 006' and details of the traffic distribution calculations.
- 6.11. The distribution and assignment of the proposed development traffic on the surrounding highway network is shown in the spreadsheet model worksheets included at **Appendix L**.

7. HIGHWAY IMPACT

7.1. To assess the traffic impact of the proposed development a spreadsheet traffic model has been built covering the surrounding local highway for the weekday AM and PM peak hours. Junction capacity assessments of key junctions have been carried out using traffic flows output from the spreadsheet model.

Assessment Scenarios

7.2. The impact of the proposed development on the local highway network has been assessed using a future assessment year of 2024, being 5 years after the surveyed 2019 base year.

7.3. **Table 7.1** sets out the assessment scenarios for the weekday AM peak hour (08:00-09:00) and weekday PM peak hour (17:00-18:00) time periods.

Table 7.1: Assessment Scenarios

Scenarios	
1	2019 Base Year
2	2024 Forecast Year
3	2024 Forecast Year + Proposed Development at Oakley Farm (250 dwellings)

Traffic Growth

7.4. To enable analysis of the future year, traffic growth factors have been obtained from TEMPro (NTEM Dataset 7.2) in order to estimate future growth in traffic flows. The TEMPro program is based on the National Trip End Model and takes into account changes in car ownership and local planning forecasts regarding housing and employment.

7.5. Appropriate TEMPro (version 7.2b) factors have been applied to the 2019 base year traffic flows to establish the 2024 forecast year traffic flows. Growth to the 2024 forecast year has been estimated from the NTM adjusted using TEMPro (NTEM Dataset 7.2) for the Cheltenham TEMPro zone. This is assumed to account for allocations in the Cheltenham Borough Local Plan and the emerging Local Plan. Trip generation by other committed development, not included in the Local Plan, has been considered separately.

7.6. The factors for the TEMPro zone 'Cheltenham' for Urban Principal roads are shown in **Table 7.2** with the calculations provided at **Appendix M**.

Table 7.2 TEMPro Growth Factors (Cheltenham)

Growth Period	AM Peak	PM Peak
2019 to 2024	1.0705	1.0674

Committed Development

7.7. In addition to the TEMPro traffic growth factors, which are assumed to take account of Local Plan allocations, the following third party developments, which have the benefit of planning permission but are not included in the Local Plan, have also been considered:

- Bouncers Lane (Application Ref. 18/01527/REM)
- Cromwell Court (Application Ref. 18/02581/FUL)
- GCHQ applications
 - GCHQ – Phase 1 (Application Ref. 06/00352/REM)

- GCHQ – Phase 1 (Application Ref. 06/00380/REM)
- GCHQ – Phase 2 (Application Ref. 07/01296/REM)
- GCHQ – Phase 2 (Application Ref. 07/01465/REM)
- GCHQ – Phase 3 (Application Ref. 13/01683/REM)

7.8. The locations of these committed developments are shown on the Cumulative Plan included at **Appendix N**. The cumulative impact of these committed developments has been considered as follows:

Bouncers Lane (Application Ref. 18/01527/REM)

7.9. The Bouncers Lane proposal is for 54 dwellings. The Transport Assessment for the outline planning application for 58 dwellings calculated that the development would have a net impact of -2 and +5 two-way trips during the AM and PM peak hours, respective, when off-set against the lawful employment land use. Therefore the impact of the development proposals, in transport terms, is considered to be not significant.

7.10. However, as the site is currently redundant, the 2019 traffic surveys would not have recorded any traffic flows to/from the site and therefore, technically, the development would actually result in an increase in traffic flows against this baseline. The Transport Assessment for the outline planning application predicts that the proposed development of 58 dwellings would generate in the order of 31 two-way trips during the peak hours. To be robust, this assessment has included for the development explicitly, with the predicted peak hour traffic generation based on the Transport Assessment and the trip distribution across the wider network based on the 2019 junction turning count surveys.

Cromwell Court (Application Ref. 18/02581/FUL)

7.11. The Cromwell Court proposal comprises demolition of the existing dwelling and construction of 8 new self and custom build dwellings. The Transport Statement calculated that the development would generate in the order of 3 – 4 two-way trips during the peak hours, and concluded that the impact would not be significant. It is considered that the impact of this development would be negligible and no further assessment is required.

GCHQ applications (Application Ref. Various)

7.12. The GCHQ site obtained outline planning permission in 2003 and is now substantially built out and occupied. Therefore traffic generation from all phases of the development will be included in the 2019 baseline traffic surveys. No further assessment is required.

7.13. The distribution and assignment of the committed development traffic on the surrounding highway network is shown in the spreadsheet model worksheets included at **Appendix O**.

GCHQ Oakley Outline Planning Permission (Application Ref. 97/00818/PO)

7.14. A condition was attached to the 1998 outline planning permission relating to residential development on the GCHQ Oakley site, adjacent to Land at Oakley Farm. The condition reads:

19. No more than 40 houses shall be served by the access onto Harp Hill at the east end of the site.

Reason: the road network in the locality is not capable of accommodating the traffic associated with more than this number of houses.

7.15. As a result of the condition, the majority of the residential development on the GCHQ Oakley site is accessed from the B4075 Priors Road / Redmarley Road Traffic Signals to the west. To the east end of the site, a limited number of units are accessed from Birdlip Road, via Aggs Hill, which

appears to become Harp Hill at the Greenway Lane junction to the south east of the application site.

- 7.16. The reference to Harp Hill in the condition wording would appear to actually relate to the road network to the east of Harp Hill, namely Aggs Hill and Mill Lane, which, unlike Harp Hill, are rural in character. Mill Lane and Aggs Hill, to the east of Birdlip Road, are both unlit, with no road markings, and subject to the national speed limit. In contrast, the proposed development on Land at Oakley Farm will be served by a new priority junction from Harp Hill, to the west, which is street lit, has road markings and existing frontage development, and is within the 30 mph speed limit.
- 7.17. It is therefore considered that the GCHQ Oakley site outline planning permission condition has no relevance to, and should not be applicable to, the proposed development on Land at Oakley Farm.

Link Flows

- 7.18. 2024 two-way link traffic flows on the surrounding local highway network derived from the spreadsheet model for the weekday AM peak hour (08:00-09:00) and weekday PM peak hour (17:00-18:00) time periods both without and with the proposed development are shown on the spreadsheet model worksheets included at **Appendix P**.
- 7.19. The new site access junction is proposed on Harp Hill to the south of the application site. The maximum effect in terms of percentage change in modelled link flows with the proposed development occurs on Harp Hill. To the west of the new site access junction, Harp Hill is predicted to experience an 18.9% increase in traffic in the AM peak and a 20.9% increase in the PM peak with the proposed development. To the east of the new site access, Harp Hill is predicted to experience a 3.5% increase in traffic in the AM peak and a 3.9% increase in the PM peak with the proposed development. Further afield the predicted increase in traffic on the surrounding highway links is well below 10%.

Junction Capacity Assessment

- 7.20. Traffic flows from the spreadsheet model have been input into standalone junction capacity models to assess the impact of the proposed development on the local highway network. In order to establish which junctions to include within this assessment, an initial review of the potential impact from development traffic has been undertaken.
- 7.21. It is noted that the scoping response received from GCC Highways Development Management highlighted that the network in this location is sensitive and that capacity assessment will need to be undertaken where there is a material impact on local key junctions, which may be relatively low where congestion occurs on the local highway network.
- 7.22. Against this background, the following criteria have been set to determine the threshold above which junction capacity assessments will be undertaken:
- Greater than 1% impact as a result of proposed development traffic flows against the 2024 forecast year without the proposed development
 - Greater than 30 vehicle increase with proposed development traffic flows against the 2024 forecast year without the proposed development
- 7.23. Accordingly, junction capacity assessment has been undertaken to assess the impact of the proposed development at the following key junctions, the locations of which are shown in **Figure 3.1**.

1. B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout
2. B4075 Priors Road / Redmarley Road Traffic Signals
3. B4075 Priors Road / Bouncers Lane Priority Junction
4. B4075 Priors Road / B4632 Prestbury Road Priority Junction
5. B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane Double Mini-Roundabout
6. A40 London Road / A40 Old Bath Road / B4075 Hales Road Traffic Signals

8. A40 London Road / Greenway Lane / Ryeworth Road / Copt Elm Road Traffic Signals

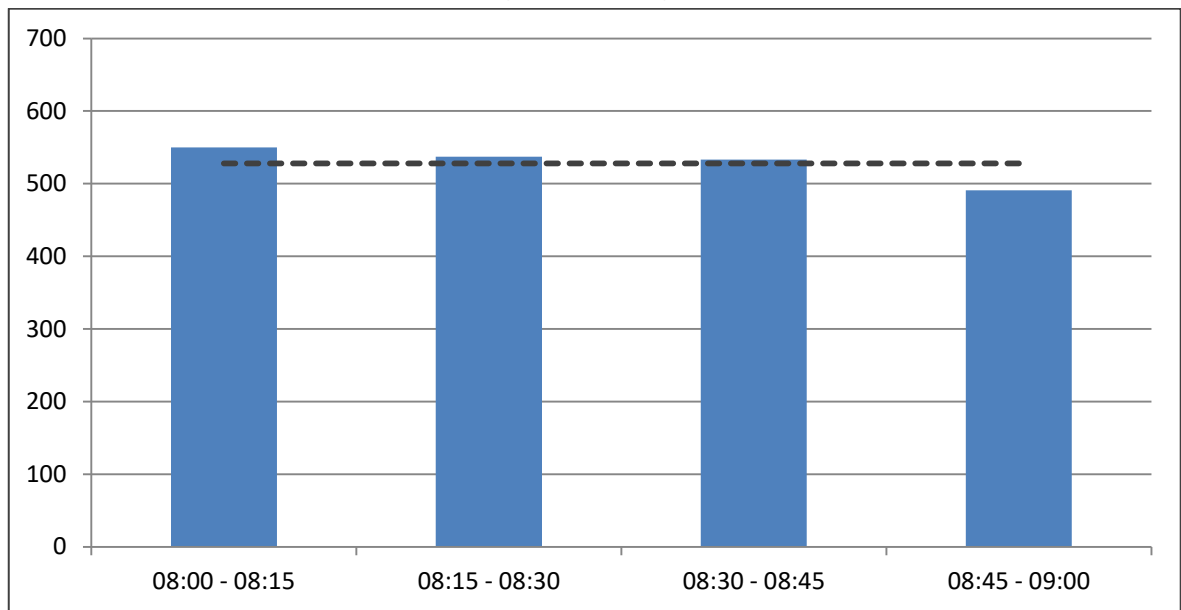
7.24. Capacity analysis of the above junctions has been undertaken for all assessment scenarios for the weekday AM and PM peak hour time periods. The junctions have been modelled using TRL's 'Junctions 9' model for the priority junctions and JCT's LinSig model for the signal controlled junctions. The operational performance is summarised for all approach arms and movements in terms of their ratio of flow/capacity (RFC) or degree of saturation (DoS), maximum queues in vehicles and maximum queuing delay in seconds per vehicle.

7.25. The following tables provide a summary of the results of the junction capacity assessments for each junction.

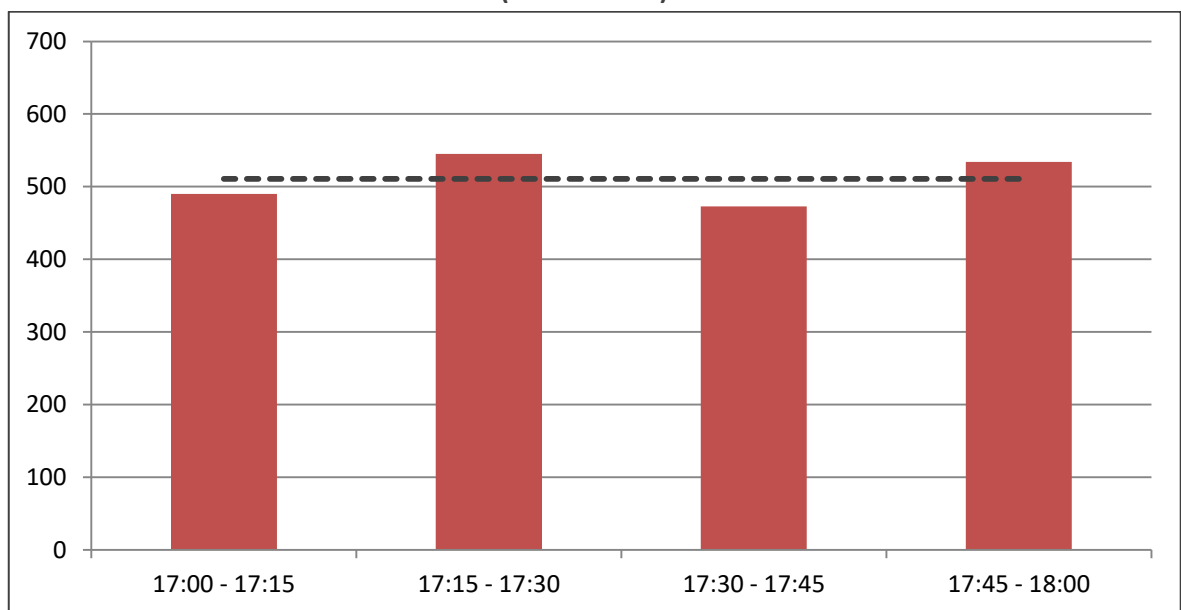
B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout

- 7.26. The default 'one hour' traffic flow profile in the Junctions 9 software uses a synthesised curve with 15 minute warm-up and run-down periods either side of the central hour. To ensure that the Junctions 9 models represent local traffic conditions the profile of observed 2019 traffic at the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout has been analysed. The traffic counts were recorded in 15 minute intervals so the traffic profile during the peak hours can be identified.
- 7.27. **Graphs 7.1 & 7.2** show the observed traffic flow profiles (total inflow on all approaches) at the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout.

**Graph 7.1: B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout
Observed Traffic Profile - AM Peak Hour (08:00- 09:00)**



**Graph 7.2: B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout
Observed Traffic Profile - PM Peak Hour (17:00- 18:00)**



- 7.28. As shown in the graphs above the traffic profile for vehicles arriving into the junction during both peak hours were relatively flat. To replicate this, a flat profile has been used within the junction model.
- 7.29. **Tables 7.3** and **7.4** below provide a summary of the results of the Junctions 9 assessment of the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout for the AM and PM peak hours respectively. The Junctions 9 output is included at **Appendix Q**.

Table 7.3: B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout Junctions 9 Results – AM Peak Hour

Scenario		Arm	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
1	2019 Base Year	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	2	9	0.69
		B4075 Hales Road	2	10	0.61
		Hewlett Road	1	6	0.35
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	10	42	0.91
		Harp Hill	4	47	0.80
2	2024 Forecast Year	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	3	11	0.73
		B4075 Hales Road	2	11	0.66
		Hewlett Road	1	6	0.38
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	20	84	0.97
		Harp Hill	7	80	0.89
3	2024 Forecast Year + Proposed Development on Oakley Farm	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	3	11	0.75
		B4075 Hales Road	2	12	0.67
		Hewlett Road	1	6	0.39
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	27	110	0.99
		Harp Hill	43	403	1.11
Internal (EB)	2	8	0.59		

**Table 7.4: B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout
Junctions 9 Results – PM Peak Hour**

Scenario		Arm	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
1	2019 Base Year	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	1	5	0.45
		B4075 Hales Road	2	9	0.62
		Hewlett Road	1	8	0.53
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	2	10	0.62
		Harp Hill	1	16	0.56
		Internal (EB)	3	12	0.74
2	2024 Forecast Year	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	1	5	0.48
		B4075 Hales Road	2	10	0.66
		Hewlett Road	1	9	0.57
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	2	11	0.66
		Harp Hill	2	19	0.60
		Internal (EB)	4	14	0.79
3	2024 Forecast Year + Proposed Development on Oakley Farm	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	1	6	0.50
		B4075 Hales Road	8	40	0.91
		Hewlett Road	5	37	0.86
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	5	13	0.70
		Harp Hill	2	23	0.67
		Internal (EB)	5	17	0.83

- 7.31. The B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout has been modelled as two linked roundabouts in Junctions 9. The western roundabout (B4075 Hales Road / Hewlett Road) has been modelled as a standard roundabout with the eastern roundabout (B4075 Priors Road / Harp Hill) modelled as a mini roundabout.
- 7.32. Analysis of the traffic flows has shown that the dominant movements through each of the roundabouts are to/from the B4075 arms resulting in unbalanced flows. Paragraph 13.2.1 of the Junctions 9 user guide, 'T-shaped mini roundabouts', raises concerns when modelling mini roundabouts where unbalanced flows can result in roundabouts operating like a priority junction. The paragraph states that:

The most common case is where the junction has a T-shape, particularly if a mini-roundabout replaces an older T-junction and has little or no deflection for the straight-ahead movement(s). At such sites, some drivers may continue to treat the junction as if the original priority system is still partially in place. If this is the case, consider adding a suitable intercept correction to the relevant arms. Otherwise the capacity of these arms may be underestimated by the model.

- 7.33. The B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout was historically a staggered priority junction. The alignment of the B4075 Priors Road approach and both the internal links means that limited deflection is achieved and represents a situation as described in paragraph 13.2.1 of the Junctions 9 user guide.
- 7.34. As recommended within the Junctions 9 user guide, an intercept adjustment has been made on the internal links between the two roundabouts. The effect of this is to manually increase the maximum entry flow on the internal links. Adjustments to these two roundabouts have been made following analysis of queue length observations and video footage of the roundabouts during both the AM and PM peak hours.
- 7.35. The adjustments made to the junction model are documented in the Junctions 9 output included in **Appendix Q**.
- 7.36. The model results show that the junction is currently within capacity in both the AM and PM peak hours, although the east roundabout is operating near to capacity in the AM peak hour. With the inclusion of development traffic in 2024, the modelling suggests that the B4075 Priors Road and Harp Hill approaches will be operating at and over capacity, respectively, in the AM peak hour, with queue lengths increasing by 7 vehicles on the B4075 Priors Road approach and by 36 vehicles on the Harp Hill approach, when compared to the 2024 Forecast Year without development. The results show that the west roundabout will also be operating near capacity with the proposed development traffic at 2024 in the PM peak hour.

B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout - Potential Capacity Improvements

- 7.37. The capacity of the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout has been further assessed with minor highway improvements to the Harp Hill and Hewlett Road approaches to the junction. The results are summarised in **Tables 7.5 and 7.6**.

Table 7.5: Minor Improvements to B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout Junctions 9 Results – AM Peak Hour

Scenario		Arm	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
3	2024 Forecast Year + Proposed Development on Oakley Farm (Existing Junction)	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	3	11	0.75
		B4075 Hales Road	2	12	0.67
		Hewlett Road	1	6	0.39
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	27	110	0.99
		Harp Hill	43	403	1.11
		Internal (EB)	2	8	0.59
3A	2024 Forecast Year + Proposed Development on Oakley Farm (Minor Highway Improvements)	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	3	12	0.77
		B4075 Hales Road	2	12	0.67
		Hewlett Road	1	5	0.35
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	27	110	0.99
		Harp Hill	8	80	0.91
		Internal (EB)	1	8	0.59

Table 7.6: Minor Improvements to B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road Double Roundabout Junctions 9 Results – PM Peak Hour

Scenario		Arm	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
3	2024 Forecast Year + Proposed Development on Oakley Farm (Existing Junction)	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	1	6	0.50
		B4075 Hales Road	8	40	0.91
		Hewlett Road	5	37	0.86
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	5	13	0.70
		Harp Hill	2	23	0.67
		Internal (EB)	5	17	0.83
3A	2024 Forecast Year + Proposed Development on Oakley Farm (Minor Highway Improvements)	B4075 Hales Road / Hewlett Road Roundabout (west roundabout)			
		Internal (WB)	1	5	0.50
		B4075 Hales Road	8	41	0.92
		Hewlett Road	5	34	0.85
		B4075 Priors Road / Harp Hill Mini Roundabout (east roundabout)			
		B4075 Priors Road	2	13	0.70
		Harp Hill	1	15	0.58
		Internal (EB)	5	17	0.83

- 7.38. The potential minor capacity improvements are shown on **Drawing No. H628/04 Rev A** included at **Appendix R**. The Junctions 9 output is included at **Appendix S**.
- 7.39. Without mitigation, the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout is predicted to have a Maximum RFC of over 1 in the AM peak hour at 2024 with the proposed development. With minor highway improvements to the Harp Hill and Hewlett Road approaches to the junction, the maximum RFC on all approaches to the junction is predicted to be below 1 in both the AM and PM peak hours. Mitigation also significantly reduces the increase in driver delay (maximum delay in seconds / vehicle) on the Harp Hill approach to the east roundabout in the AM peak hour.
- 7.40. It is noted that the existing junction arrangement, which was introduced over 10 years ago, deliberately reduced the highway space available in order to provide an improved pedestrian environment. Further consultation will be undertaken with GCC to discuss and agree the appropriate mitigation.

B4075 Priors Road / Redmarley Road Traffic Signals

7.41. Tables 7.7 and 7.8 set out the Junctions 9 results for each of the assessment scenarios during the AM peak and PM peak hours for the B4075 Priors Road / Redmarley Road Traffic Signals. The LinSig output is provided at Appendix T.

Table 7.7: B4075 Priors Road / Redmarley Road Traffic Signals LinSig Results – AM Peak Hour

Scenario		Arm	Mean Max Queue (pcu)	Average Delay (pcu)	Deg Sat (%)
1	2019 Base Year	B4075 Priors Road (North)	14	26	73.7%
		Redmarley Road	5	42	59.8%
		B4075 Priors Road (South)	6	12	45.4%
2	2024 Forecast Year	B4075 Priors Road (North)	16	28	78.5%
		Redmarley Road	6	43	63.0%
		B4075 Priors Road (South)	6	12	48.2%
3	2024 Forecast Year + Proposed Development on Oakley Farm	B4075 Priors Road (North)	17	29	79.5%
		Redmarley Road	6	43	63.3%
		B4075 Priors Road (South)	7	12	50.2%

Table 7.8: B4075 Priors Road / Redmarley Road Traffic Signals LinSig Results – PM Peak Hour

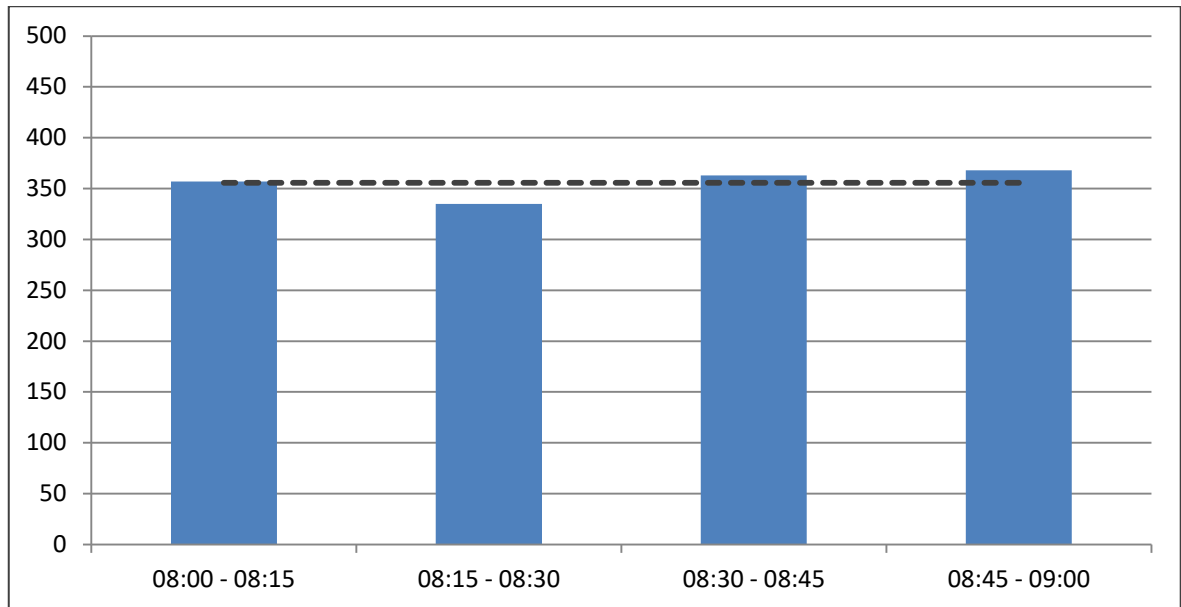
Scenario		Arm	Mean Max Queue (pcu)	Average Delay (pcu)	Deg Sat (%)
1	2019 Base Year	B4075 Priors Road (North)	10	22	64.8%
		Redmarley Road	6	43	65.7%
		B4075 Priors Road (South)	17	46	96.2%
2	2024 Forecast Year	B4075 Priors Road (North)	12	23	68.5%
		Redmarley Road	6	44	68.7%
		B4075 Priors Road (South)	29	78	100.8%
3	2024 Forecast Year + Proposed Development on Oakley Farm	B4075 Priors Road (North)	13	24	71.2%
		Redmarley Road	6	44	68.7%
		B4075 Priors Road (South)	30	82	101.2%

7.42. The results show that the junction would operate within capacity during the AM Peak hour for all scenarios. The impact of the proposed development shows a minor increase in queueing on the B4075 arms into the junction. The PM peak hour results show that the junction will operate over capacity in the 2024 forecast year with the impact of development also showing a minor increase in queueing on the B4075 approach arms.

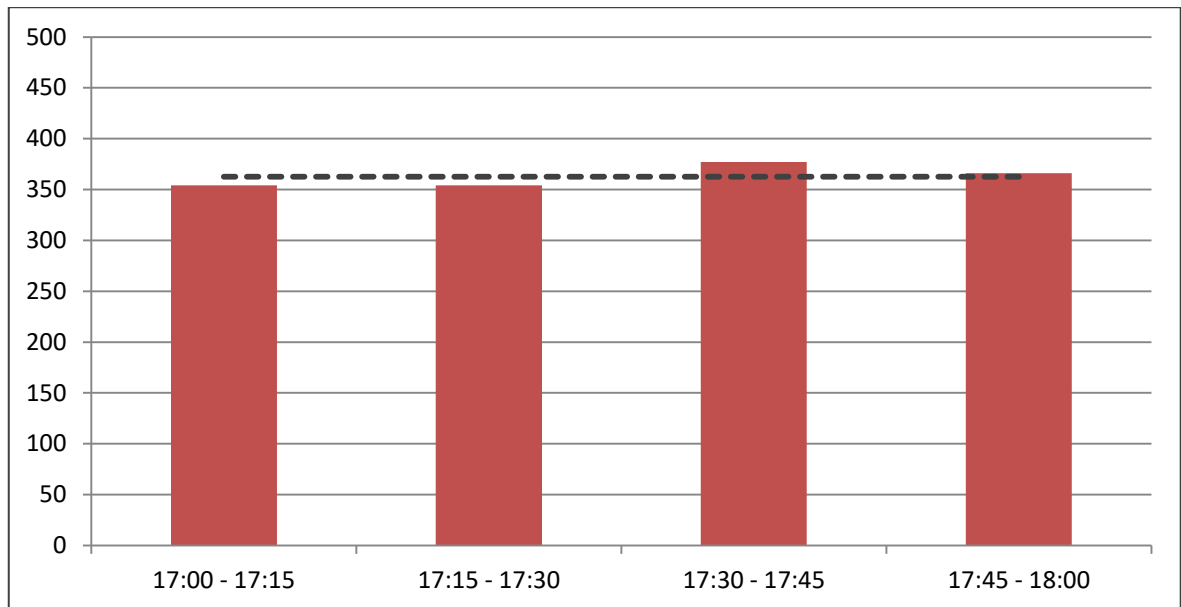
B4075 Priors Road / Bouncers Lane Priority Junction

7.43. The traffic profiles from the observed traffic counts were also checked for the B4075 Priors Road / Bouncers Lane priority junction. **Graphs 7.3 & 7.4** show the observed traffic flow profiles (total inflow on all approaches) at the B4075 Priors Road / Bouncers Lane Priority Junction.

Graph 7.3: B4075 Priors Road / Bouncers Lane Priority Junction Observed Traffic Profile – AM Peak Hour (08:00- 09:00)



Graph 7.4: B4075 Priors Road / Bouncers Lane Priority Junction Observed Traffic Profile – PM Peak Hour (17:00- 18:00)



7.44. As shown in the graphs above the traffic profile for vehicles arriving into the junction during both peak hours were relatively flat. To replicate this, a flat profile has been used within the junction model.

7.45. **Tables 7.9** and **7.10** set out the Junctions 9 results for each of the assessment scenarios during the AM peak and PM peak hours for the B4075 Priors Road / Bouncers Lane Priority Junction. The Junctions 9 output is provided at **Appendix U**.

Table 7.9: B4075 Priors Road / Bouncers Lane Priority Junction - Junctions 9 Results – AM Peak Hour

Scenario		Movement	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
1	2019 Base Year	B4075 Priors Road / Bouncers Lane Priority Junction (South)			
		B-C	0	7	0.10
		C-AB	2	19	0.64
		B4075 Priors Road / Bouncers Lane Priority Junction (North)			
		B-A	0	11	0.05
		B4075 Priors Road / Bouncers Lane Priority Junction (East)			
		B-C	0	7	0.05
		C-AB	0	7	0.04
		2	2024 Forecast Year	B4075 Priors Road / Bouncers Lane Priority Junction (South)	
B-C	0			8	0.13
C-AB	3			23	0.70
B4075 Priors Road / Bouncers Lane Priority Junction (North)					
B-A	0			11	0.06
B4075 Priors Road / Bouncers Lane Priority Junction (East)					
B-C	0			7	0.05
C-AB	0			7	0.04
3	2024 Forecast Year + Proposed Development on Oakley Farm			B4075 Priors Road / Bouncers Lane Priority Junction (South)	
		B-C	0	8	0.13
		C-AB	3	26	0.75
		B4075 Priors Road / Bouncers Lane Priority Junction (North)			
		B-A	0	11	0.06
		B4075 Priors Road / Bouncers Lane Priority Junction (East)			
		B-C	0	7	0.05
		C-AB	0	7	0.04

Note: **B4075 Priors Road / Bouncers Lane (South)** – Movement A: B4075 Priors Road (North), Movement B: Bouncers Lane, Movement C: B4075 Priors Road (South).

B4075 Priors Road / Bouncers Lane (North) – Movement A: B4075 Priors Road (North), Movement B: Internal (Westbound), Movement C: B4075 Priors Road (South).

B4075 Priors Road / Bouncers Lane (East) – Movement A: Bouncers Lane (South), Movement B: Internal (Eastbound), Movement C: Bouncers Lane (North).

Table 7.10: B4075 Priors Road / Bouncers Lane Priority Junction Junctions 9 Results – PM Peak Hour

Scenario		Movement	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
1	2019 Base Year	B4075 Priors Road / Bouncers Lane Priority Junction (South)			
		B-C	0	7	0.09
		C-AB	9	48	0.89
		B4075 Priors Road / Bouncers Lane Priority Junction (North)			
		B-A	0	10	0.01
		B4075 Priors Road / Bouncers Lane Priority Junction (East)			
		C-AB	0	7	0.01
2	2024 Forecast Year	B4075 Priors Road / Bouncers Lane Priority Junction (South)			
		B-C	0	7	0.11
		C-AB	21	96	0.97
		B4075 Priors Road / Bouncers Lane Priority Junction (North)			
		B-A	0	10	0.01
		B4075 Priors Road / Bouncers Lane Priority Junction (East)			
		C-AB	0	7	0.01
3	2024 Forecast Year + Proposed Development on Oakley Farm	B4075 Priors Road / Bouncers Lane Priority Junction (South)			
		B-C	0	7	0.11
		C-AB	30	129	1.00
		B4075 Priors Road / Bouncers Lane Priority Junction (North)			
		B-A	0	10	0.01
		B4075 Priors Road / Bouncers Lane Priority Junction (East)			
		C-AB	0	7	0.01

Note: **B4075 Priors Road / Bouncers Lane (South)** – Movement A: B4075 Priors Road (North), Movement B: Bouncers Lane, Movement C: B4075 Priors Road (South).

B4075 Priors Road / Bouncers Lane (North) – Movement A: B4075 Priors Road (North), Movement B: Internal (Westbound), Movement C: B4075 Priors Road (South).

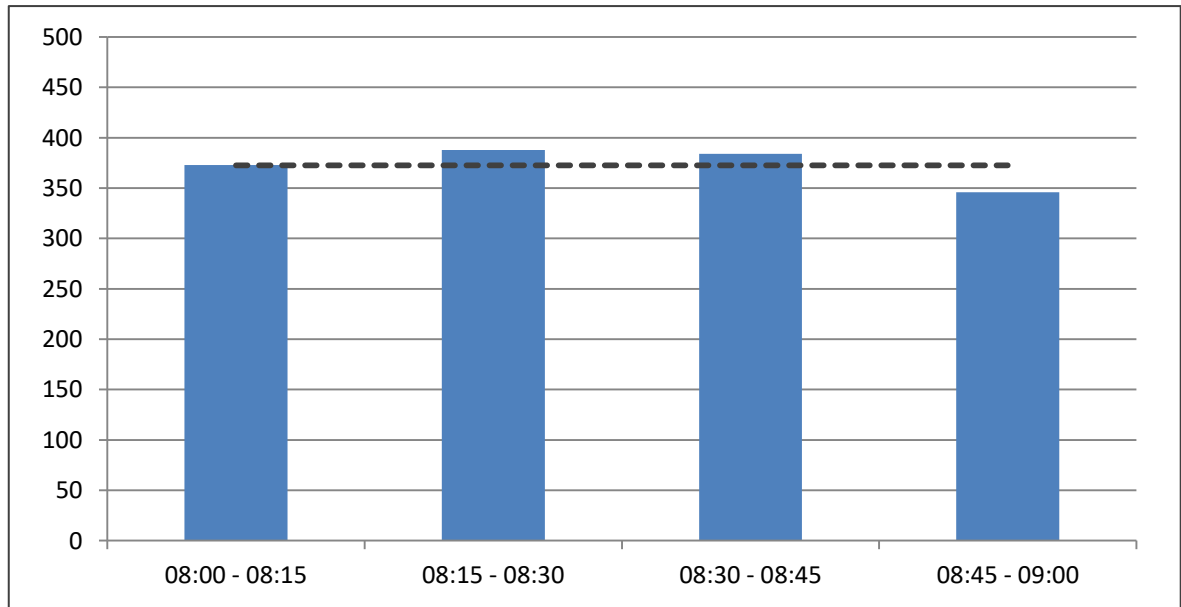
B4075 Priors Road / Bouncers Lane (East) – Movement A: Bouncers Lane (South), Movement B: Internal (Eastbound), Movement C: Bouncers Lane (North).

- 7.46. The results show that the junction would operate within capacity in the AM peak hour for all scenarios. In the PM peak hour the results show the junction will operate near to capacity in the 2024 forecast year. With the addition of the development traffic the junction is at capacity with queuing increasing for right turners from B4075 Priors Road South to Bouncers Lane. This indicates that the available storage on the right turn lane is being exceeded in the forecast year both with and without development.
- 7.47. Observed queue lengths show that queuing in the 2019 base year is already nearing the storage capacity with maximum queues of approximately 10 vehicles being recorded. In order to alleviate this issue, signalisation of the B4075 Priors Road / Bouncers Lane junction should be considered to improve junction performance.

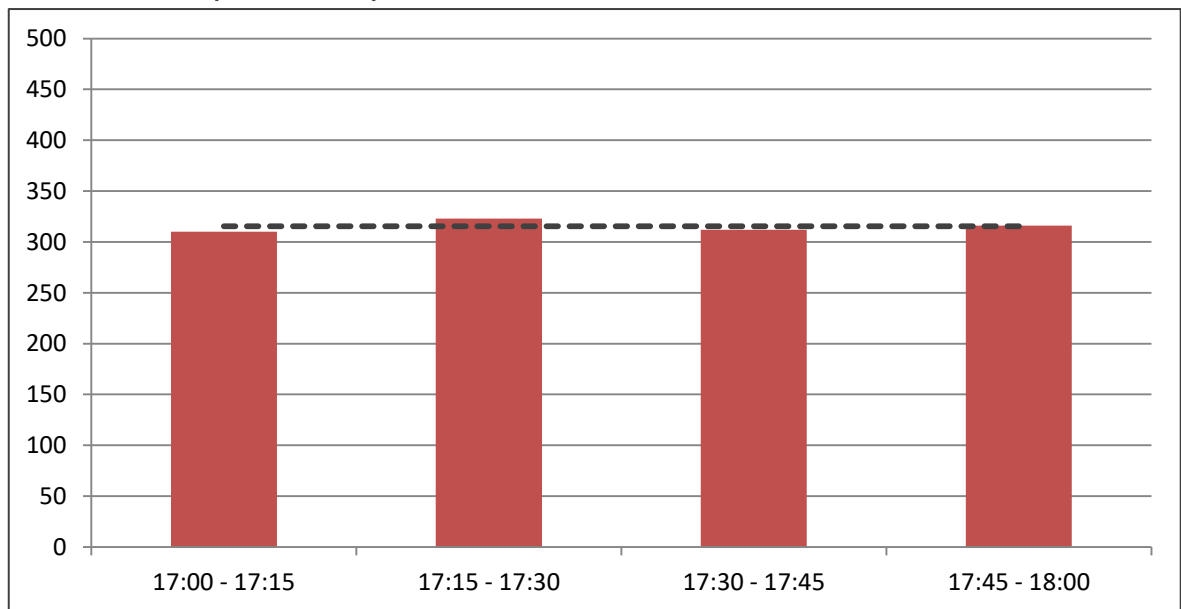
B4075 Priors Road / B4632 Prestbury Road Priority Junction

7.48. The traffic profiles from the observed traffic counts were also checked for the B4075 Priors Road / B4632 Prestbury Road Priority Junction. **Graphs 7.5 & 7.6** show the observed traffic flow profiles (total inflow on all approaches) at the B4075 Priors Road / B4632 Prestbury Road Priority Junction.

Graph 7.5: B4075 Priors Road / B4632 Prestbury Road Priority Junction Observed Traffic Profile – AM Peak Hour (08:00- 09:00)



Graph 7.6: B4075 Priors Road / B4632 Prestbury Road Priority Junction Observed Traffic Profile – PM Peak Hour (17:00- 18:00)



7.49. As shown in the graphs above the traffic profile for vehicles arriving into the junction during both peak hours were relatively flat. To replicate this, a flat profile has been used within the junction model.

7.50. **Tables 7.11 and 7.12** set out the Junctions 9 results for each of the assessment scenarios during the AM and PM peak hours respectively for the B4075 Priors Road / B4632 Prestbury Road Priority Junction. The Junctions 9 output is provided at **Appendix V**.

Table 7.11: B4075 Priors Road / B4632 Prestbury Road Priority Junction Junctions 9 Results – AM Peak Hour

Scenario		Movement	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
1	2019 Base Year	B4632 Prestbury Road / B4075 Priors Road Priority Junction			
		B-C	0.1	8.42	0.10
		B-A	2.4	29.27	0.71
		C-AB	0.0	0.00	0.00
		B4632 Prestbury Road / Laurel Drive / B4075 Priors Road Priority Junction			
		B-ACD	0.0	0.00	0.00
		A-BC	3.0	5.21	0.60
		A-D	0.0	0.00	0.00
		D-AB	0.00	0.00	0.00
		D-BC	0.00	0.00	0.00
		C-ABD	0.6	6.41	0.21
2	2024 Forecast Year	B4632 Prestbury Road / B4075 Priors Road Priority Junction			
		B-C	0.1	8.67	0.10
		B-A	2.9	34.86	0.76
		C-AB	0.0	0.00	0.00
		B4632 Prestbury Road / Laurel Drive / B4075 Priors Road Priority Junction			
		B-ACD	0.0	0.00	0.00
		A-BC	3.4	5.67	0.63
		A-D	0.0	0.00	0.00
		D-AB	0.0	0.00	0.00
		D-BC	0.0	0.00	0.00
		C-ABD	0.7	6.54	0.24
3	2024 Forecast Year + Proposed Development on Oakley Farm	B4632 Prestbury Road / B4075 Priors Road Priority Junction			
		B-C	0.1	8.74	0.11
		B-A	2.9	34.92	0.76
		C-AB	0.0	0.00	0.00
		B4632 Prestbury Road / Laurel Drive / B4075 Priors Road Priority Junction			
		B-ACD	0.0	0.00	0.00
		A-BC	3.5	5.74	0.64
		A-D	0.0	0.00	0.00
		D-AB	0.0	0.00	0.00
		D-BC	0.0	0.00	0.00
		C-ABD	0.7	6.61	0.24

Note: **B4632 Prestbury Road / B4075 Priors Road Priority Junction** – Movement A: B4632 Prestbury Road (East), Movement B: B4075 Priors Road (Approach Only), Movement C: B4632 Prestbury Road (West).

B4632 Prestbury Road / Laurel Drive / B4075 Priors Road Priority Junction – Movement A: B4632 Prestbury Road (East), Movement B: B4075 Priors Road (Exit Only), Movement C: B4632 Prestbury Road (West), Movements D: Laurel Drive.

Table 7.12: B4075 Priors Road / B4632 Prestbury Road Priority Junction Junctions 9 Results – PM Peak Hour

	Scenario	Movement	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
1	2019 Base Year	B4632 Prestbury Road / B4075 Priors Road Priority Junction			
		B-C	0.1	7.30	0.09
		B-A	1.2	17.61	0.54
		C-AB	0.0	0.00	0.00
		B4632 Prestbury Road / Laurel Drive / B4075 Priors Road Priority Junction			
		B-ACD	0.0	0.00	0.00
		A-BC	1.8	3.75	0.47
		A-D	0.0	0.00	0.00
		D-AB	0.0	0.00	0.00
		D-BC	0.0	0.00	0.00
C-ABD	0.2	5.29	0.10		
2	2024 Forecast Year	B4632 Prestbury Road / B4075 Priors Road Priority Junction			
		B-C	0.1	7.44	0.09
		B-A	1.3	18.99	0.57
		C-AB	0.0	0.00	0.00
		B4632 Prestbury Road / Laurel Drive / B4075 Priors Road Priority Junction			
		B-ACD	0.0	0.00	0.00
		A-BC	1.9	3.93	0.49
		A-D	0.0	0.00	0.00
		D-AB	0.0	0.00	0.00
		D-BC	0.0	0.00	0.00
C-ABD	0.2	5.28	0.10		
3	2024 Forecast Year + Proposed Development on Oakley Farm	B4632 Prestbury Road / B4075 Priors Road Priority Junction			
		B-C	0.1	7.46	0.10
		B-A	1.3	19.04	0.57
		C-AB	0.0	0.00	0.00
		B4632 Prestbury Road / Laurel Drive / B4075 Priors Road Priority Junction			
		B-ACD	0.0	0.00	0.00
		A-BC	2.0	4.02	0.50
		A-D	0.0	0.00	0.00
		D-AB	0.0	0.00	0.00
		D-BC	0.0	0.00	0.00
C-ABD	0.3	5.34	0.12		

Note: **B4632 Prestbury Road / B4075 Priors Road Priority Junction** – Movement A: B4632 Prestbury Road (East), Movement B: B4075 Priors Road (Approach Only), Movement C: B4632 Prestbury Road (West).

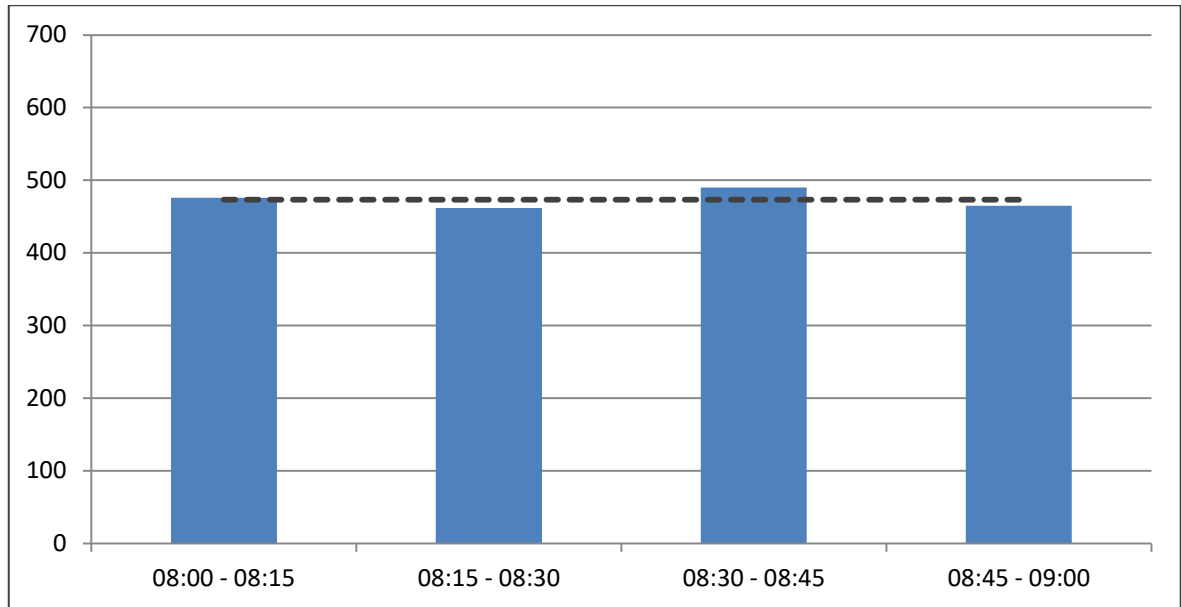
B4632 Prestbury Road / Laurel Drive / B4075 Priors Road Priority Junction – Movement A: B4632 Prestbury Road (East), Movement B: B4075 Priors Road (Exit Only), Movement C: B4632 Prestbury Road (West), Movements D: Laurel Drive.

- 7.52. The results show that the junction would operate within capacity in all of the assessment scenarios during the AM and PM peak hours, and that the proposed development would have no adverse impact on the operation of the junction.

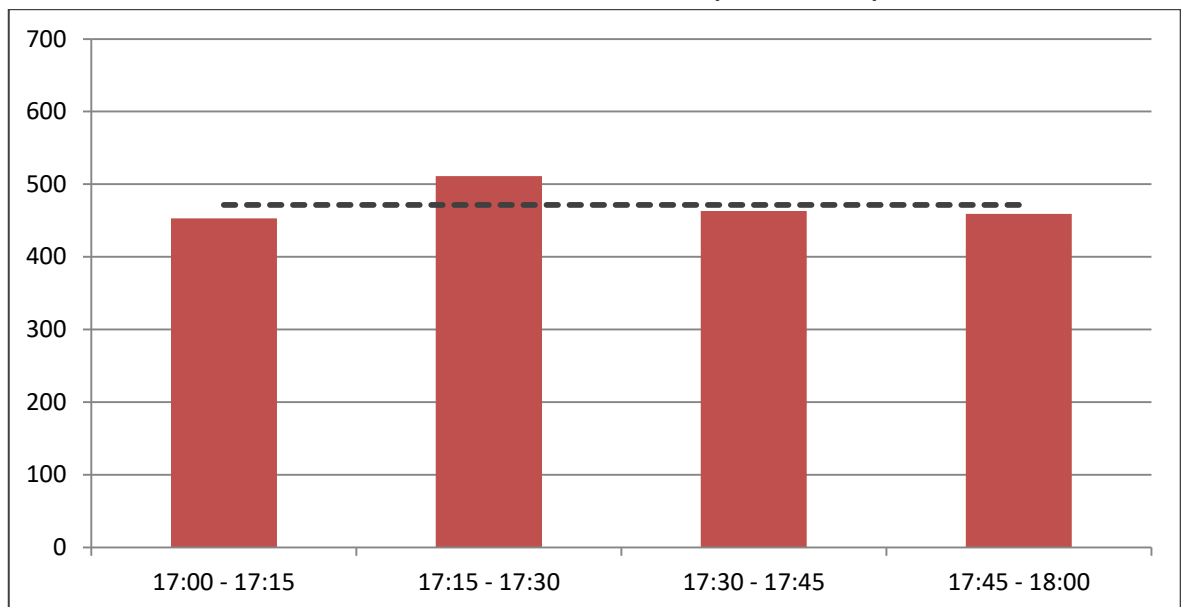
B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane Double Mini-Roundabout

7.53. The traffic profiles from the observed traffic counts were also checked for the B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane double mini-roundabout. **Graphs 7.7 & 7.8** show the observed traffic flow profiles (total inflow on all approaches) at the B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane double mini-roundabout.

Graph 7.7: B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane Double Mini-Roundabout Observed Traffic Profile– AM Peak Hour (08:00- 09:00)



Graph 7.8: B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane Double Mini-Roundabout – PM Peak Hour (17:00- 18:00)



- 7.54. As shown in the graphs above the traffic profile for vehicles arriving into the junction during both peak hours were relatively flat. To replicate this, a flat profile has been used within the junction model.
- 7.55. **Tables 7.13** and **7.14** set out the Junctions 9 results for each of the assessment scenarios during the AM and PM peak hours respectively for the B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane double mini-roundabout. The Junctions 9 output is provided at **Appendix W**.

Table 7.13: B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane Double Mini-Roundabout Junctions 9 Results – AM Peak Hour

Scenario		Arm	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
1	2019 Base Year	West Mini Roundabout			
		Westbound (Internal)	0	11	0.76
		B4632 Prestbury Rd	1	10	0.53
		B4075 Tatchley Ln	1	13	0.51
		East Mini Roundabout			
		Deep Street	2	8	0.64
		Blacksmiths Lane	0	16	0.01
		Bouncers Lane	4	41	0.81
2	2024 Forecast Year	West Mini Roundabout			
		Westbound (Internal)	0	13	0.81
		B4632 Prestbury Rd	2	11	0.56
		B4075 Tatchley Ln	1	15	0.54
		East Mini Roundabout			
		Deep Street	2	9	0.67
		Blacksmiths Lane	0	18	0.02
		Bouncers Lane	9	88	0.92
3	2024 Forecast Year + Proposed Development on Land at Oakley Farm	West Mini Roundabout			
		Westbound (Internal)	0	14	0.82
		B4632 Prestbury Rd	1	11	0.57
		B4075 Tatchley Ln	1	15	0.55
		East Mini Roundabout			
		Deep Street	2	9	0.67
		Blacksmiths Lane	0	19	0.02
		Bouncers Lane	15	142	0.98
Eastbound (Internal)	0	4	0.24		

Table 7.14: B4632 Prestbury Road / B4075 Tatchley Lane / Deep Street / Blacksmiths Lane / Bouncers Lane Double Mini-Roundabout Junctions 9 Results – PM Peak Hour

Scenario		Arm	Max Queue (vehicles)	Max Delay (seconds/vehicle)	Max RFC
1	2019 Base Year	West Mini Roundabout			
		Westbound (Internal)	0	6	0.54
		B4632 Prestbury Rd	1	9	0.50
		B4075 Tatchley Ln	5	41	0.84
		East Mini Roundabout			
		Deep Street	1	5	0.38
		Blacksmiths Lane	0	9	0.03
		Bouncers Lane	4	29	0.81
		Eastbound (Internal)	0	5	0.33
2	2024 Forecast Year	West Mini Roundabout			
		Westbound (Internal)	0	7	0.57
		B4632 Prestbury Rd	1	10	0.53
		B4075 Tatchley Ln	7	60	0.90
		East Mini Roundabout			
		Deep Street	1	5	0.40
		Blacksmiths Lane	0	9	0.03
		Bouncers Lane	7	44	0.88
		Eastbound (Internal)	0	5	0.35
3	2024 Forecast Year + Proposed Development on Land at Oakley Farm	West Mini Roundabout			
		Westbound (Internal)	0	7	0.59
		B4632 Prestbury Rd	1	10	0.53
		B4075 Tatchley Ln	10	75	0.92
		East Mini Roundabout			
		Deep Street	1	5	0.41
		Blacksmiths Lane	0	9	0.03
		Bouncers Lane	8	51	0.90
		Eastbound (Internal)	0	5	0.35

7.56. The results show that the junction would operate within capacity in both the AM and PM peak hours in the 2024 forecast year scenario with the proposed development. In the AM peak hour, the Bouncers Lane approach is predicted to operate near to capacity with the addition of the development traffic; however, the predicted increase in queueing from 9 to 15 vehicles is not considered to be material. In the PM peak hour the addition of the proposed development traffic is considered to have a negligible impact on the operation of the junction.

A40 London Road / A40 Old Bath Road / B4075 Hales Road Traffic Signals

- 7.57. The LinSig model of the A40 London Road / A40 Old Bath Road / B4075 Hales Road Traffic Signals has been developed using the junction controller specification provided by GCC.
- 7.58. **Tables 7.15** and **7.16** set out the LinSig results for each of the assessment scenarios during the AM and PM peak hours respectively. The LinSig output is provided at **Appendix X**.

Table 7.15: A40 London Road / A40 Old Bath Road / B4075 Hales Road Traffic Signals LinSig Results – AM Peak Hour

Scenario		Arm	Mean Max Queue (pcu)	Average Delay (pcu)	Deg Sat (%)
1	2019 Base Year	A40 London Road	33	124	100.5%
		A40 Old Bath Road	34	113	100.2%
		A435 London Road	25	114	98.2%
		B4075 Hales Road	26	124	99.2%
2	2024 Forecast Year	A40 London Road	46	190	105.5%
		A40 Old Bath Road	51	184	105.8%
		A435 London Road	33	166	103.1%
		B4075 Hales Road	38	203	105.6%
3	2024 Forecast Year + Proposed Development on Oakley Farm	A40 London Road	53	233	108.5%
		A40 Old Bath Road	63	242	109.7%
		A435 London Road	40	216	106.7%
		B4075 Hales Road	45	228	107.5%

Table 7.16: A40 London Road / A40 Old Bath Road / B4075 Hales Road Traffic Signals LinSig Results – PM Peak Hour

Scenario		Arm	Mean Max Queue (pcu)	Average Delay (pcu)	Deg Sat (%)
1	2019 Base Year	A40 London Road	38	131	101.4%
		A40 Old Bath Road	39	133	101.8%
		A435 London Road	23	75	91.5%
		B4075 Hales Road	24	146	100.2%
2	2024 Forecast Year	A40 London Road	55	215	107.6%
		A40 Old Bath Road	57	208	107.3%
		A435 London Road	51	256	109.5%
		B4075 Hales Road	34	222	106.1%
3	2024 Forecast Year + Proposed Development on Oakley Farm	A40 London Road	63	256	110.3%
		A40 Old Bath Road	72	273	111.8%
		A435 London Road	53	267	110.3%
		B4075 Hales Road	43	286	110.6%

- 7.59. The results show that junction is operating over capacity in both the AM and PM peak hours in all three scenarios. As the junction is operating over capacity at present any additional traffic will only exasperate the existing situation resulting in increased queuing and the worsening of overall junction performance.

A40 London Rd / Greenway Lane / Ryeworth Rd / Copt Elm Rd Traffic Signals

7.60. The LinSig model of the A40 London Road / Greenway Lane / Ryeworth Road / Copt Elm Road Traffic Signals has been developed using the junction controller specification provided by GCC. **Tables 7.17** and **7.18** set out the LinSig results for each of the assessment scenarios during the AM and PM peak hours respectively. The LinSig output is provided at **Appendix Y**.

**Table 7.17: A40 London Road / Greenway Lane / Ryeworth Road / Copt Elm Road Traffic Signals
LinSig Results – AM Peak Hour**

Scenario		Arm	Mean Max Queue (pcu)	Average Delay (pcu)	Deg Sat (%)
1	2019 Base Year	A40 London Road East	27	64	77.2%
		Copt Elm Road	13	104	76.8%
		A40 London Road West	23	64	71.7%
		Greenway Lane	10	115	77.5%
		Ryeworth Road	6	142	75.2%
2	2024 Forecast Year	A40 London Road East	29	67	80.9%
		Copt Elm Road	14	109	80.7%
		A40 London Road West	25	66	75.5%
		Greenway Lane	11	122	81.6%
		Ryeworth Road	7	148	78.5%
3	2024 Forecast Year + Proposed Development on Oakley Farm	A40 London Road East	30	69	82.7%
		Copt Elm Road	14	116	83.6%
		A40 London Road West	25	68	76.6%
		Greenway Lane	12	117	81.1%
		Ryeworth Road	7	148	78.5%

**Table 7.18: A40 London Road / Greenway Lane / Ryeworth Road / Copt Elm Road Traffic Signals
LinSig Results – PM Peak Hour**

Scenario		Arm	Mean Max Queue (pcu)	Average Delay (pcu)	Deg Sat (%)
1	2019 Base Year	A40 London Road East	27	64	79.4%
		Copt Elm Road	13	98	78.1%
		A40 London Road West	24	63	75.0%
		Greenway Lane	10	113	79.3%
		Ryeworth Road	3	149	62.9%
2	2024 Forecast Year	A40 London Road East	29	67	83.3%
		Copt Elm Road	14	103	81.8%
		A40 London Road West	25	66	78.5%
		Greenway Lane	11	119	82.9%
		Ryeworth Road	3	153	65.7%
3	2024 Forecast Year + Proposed Development on Oakley Farm	A40 London Road East	30	70	85.1%
		Copt Elm Road	15	109	84.6%
		A40 London Road West	25	66	78.5%
		Greenway Lane	11	116	82.2%
		Ryeworth Road	3	153	65.7%

- 7.61. The results show that the junction would operate within capacity in all of the assessment scenarios during the AM and PM peak hours, and that the proposed development would have no adverse impact on the operation of the junction.

Summary

- 7.62. The detailed junction capacity analysis has shown that for all of the key junctions assessed, except for the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout, the proposed development would not have a material impact on the operation of the local highway network with no significant increases in queueing or delay.
- 7.63. Without mitigation, the Harp Hill approach to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout is predicted to have a Maximum RFC of over 1 in the AM peak hour at 2024 with the proposed development. Minor highway improvements to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout would result in a Maximum RFC of below 1 on all approaches to the junction in both the AM and PM peak hours, and would significantly reduce the increase in driver delay on the Harp Hill approach in the AM peak hour with the proposed development. Further consultation will be undertaken with GCC to discuss and agree appropriate mitigation.

8. DEVELOPMENT CONSTRUCTION

Construction Traffic

- 8.1. Construction of 250 dwellings will give rise to deliveries of materials and products that will be transported by heavy goods vehicles (HGVs). Construction traffic is temporary and will have a relatively short-term effect on existing roads within the adjacent highway network.
- 8.2. In addition to HGV deliveries, there will be construction employees on site, the number varying according to construction activity.

Construction Plant

- 8.3. As well as 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.
- 8.4. 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

- 8.5. 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.

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.

Mitigation by Design

- 9.2. The new site access junction will be designed in accordance with the Design Manual for Roads and Bridges, Manual for Streets, and local authority design guidance, as appropriate, to ensure that it is safe and suitable. In addition a potential emergency access is proposed via the route of the existing farm access from Priors Road.
- 9.3. The internal site layout will be designed in a manner which facilitates walking and cycling, providing linkages to existing routes, including the existing public right of way, which links to the B4075 Priors Road and Harp Hill, to allow good access for sustainable modes of transport.
- 9.4. A shared pedestrian / cycle link is proposed between the proposed development and the B4075 Priors Road along the route of the existing farm access. This link will extend along the northern boundary of the application site with connections to the existing public right of way, Cheltenham Footpath 86, and the proposed development. These linkages are identified on the Access and Movement Parameter Plan, which also identifies pedestrian linkages to Harp Hill at the western and eastern extents of the application site's Harp Hill frontage. Cycle linkages to Harp Hill are proposed via the new site access junction.

Additional Mitigation

Construction

- 9.5. Mitigation measures will be implemented during construction in the form of controls imposed by planning conditions, health and safety legislation requirements and good construction site practices. Managing the construction effects will also form part of the Construction Management Plan or similar document. The management control mitigation measures will be intended to protect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of the proposed development.
- 9.6. As part of a Construction Management Plan or similar, a construction vehicle routeing regime for access to the construction site will be identified and agreed with the local highway authority to ensure that drivers of construction related vehicles do not use inappropriate routes. The regime will aim to ensure that construction vehicles use the strategic highway network wherever possible.

Operation

- 9.7. To ensure that the proposed development is planning policy compliant, measures to encourage walking, cycling and public transport, to mitigate the additional travel demands of the proposed development, and to improve the surrounding transport infrastructure are proposed. These measures are summarised below.
- 9.8. Additional mitigation during operation will include a financial contribution towards a new section of footway on the northern side of Harp Hill to provide a link between Cheltenham Footpath 86, where it emerges onto Harp Hill, and the existing footway on the northern side of Harp Hill, which currently terminates approximately 70m to the west of the application site's western boundary.
- 9.9. A financial contribution will be made towards an uncontrolled pedestrian crossing facility on Harp Hill, towards the western end of the application site's frontage. The crossing will provide a link

between the existing public right of way route, Cheltenham Footpath 86, the new pedestrian routes within the proposed development, and the existing footway provision on the south side of Harp Hill.

- 9.10. A financial contribution will be made towards the provision of a controlled Toucan crossing facility on Priors Road and a section of shared footway/cycleway on the western side of the carriageway to link with the existing signposted cycle route towards the town centre via Whaddon Road.
- 9.11. Additional mitigation during operation will also include implementation of a Residential Travel Plan to encourage travel by sustainable modes. If required, a proportionate contribution will be made towards enhancement to pedestrian and cycle routes in the area, subject to further consultation with GCC, with reference to the Review of Routes exercise undertaken as part of the Existing Conditions.
- 9.12. If required, a proportionate contribution will be made towards enhancement to bus services in the area.
- 9.13. A proportionate contribution will be made towards improvements to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout, subject to further consultation with GCC, as the local highway authority.

Summary

- 9.14. The above measures would be secured either by planning condition or by funding/contribution under the provisions of a Section 106 Agreement and/or Community Infrastructure Levy.

10. CONCLUSIONS

- 10.1. This Transport Assessment (TA) has been prepared by PFA Consulting on behalf of Robert Hitchins Ltd (RHL), and its successors in title to the land, in support of a planning application for residential development on Land at Oakley Farm, Battledown, Cheltenham. The planning application is in outline with all matters reserved.
- 10.2. The development proposals comprise a residential development for up to 250 dwellings including open space and landscaping, vehicular access from Harp Hill, parking, and supporting infrastructure and utilities.
- 10.3. The proposed development has been assessed in accordance with the requirements of the National Planning Policy Framework (NPPF). The assessment has been carried out based on Planning Practice Guidance to the NPPF and the scope agreed with Gloucestershire County Council. A Residential Travel Plan has been prepared in conjunction with the TA with the aim of encouraging more sustainable travel choices.
- 10.4. The TA has shown that the application site is well located to existing local facilities which, together with the proposed connections to existing pedestrian and cycle infrastructure, would ensure future residents would have opportunities to travel by sustainable transport modes. The TA has demonstrated that a sustainable development can be achieved on land at Oakley Farm, Cheltenham, which positively encourages pedestrian, cycle and public transport linkages with the immediate surrounding area and the wider town. The main pedestrian and cycle access to the application site is proposed via a new shared pedestrian / cycle link along the route of the existing farm access track from Priors Road, a key desire line to/from local facilities and the town centre. Pedestrian and cycle access will also be provided to the site from Harp Hill to the south, including pedestrian linkages at the eastern and western extents of the application site's Harp Hill frontage, and cycle linkages via the new site access junction.
- 10.5. The new site access junction will be designed in accordance with Design Manual for Roads and Bridges, Manual for Streets, and local authority design guidance, as appropriate, to ensure that it is safe and suitable. In addition a potential emergency vehicular access is proposed via the route of the shared pedestrian / cycle link to/from Priors Road. The site access arrangements to the proposed development have been addressed and it has been demonstrated that safe and suitable access arrangements for all modes of transport can be achieved.
- 10.6. To assess the traffic impact of the proposed development on the operation of the surrounding highway network, detailed capacity analysis has been undertaken of key junctions in the vicinity of the application site during the weekday AM and PM peak periods when the demand for travel is greatest. The detailed junction capacity analysis has shown that for all of the key junctions assessed, except for the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout, the proposed development would not have a material impact on the operation of the local highway network with no significant increases in queueing or delay. Minor highway improvements to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout would significantly reduce the increase in driver delay on the Harp Hill approach in the AM peak hour with the proposed development. Further consultation will be undertaken with GCC to discuss and agree appropriate mitigation.
- 10.7. The TA has comprehensively analysed the transport impacts of the proposed development on land at Oakley Farm, Cheltenham. It provides details of proposed mitigation and enhancement measures both during the construction and operation phases of the development.

10.8. During the construction phase of the proposed development, potential transport impacts would be managed through a construction management plan or similar document, the measures of which would be intended to protect the environment, amenity and safety of local residents, businesses, the general public and the surroundings in the vicinity of the proposed development. As part of the management plan, a construction vehicle routeing regime for access to the construction site would be identified and agreed with the local highway authority. This would ensure that drivers of construction related vehicles do not use inappropriate routes, avoid residential areas and use the strategic highway network wherever possible.

10.9. During the operation phase, the proposed development would give rise to an increase in travel demand by all main modes of travel. To accommodate this additional demand and to improve access by walking, cycling and public transport to encourage increased travel by more sustainable modes of travel, a range of mitigation / enhancement measures have been identified, including:

Mitigation by Design

- Design of the new site access junction and potential emergency access in accordance with Design Manual for Roads and Bridges, Manual for Streets, and local authority design guidance, as appropriate, to ensure that it is safe and suitable.
- Design of the internal site layout to facilitate walking and cycling, providing linkages to existing routes, including the existing public right of way, Cheltenham Footpath 86, which links to the B4075 Priors Road and Harp Hill, to allow good access for sustainable modes of transport.
- Provision of a shared pedestrian / cycle link between the proposed development and the B4075 Priors Road along the route of the existing farm access.

Additional Mitigation




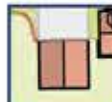





- Financial contribution towards a new section of footway on the northern side of Harp Hill to provide a link between the proposed development, via Cheltenham Footpath 86 where it emerges onto Harp Hill, and the existing footway on the northern side of Harp Hill.
- Financial contribution towards an uncontrolled pedestrian crossing facility on Harp Hill, towards the western end of the application site's frontage. The crossing will provide a link between Cheltenham Footpath 86, the new pedestrian routes within the proposed development, and the existing footway provision on the south side of Harp Hill.
- Financial contribution towards the provision of a controlled Toucan crossing facility on Priors Road and a section of shared footway/cycleway on the western side of the carriageway to link with the existing signposted cycle route towards the town centre via Whaddon Road.
- Implementation of a Residential Travel Plan to provide a framework to promote sustainable travel patterns and encourage travel by sustainable modes. If required, a proportionate contribution will be made towards enhancement to pedestrian and cycle routes in the area, subject to further consultation with GCC, with reference to the Review of Routes exercise undertaken as part of the Existing Conditions.
- Proportionate contribution towards enhancement to bus services in the area (if required).
- Proportionate contribution towards improvements to the B4075 Priors Road / Hales Road / Harp Hill / Hewlett Road double roundabout, subject to further consultation with GCC, as the local highway authority.

10.10. It is considered that with the implementation of the above mitigation / enhancement measures, which would be secured by either planning condition or funding/contributions under the

provision of a S106 Agreement, the additional travel demand from the proposed development would be adequately accommodated on the surrounding transport network.

- 10.11. Overall, the TA has addressed the transport impacts of the proposed development on land at Oakley Farm, Cheltenham. 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 limits any impacts of the development in accordance with the NPPF and local planning policy. The additional traffic from the proposed development would not have a 'severe' impact on the operation of the surrounding local highway network in the context of paragraph 109 of the NPPF.



- Key:**
-  Existing Public Right of Way
 -  Principal Access
 -  Pedestrian Access
 -  Possible Emergency Access
 -  Existing Trees Retained
 -  Existing Hedgerow Retained
 -  Proposed Trees
 -  Proposed New Native Hedgerows
 -  Residential
 -  Garages
 -  Proposed Indicative Landscaped Drainage Pond
 -  Primary Street (with road narrowing to avoid Root protection Zones)
 -  Re-graded land with new tree planting
 -  Proposed Bound Gravel footpaths should be designed to minimise the section of hedgerow to be removed.
 -  Proposed 3m cycle link to Prior's Road
 -  Root Protection Areas

Connection to Prior's Road
see inset below

Inset



Site Name: Land at Oakley Farm	Drawing Number: 333.P.3.9	Revision: E
Drawing Title: Illustrative Masterplan	Drawn By: POK	Date: 01.08.2019
	Scale: 1:2000@A3	



Robert Hitchins
The Complete Development Solution

The Manor, Boddington, Cheltenham, Gloucestershire, GL51 0TJ
Tel: 01242 680694
www.robert-hitchins.co.uk

Highways Development Management

Shire Hall
Gloucester
GL1 2TH

Cheltenham Borough Council
P.O. Box 12
Municipal Offices
Promenade
Cheltenham Glos
GL50 1PP

email: richard.jefferies@gloucestershire.gov.uk

Please ask for: Richard Jefferies

Our Ref: B/2019/042853

Your Ref: B/2019/042853/PRE Date: 13 June 2019

TOWN AND COUNTRY PLANNING ACT 1990 HIGHWAY RECOMMENDATION

LOCATION: Land at Oakley Farm Battledown Cheltenham
PROPOSED: Transport Scope for up to 250 dwellings

I have the following comments to make in regards to the agreement of the submitted Transport Scope ref: May 2019.

1. Introduction

1.5. Agreed.

2. Planning Policy

2.1. Agreed.

3. Existing Conditions

3.1. It should be noted that the site is traversed by a public right of way ZCH86 and this advice does not authorise additional use by motor vehicles, or obstruction, or diversion. It is advised to consult with PRoW to agree a scheme so this can be designed into the proposed strategy for the site.

Public Rights of Way: john.lane@gloucestershire.gov.uk to arrange for an official PRoW diversion.

3.4. Agreed.

3.5. Agreed, subject to the 85th percentile speeds being provided at the ATC locations and counts.

3.6. Agreed.

3.7. Agreed.

3.8. Agreed.

3.9. Agreed.

3.10. Agreed.

3.11. Agreed.

4. Proposed Development

4.1. Agreed.

4.2. Agreed.

4.3. Agreed.

4.4. Agreed.

5. Transport Accessibility & sustainability

5.1. Agreed.

5.2. Agreed.

5.3. Agreed.

6. Trip Generation & Distribution

6.1. Agreed.

6.2. Agreed.

6.3. Agreed.

6.4. Agreed.

6.5. Agreed.

6.6. Agreed.

7. Highway Impact

7.1. Agreed.

7.2. Agreed.

7.3. Agreed.

7.4. Agreed.

7.5. Agreed.

7.6. Agreed.

It should be noted that as the network in this location is sensitive capacity assessments will need to be undertaken where there will be a material impact on local key junctions. This may be relatively low where congestion occurs on the local highway network.

8. Construction Traffic

8.1. Agreed.

9. Mitigation Measures

9.1. Agreed.

10. Travel Plan.

10.1. Agreed.

10.2. Agreed.

Further comments/advice from internal stakeholders at GCC, the below comments should be considered and addressed within the TA at the next application stage;

Road Safety/Transport data (Team leader)

There is local concern as I am aware that residents of Harp Hill are already worried by speeds etc.

Is Harp Hill an appropriate route for all of the development traffic to emerge onto – the widths, parking and gradient perhaps combine sufficiently to make a concern.

Can a relieve valve be provided into adjacent development or make some use of the track (guessing the track is for vulnerable users).

Pedestrian and cycle desire lines don't appear to have been fully considered !

Pedestrian access into adjacent new development.

Indication of earthworks on the GA suggest significant level differences for the access road – I think gradient information and height of embankment data is needed to inform.

Not sure about retaining trees within visibility splay – I think they may cause too much of a block in necessary visibility/hide the junction.

Inside road arrangement seems fairly straight – may encourage higher speeds.

No collisions on adjacent junctions so no obvious mitigation measures.

Local Highway manager

I am particularly interested in the drainage of the site. Harp Hill struggles to cope with water run off and I know that this can be partly attributed to the gradient of Harp Hill.

Are there any plans to improve the drainage in the area as a result of this proposed development ?

It would be good to see evidence that the proposed on site landscape drainage is adequate for a development of this size.

I would suggest that the highways drainage team are consulted as well as the flood risk team.

Summary

To confirm the Local Highway Authority has no objection in principal to the proposed development subject to the transport impacts of the development being adequately addressed at the next application stage.

NOTE:

1. The submitted drawing ref: 333.P.3.5 demonstrates the layout proposed in principle can provide a highway arrangement that would be satisfactory to the Local Highway Authority (GCC). However at this time no technical assessment has been undertaken in accordance with GCC technical guidance, as such whilst acceptable in principle the layout may require amendment as part of any technical assessment undertaken by GCC.

2. The proposed development will involve works to be carried out on the public highway and the Applicant/Developer is required to enter into a legally binding Highway Works Agreement (including an appropriate bond) with the County Council before commencing those works.

Statement of Due Regard

Consideration has been given as to whether any inequality and community impact will be created by the transport and highway impacts of the proposed development. It is considered that no inequality is caused to those people who had previously utilised those sections of the existing transport network that are likely to be impacted on by the proposed development.

It is considered that the following protected groups will not be affected by the transport impacts of the proposed development: age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation, other groups (such as long term unemployed), social-economically deprived groups, community cohesion, and human rights.

Yours sincerely,

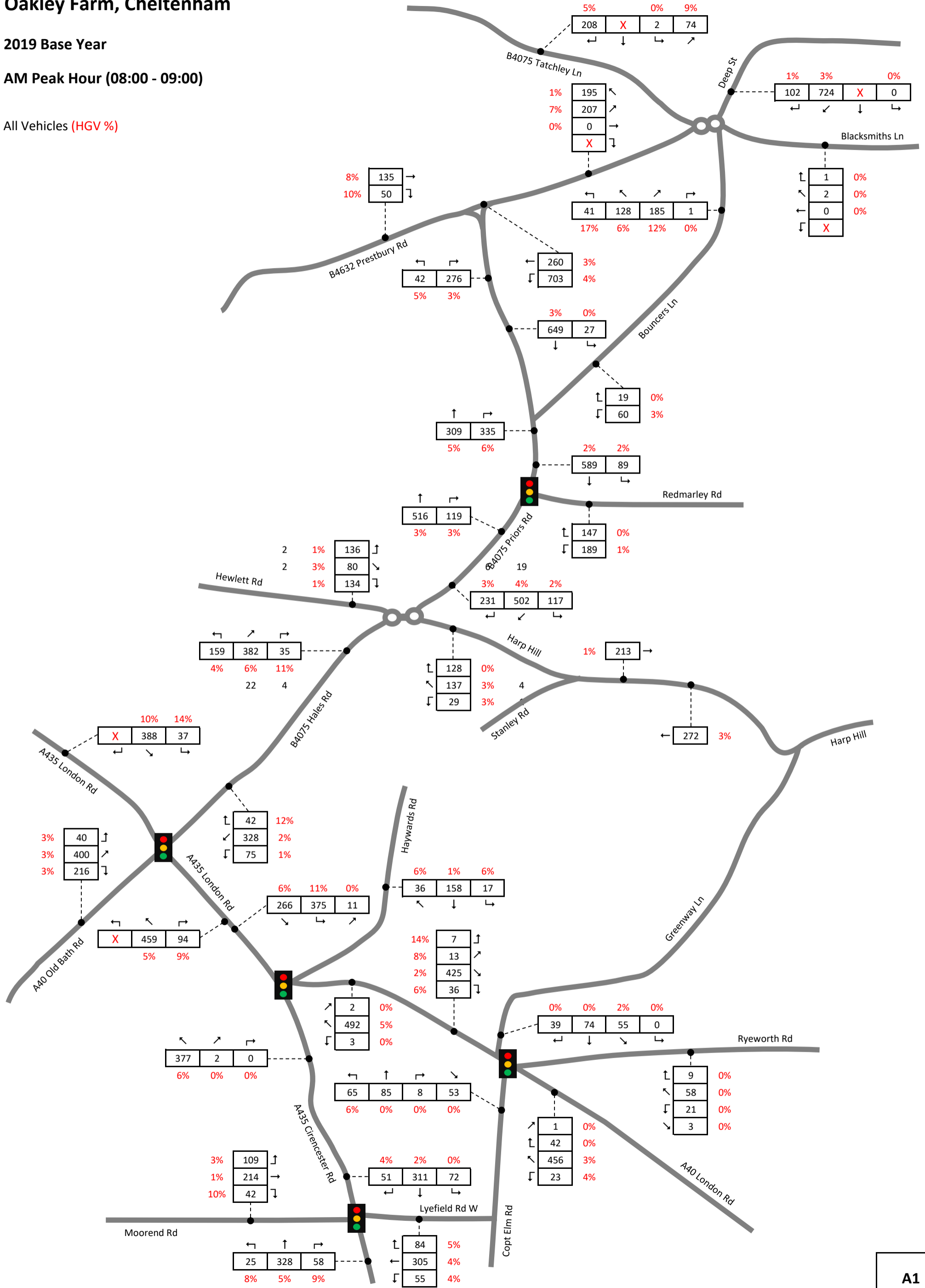
Richard Jefferies

Oakley Farm, Cheltenham

2019 Base Year

AM Peak Hour (08:00 - 09:00)

All Vehicles (HGV %)

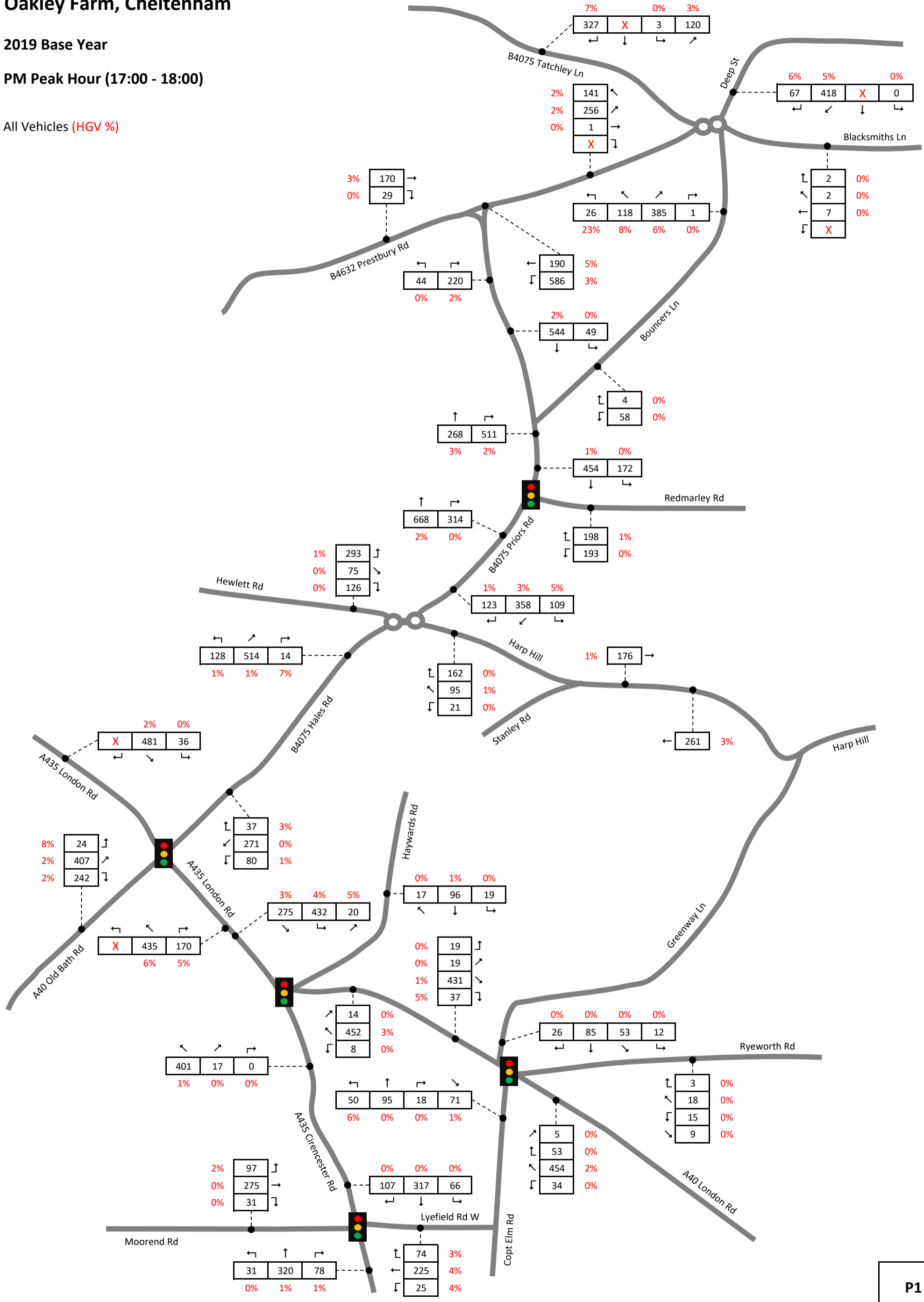


Oakley Farm, Cheltenham

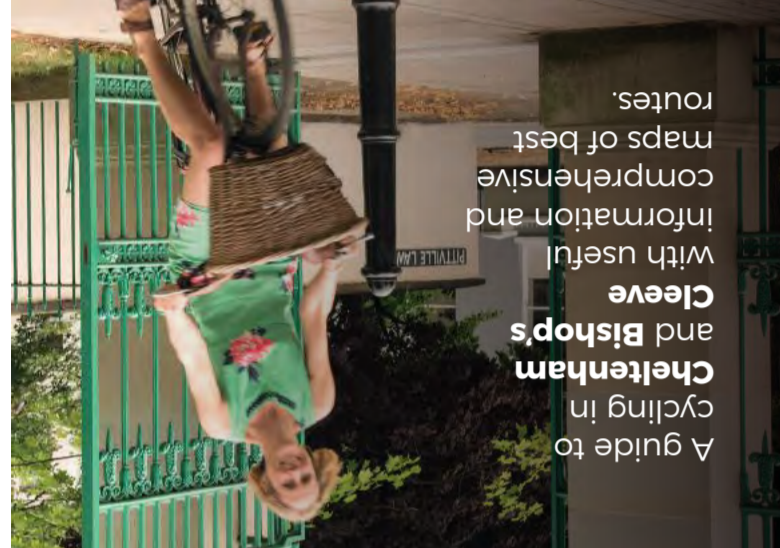
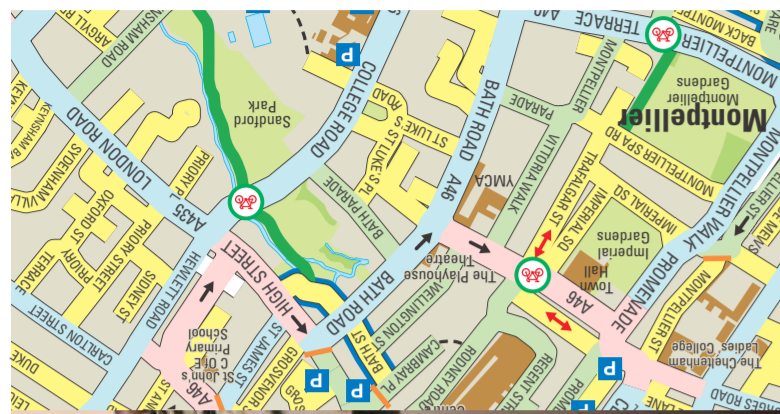
2019 Base Year

PM Peak Hour (17:00 - 18:00)

All Vehicles (HGV %)



Colour-coded to help you to select routes that are safest and most suited to your cycling ability.



CHELTENHAM & BISHOP'S CLEEVE CYCLING MAP



CHELTENHAM & TEWKESBURY CYCLING CAMPAIGN

The Cheltenham & Tewkesbury Cycling Campaign exists to promote the interests of town cyclists. In common with other cycle campaign groups in Britain and across Europe, the CTC recognises four crucial factors in the development of cycling: Encouragement, Education, Engineering and Enforcement.

The campaign maintains regular contact with County and Borough Councils, as well as other agencies in Gloucestershire, in an effort to improve conditions for cyclists and to encourage others to use cycles more widely as part of their daily life.

We welcome comments from users of this map to help us update and improve future editions. If you would like to support us please contact: secretary@cyclecheltenham.org.uk cyclecheltenham.org.uk

OTHER CYCLING ORGANISATIONS IN CHELTENHAM:

Cycling UK
cyclinguk.org/local-groups/cheltenham
 Cheltenham and County Cycling Club
cc-cc.co.uk



BENEFITS OF CYCLING

Getting regular exercise is a crucial part of a healthy lifestyle, and cycling is one of the easiest ways to incorporate fitness into your daily routine, as it doubles up as a handy form of transport. There are numerous reasons, backed up by research and statistics, why getting on your bike is a great idea.

Cycling is proven to:

- Promote weight loss and muscle growth;
- Improve mental wellbeing;
- Reduce the risk of cancer, heart disease and other illnesses;
- Improve the health of your lungs;
- Encourage better sleep;
- Heighten your immune system;
- Improve brain function.

Regular cyclists not only enjoy significantly improved fitness levels, but cycling has also been linked to longevity in numerous studies. In addition, cycling helps the environment and is a low-impact form of exercise, unlike running, for example.

And of course, cycling is fun! It's guaranteed to add enjoyment to your everyday life.

TOP TIPS WHEN CYCLING

- **Plan every movement**, based on what you both can and can't see. Look and think ahead.
- **Position prominently**, in the centre of the lane if you can keep up with traffic, and especially when it would not be safe for you to be passed, such as by a traffic island.
- **Change your position on the road gradually**, ensuring that you will not conflict with anyone else.
- **Look behind and signal** before moving across traffic. Be cautious signalling left turns in case it encourages someone to overtake and cut in.
- **Never ride up the inside of a long vehicle**, especially near a road junction.
- **Keep off pavements** (footways): they are a common location for cyclist injuries. Care needs to be taken when using footways signed for cycling, especially at road junctions and private drives where it may be difficult for drivers to notice you.
- **On country lanes, use your ears** as well as your eyes to detect traffic.

BIKE SECURITY AND THE ETIQUETTE OF PARKING

In the UK, on average, a bicycle is stolen every minute. Bike theft is easily avoided however, by following a few simple rules.

Whenever you leave your bike in a public place, be sure to remember the following points:

- Always secure the bike frame to a permanent, immovable fixture in a designated area, such as a solid cycle stand.
- It is best to use a sturdy D-Lock, although even these can vary in quality so choose carefully.
- Read any signs in the area to ensure you are not parking illegally.
- Make sure your bike is not fastened to private property, e.g. someone's fence.
- Take care to ensure that your bike is not causing an obstruction to pedestrians when parked.

Make sure your bike is insured and remember to always secure it with a lock when at home too.



HOW LONG TO CYCLE A MILE?

10 MINUTES AT LEISURE

5 MINUTES AT MODERATE PACE

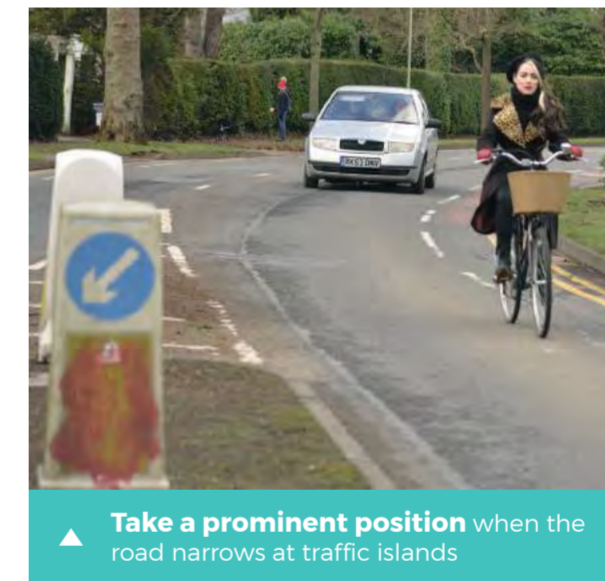
3 MINUTES AT SPEED

Cycling is a great way of getting about. For many journeys in town it's often quicker by bike than by car - and much easier to park!

POTHOLES? BAD SURFACES?

Report all defects to Gloucestershire Highways on **08000 514514**. Also consider logging faults at fillthathole.org.uk

Reports can be valuable in assisting claims for compensation.



Take a prominent position when the road narrows at traffic islands

BEST ROUTES TO

Cheltenham/Bishop's Cleeve: via Southam or across racecourse when open. (An off-road route parallel to the A435 is proposed but awaits funding)

Tewkesbury: via Gotherington, Gotherington Fields, Tredington, then A38 (cycle lanes).

Winchcombe: up the B4632 if you fancy a stiff climb. Otherwise it's easier and quieter via Gotherington and Gretton.



CYCLECRAFT BY JOHN FRANKLIN

TSO, ISBN 978-0-11-708243-4

The definitive guide to safe and enjoyable cycling. It is closely associated with the National Cycle Training Standard. For local cycle training options, see cyclecheltenham.org.uk



Cheltenham is a great town for cyclists. Distances are very manageable, steep hills are rare and there only a few fast roads to be aware of.

CYCLING IN CHELTENHAM

The detailed road network on these maps is graded according to the degree of skill and experience required to cycle each route. Using these maps will help you to select routes that are safest and most suited to your personal cycling ability.

- **Yellow roads:** Lighter traffic and lower speeds. You should use these routes to build confidence and basic skills.
- **Green roads:** Start to explore these routes as your skill, experience and confidence increase.
- **Blue & pink roads:** Heavier traffic and higher speeds. Only venture onto these routes once you are confident and able to deal with heavier and faster traffic.

Cheltenham has many excellent routes for cyclists, however caution and awareness is still required at all times, particularly on pavement cycle paths and at junctions. Please be considerate wherever paths are shared with pedestrians, leaving as much room as possible, making sure that others are aware of you and passing slowly.

Learning how to share the road with other traffic is crucial in order to keep yourself and others safe, and to make cycling as enjoyable as possible.

This is not as challenging as it may first seem, and cycling tuition is available for adults, teenagers and younger children. **Cheltenham & Tewkesbury Cycle Campaign** can advise you who best to contact.

4th edition 2018

Published by **Cheltenham & Tewkesbury Cycling Campaign**
cyclecheltenham.org.uk

with support from



Design by beefandjam.com

Cartography by FourPoint Mapping



0 Miles 0.5 1
 0 Kilometres 0.5 1 1.5

- Quiet Roads
- Busy Roads
- Increasing experience required
- Fast Traffic
- 🚲 Cycle Shop
- 🚦 Signalled crossing
- P Cycle parking
- One-way street
- ↔ Cycle contraflow in one-way street
- Exemption for cycles to traffic restriction
- Access to off-road cycle routes and other cycle access points
- - - Shared-use footway
- Signed cycle route
- Off-road cycle route through open spaces
- - - Footpath





1. No footway present on Harp Hill along majority of site frontage.



2. No footway or crossing point where Footpath 86 emerges onto Harp Hill.



3. Footpath 86 is rural in nature, steep, narrow, unlit and has mixed surface of crushed stone and tarmac.



4. Evidence of informal link between Pillowell Close and Footpath 86



6. Kissing gate access - would need removing to enable use by cyclists.



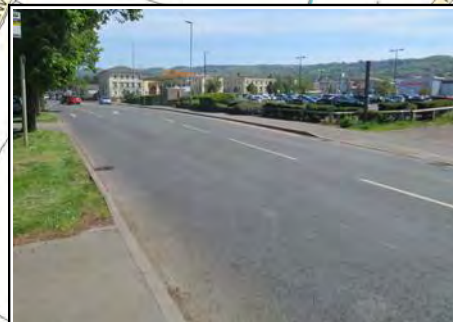
5. Wide farm access track, unlit and surfaced with crushed stone.



9. Existing Toucan crossing part of the signalised Priors Road / Redmarley Road junction. No specific provision for cyclists on the west side of Priors Road.



8. Existing shared footway / cycleway ends south of the signalised Priors Road / Redmarley Road junction. Cyclists are required to rejoin the carriageway.



7. No formal crossing point present across Priors Road from Footpath 86 to access north bound Sainsbury's Bus Stop.

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Client
Robert Hitchens Ltd

Project
Land at Oakley Farm, Battledown, Cheltenham

Figure Title
Review of Routes - Plan 1

Figure No
Figure RoR 1

Date
November 2019

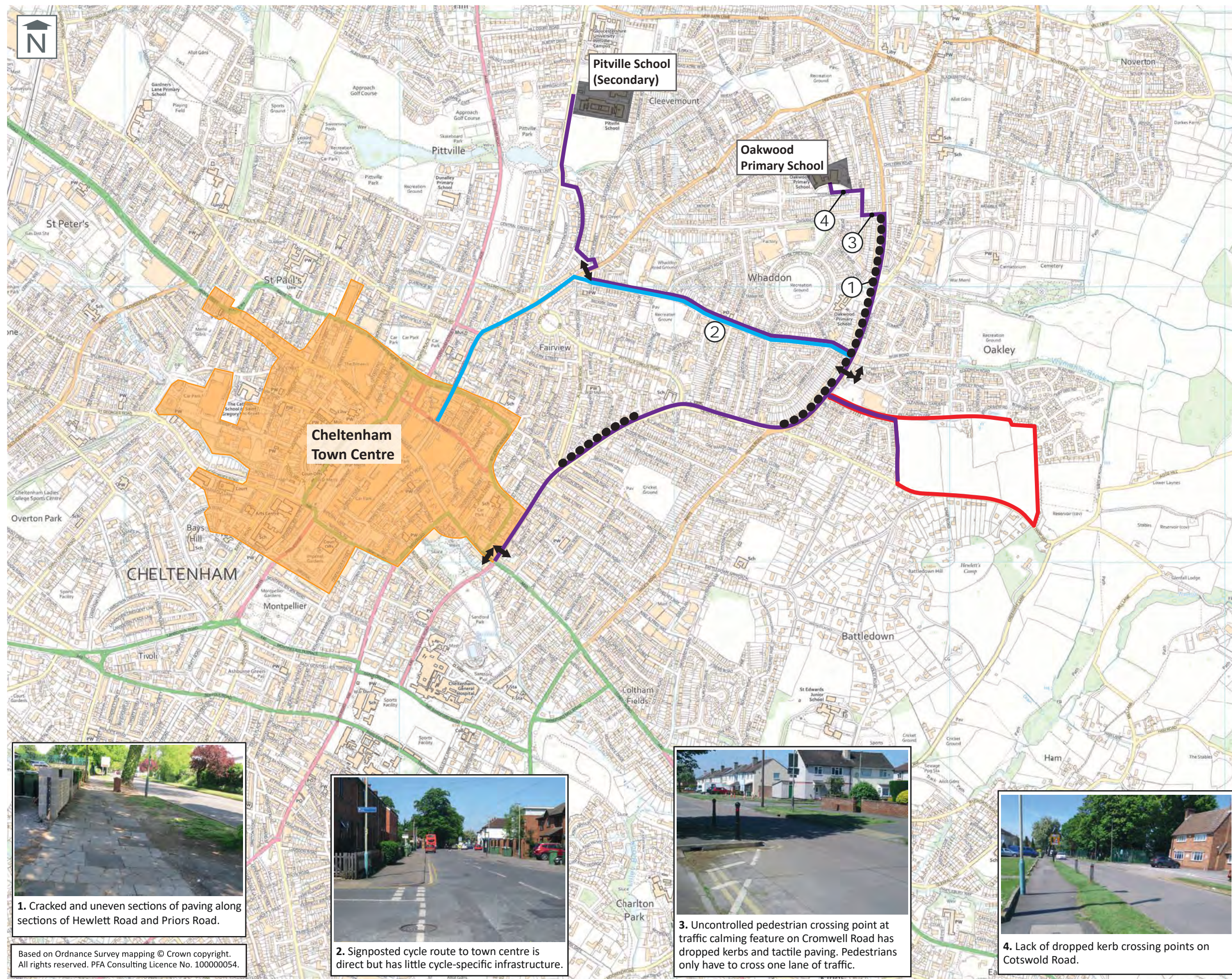
Drawn By
ES

Checked By
ECS

Scale
See scale bar

File Ref
H628/Figures/Fig_RoR1.ai

Doc Ref
H628



- Site Boundary (indicative only)
- Assessed Route
- School
- Cheltenham Town Centre
- Signposted Cycle Route to Town Centre
- Signalised Crossing Point
- Cracked Paving



Client

Robert Hitchins Ltd

Project

Land at Oakley Farm, Battledown, Cheltenham

Figure Title

Review of Routes - Plan 2

Figure No

Figure RoR 2

Date	November 2019
Drawn By	EN
Checked By	ECS
Scale	See Scale Bar
File Ref	H628/Figures/FigRoR2.ai
Doc Ref	H628



1. Cracked and uneven sections of paving along sections of Hewlett Road and Priors Road.

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2. Signposted cycle route to town centre is direct but has little cycle-specific infrastructure.



3. Uncontrolled pedestrian crossing point at traffic calming feature on Cromwell Road has dropped kerbs and tactile paving. Pedestrians only have to cross one lane of traffic.



4. Lack of dropped kerb crossing points on Cotswold Road.

Collision Plan Site:

Battledown,
Cheltenham,
Gloucestershire

Data Range:

January 2014 -
December 2018

Date Produced:

02.07.2019

Collision Plan Key

- ★ Fatal
- Serious
- ▲ Slight

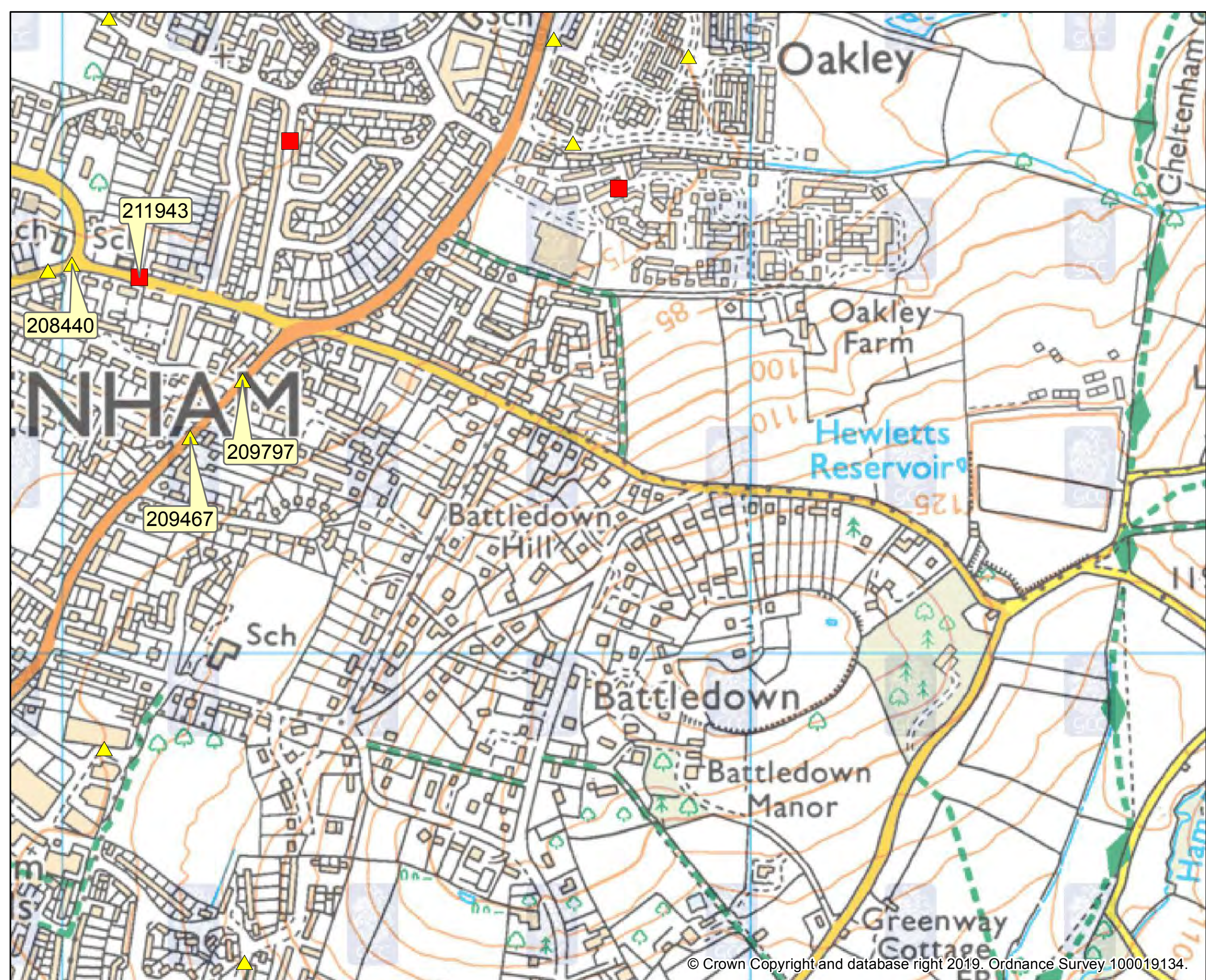
Drawn by: J Neinger

Team: Road Safety

Scale: 1:6,851

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www.gloucestershire.gov.uk/roadsafety



RTA2480 Detailed Collision Report

Compiled from an original report by Gloucestershire County Council
Accident Investigation and Prevention Section

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Database as at 02-JUL-19

Collisions within GLOUCESTERSHIRE

For period 01-JAN-2014 TO 31-DEC-2018

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This information is compiled from data held in the Council's live database as at the date of production. The data is subject to change at any point in the future, as a result of more accurate information becoming available.

DETAILED COLLISION REPORT

Ref	208440	Severity	SLIGHT		
Day	SUNDAY	Date	19 JAN 2014	Time	1230
Light	DAYLIGHT	Weather	FINE	Surface	WET
Grid ref	396015 222566	Major rd	3 9018	Minor rd	4 90121
Control	G WAY/UNCONTROLLED	Junction	CROSS ROAD	Speed lim	30
Lighting	LIGHTS	Condition	NONE	C'way	SINGLE CWAY
UNIFI Ref	A/000367/1	Type	CD	Hazard	NONE

LOCATION

HEWLETT ROAD CHELTENHAM GLOUCESTERSHIRE(AT JUNCTION WITH PITTVILLE CIRCUS ROAD)

DESCRIPTION

V2 CYCLING FROM TOWN TOWARDS WHADDON AREA WHEN V1 TRAV IN THE OPPOSITE DIRECTION TURNED RIGHT INTO PITTVILLE CIRCUS RD FROM HEWLETT RD ACROSS PATH OF THE CYCLIST CAUSING RIDER TO GO INTO THE SIDE OF THE VEHICLE.

VEHICLE DETAILS

No	Type	Manoeuvre	From-to	Driver Age
1	Car	TURNING RIGHT	E N	
2	Pedal Cycle	GO AHEAD OTHER	W E	25

CASUALTY DETAILS

No	Severity	Casualty Age	Veh	Further Details
1	SLIGHT	25	2	DRIVER

DETAILED COLLISION REPORT

Ref	209467	Severity	SLIGHT		
Day	MONDAY	Date	04 MAY 2015	Time	1509
Light	DAYLIGHT	Weather	FINE	Surface	DRY
Grid ref	396187 222314	Major rd	B 4075	Minor rd	4 90128
Control	G WAY/UNCONTROLLED	Junction	T/STAG/Y JUNC	Speed lim	30
Lighting	LIGHTS	Condition	NONE	C'way	SINGLE CWAY
UNIFI Ref	A/1329/15	Type	CZ	Hazard	NONE

LOCATION

HALES ROAD AT JUNCTION WITH ELDON ROAD CHELTENHAM

DESCRIPTION

V2 TURNING RIGHT. V1 APPROACHED V2 (CYCLIST) FROM THE REAR AND COLLIDED WITH V2 CAUSING IP TO BE THROWN TO THE GROUND. V1 RODE OFF

VEHICLE DETAILS

No	Type	Manoeuvre	From-to	Driver Age
1	M'cycle over 500cc	GO AHEAD OTHER	N S	
2	Pedal Cycle	TURNING RIGHT	N W	55

CASUALTY DETAILS

No	Severity	Casualty Age	Veh	Further Details
1	SLIGHT	55	2	DRIVER

DETAILED COLLISION REPORT

Ref	209797	Severity	SLIGHT
Day	FRIDAY	Date	11 SEP 2015
Light	DARKNESS	Weather	FINE
Grid ref	396263 222397	Major rd	B 4075
Control	G WAY/UNCONTROLLED	Junction	CROSS ROAD
Lighting	LIGHTS LIT	Condition	NONE
UNIFI Ref	a/2575/15	Type	H
		Time	2235
		Surface	DRY
		Minor rd	4 90123
		Speed lim	30
		C'way	SINGLE CWAY
		Hazard	NONE

LOCATION

HALES ROAD WITH HALES CLOSE, CHELTENHAM

DESCRIPTION

V1 HAS FAILED TO GIVEWAY OF HALES CLOSE JUNCTION WITH HALES ROAD AND COLLIDED WITH V2

VEHICLE DETAILS

No	Type	Manoeuvre	From-to	Driver Age
1	Car	GO AHEAD OTHER	E W	24
2	Car	GO AHEAD OTHER	S N	25

CASUALTY DETAILS

No	Severity	Casualty Age	Veh	Further Details
1	SLIGHT	25	2	DRIVER

DETAILED COLLISION REPORT

Ref	211943	Severity	SERIOUS
Day	MONDAY	Date	13 NOV 2017
Light	DAYLIGHT	Weather	FINE
Time	1530	Surface	DRY
Grid ref	396113 222547	Major rd	3 9018
Control	G WAY/UNCONTROLLED	Junction	T/STAG/Y JUNC
Lighting	LIGHTS	Condition	NONE
UNIFI Ref	239983	Type	ZG
		Minor rd	4 90119
		Speed lim	30
		C'way	SINGLE CWAY
		Hazard	NONE

LOCATION

HEWLETT ROAD AT JUNCTION WITH CLEEVE VIEW ROAD, CHELTENHAM

DESCRIPTION

V1 TRAV CLEEVE VIEW RD. DRIVER OF V1 HAS STARTED TO PULL OUT OF JUNCTION BUT INITIALLY FAILED TO SEE V2 (MOTORCYCLE) BEING RIDDEN FROM HER OFFSIDE. RIDER OF V2 LOST CONTROL AND COLLIDED WITH FRONT OFFSIDE OF V1.

VEHICLE DETAILS

No	Type	Manoeuvre	From-to	Driver Age
1	Car	STARTING	N S	38
2	M'cycle up to 50cc	GO AHEAD OTHER	W E	17

CASUALTY DETAILS

No	Severity	Casualty Age	Veh	Further Details
1	SERIOUS	17	2	DRIVER

