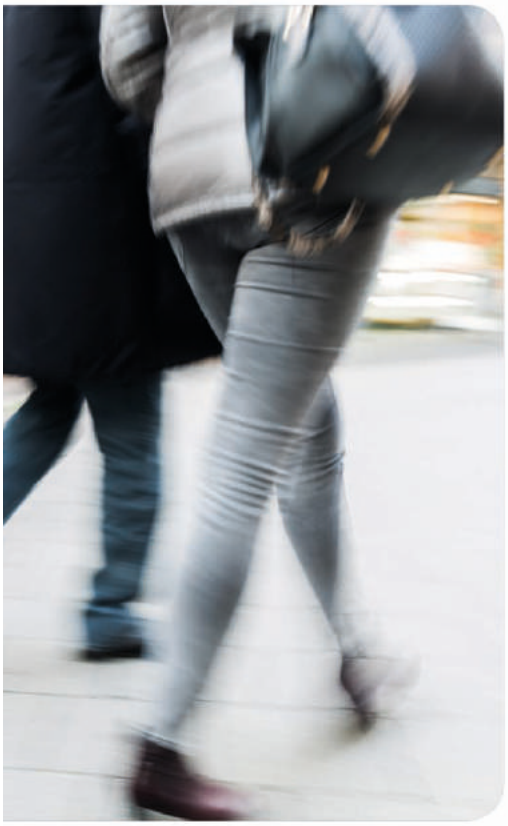
mode
transport planning

Bicester Heritage

# Bicester Airfield, Oxfordshire - Hotel Application

# Transport Assessment

July 2018



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Bicester Heritage

# Bicester Airfield, Oxfordshire - Hotel Application

## Transport Assessment


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# CONTENTS

# 1 Introduction

## 1.1 General

1.1.1 mode transport planning (mode) has been appointed by Bicester Heritage to prepare a Transport Assessment (TA) for submission as part of a full planning application for a new four-star, 252-bedroom hotel and 92-bedroom aparthotel development on land at the existing Bicester Airfield site, formerly 'RAF Bicester'.

1.1.2 The development proposal seeks full planning permission for a 344-bedroom hotel/aparthotel with various ancillary land uses such as conference facilities, a restaurant, a spa, gymnasium and swimming pool.

1.1.3 This TA will consider the impact of the proposed development on the local highway network. It will also consider the suitability of access to the development for sustainable modes, private vehicles and service vehicles. It also determines the level of traffic expected to be attracted to the proposed development throughout the day and its impact on the existing highway network.

1.1.4 A pre-application meeting exercise has been undertaken with Cherwell District Council (CDC) and the local Highway Authority, Oxfordshire County Council (OCC), who have confirmed the information they would like to see submitted within the TA supporting the planning application and the proposed access arrangements. A copy of the Minutes of the Pre-Application Meeting is attached in **Appendix A** The subsequent TA reflects these discussions.

1.1.5 This TA has been prepared in accordance with OCC's 'Transport for New Developments: Transport Assessment and Travel Plans Guidance' (March 2014) document and in alignment with the principles set out within the National Planning Policy Framework (NPPF).

## 1.2 Report Structure

1.2.1 Following this introduction, the report will be structured as follows:

- **Chapter 2** sets out the relevant national and local transport policy context;
- **Chapter 3** describes the existing situation, including a description of the surrounding transport facilities;
- **Chapter 4** outlines the development proposals;
- **Chapter 5** considers the trip generation of the development and impact;
- **Chapter 6** assesses the development proposals in terms of highways capacity; and,
- **Chapter 7** summarises and concludes the findings of the report.

# 2 Planning Policy Review

## 2.1 Introduction

2.1.1 This chapter considers the relevant transport and land use policies as they relate to the development proposals. This chapter will review the following documents:

- National Planning Policy Framework (NPPF) (2012);
- National Planning Practice Guidance (NPPG) (2014);
- Adopted Cherwell Local Plan 2011-2031 Part 1;
- Saved Policies - The 1996 Cherwell Local Plan;
- Oxfordshire Local Transport Plan (LTP4) 2015 - 2031; and,
- Oxfordshire Local Transport Plan (LTP4) 2015 - 2031: Active & Healthy Travel Strategy.

## 2.2 National Planning Policy Framework (NPPF) (Adopted 2012)

2.2.1 The NPPF was published in March 2012 in order to streamline the national planning policies set out in previous policy guidance notes and statements and a number of related circulars. These have been combined into a single document to make the planning system less complex and more accessible, whilst still protecting the environment and promoting sustainable growth.

2.2.2 As a part of the Framework, Chapter 4 (Paragraphs 29 - 41) of the NPPF sets out the government's planning policies for 'Promoting sustainable transport' in England and how these are expected to be applied, stating that as a priority for developers:

> *"all developments that generate significant amounts of movement should be supported by a Transport Statement (TS) or TA, alongside a Travel Plan (TP)".*

2.2.3 Furthermore, Chapter 4 advises that:

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

2.2.4 Also, Paragraph 34 of 'Promoting sustainable transport' notes that "*plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised*".

2.2.5 Paragraph 35 discusses the design of development by identifying that, where practical, developments must:

- *"Accommodate the efficient delivery of goods and supplies;*

- *Give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;*
- *Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter;*
- *Incorporate facilities for charging plug-in and other ultra-low emission vehicles; and,*
- *Consider the needs of people with disabilities by all modes of transport."*

2.2.6 Whilst Paragraphs 36 and 39 of the document indicate that, where appropriate, Travel Plans (TP) and parking standards should be considered as part of the transport planning process.

2.2.7 Paragraph 36 of the NPPF states that "*All developments which generate significant amounts of movement should be required to provide a Travel Plan*".

2.2.8 Furthermore, Paragraph 39 of the NPPF outlines matters that should be taken into account when determining parking standards; including:

- *"the accessibility of the development;*
- *the type, mix and use of development;*
- *the availability of and opportunities for public transport;*
- *local car ownership levels; and,*
- *an overall need to reduce the use of high-emission vehicles."*

## 2.3 Planning Practice Guidance (PPG) (Adopted 2014)

2.3.1 From 2014 onwards, Planning Practice Guidance (PPG) has been published to provide an accessible guide on specific elements of the planning system.

2.3.2 In transport terms, the updated guidance aims to support local authorities in how they assess and reflect strategic transport needs in Local Plan making. Further to this, the guidance provides advice on when TAs and TS's are required, and what they should contain.

*2.3.3* PPG provides a general definition of Travel Plans, Transport Assessments and Statements within transport planning, stating that:

> *"Travel Plans, Transport Assessments and Statements are all ways of assessing and mitigating negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements".*

2.3.4 Further to this, the guidance independently outlines the purpose, requirements and inter-relationship of TPs, TAs and TS's, and identifies the principles and importance of each of the documents.

## 2.4 Adopted Cherwell Local Plan, 2011-2031: Part 1

2.4.1 The adopted 'Cherwell Local Plan, 2011 – 2031: Part 1' provides the strategic planning policy framework and sets out site allocations for the District to 2031. The Plan forms part of the Statutory Development Plan and is intended to provide the basis for decisions on land use planning within Cherwell District. The policies of relevance are summarised below:

2.4.2 **Policy PSD 1:** Presumption in Favour of Sustainable Development:

- *"When considering development proposals, the Council will take a proactive approach to reflect the presumption in favour of sustainable development contained in the National Planning Policy Framework. The Council will always work proactively with applicants to jointly find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.*
- *Planning applications that accord with the policies in this Local Plan (or other part of the statutory Development Plan) will be approved without delay unless material considerations indicate otherwise.*
- *Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise – taking into account whether:*
    - *Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or*
    - *Specific policies in the Framework indicate that development should be restricted".*

2.4.3 **Policy SLE4:** Improved Transport and Connections:

- *"The Council will support the implementation of the proposals of the Movement Strategies and the Local Transport Plan to deliver key connections, to support modal shift and to support more sustainable locations for employment and housing growth.*
- *We will support key transport proposals including:*
    - *Transport Improvements at Banbury, Bicester and at the Former RAF Upper Heyford in accordance with the County Council's Local Transport Plan and Movement Strategies;*
    - *Projects associated with East-West rail including new stations at Bicester Town and Water Eaton;*
    - *Rail freight associated development at Graven Hill, Bicester; and,*
    - *Improvements to M40 junctions.*
- *New Development in the District will be required to provide financial and/or in-kind contribution to mitigate the transport impacts of development.*
- *All development where reasonable to do so, should facilitate the use of sustainable modes of transport to make the fullest possible use of public transport, walking and cycling. Encouragement will be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. Development which is not suitable for the roads that serve the development, and which have severe traffic impact will not be supported".*

2.4.4 **Policy Bicester 8:** Former RAF Bicester:

- *"The Council will encourage conservation-led proposals to secure a long-lasting, economically viable future for the Former RAF Bicester technical site and flying field.*
- *It will support heritage tourism uses, leisure, recreation, employment and community uses. The development of hotel and conference facilities will also be supported as part of a wider package of employment uses*
- *All proposals will be required to accord with the approved Planning Brief for the site and take into account the Bicester Masterplan".*

## 2.5 Adopted Cherwell Local Plan 1996

2.5.1 The Adopted Cherwell Local Plan (1996) comprises of saved policies (27 September 2007) that have not been replaced by policies within the Adopted Cherwell Local Plan 2011-2031 (Part 1). The policies of relevance for this application are:

2.5.2 **Policy TR1**. Transportation Funding

*"Before proposals for development are permitted the Council will require to be satisfied that new highways, highway improvement works, traffic management measures, additional public transport facilities or other measures that would be required as a consequence of allowing the development to proceed will be provided".*

2.5.3 **Policy T2**. Hotels, Motels, Guest Houses and Restaurants

*"Within the built-up limits of a settlement the provision of new hotels, motels, guest houses and restaurants will generally be approved subject to the other policies in the plan."*

## 2.6 Cherwell District Council RAF Bicester Planning Brief (Sept 2009)

2.6.1 The RAF Bicester Planning Brief sets out the planning parameters and guidance for the future redevelopment of the Bicester Airfield site. This document was subject to a public consultation, amended as appropriate and approved by CDC's Executive. It is generally considered within the determination of planning applications on the airfield site. Whilst the RAF Bicester Planning Brief pre-dates the Local Plan 2031, the advice and guidance within the document is recommended to be referred to in this context. The key guidance in relation to transport, and in particular, this application, includes:

- 3.9 Vehicular Access to the Technical Site - *"The existing (gated) access serving the technical site is located just off the roundabout of the A4421/A4095 & Skimmingdish and is unsuitable for any significant increase in traffic movements"*.
- 5.8 Transport Assessment – "*Oxfordshire County Council will require a robust Transport Assessment to accompany a Planning application for development, which must consider the following:*
    - *Detailed information of the level of traffic generated by the site's existing uses;*
    - *Site history;*

- *Traffic generation for the proposed development(s);*
- *Assessment of existing public transport, pedestrian and cycle links;*
- *Accident records (previous 5 years)*
- *Provisions of off-site infrastructure and financial contributions towards enhancing local services and towards the Bicester Integrated Transport Strategy; and,*
- *Travel Plan for site."*

## 2.7 Connecting Oxfordshire: Oxfordshire Local Transport Plan (LTP4) – 2015-2031

2.7.1 Since the Oxfordshire Local Transport Plan 2011 – 2030 was adopted in 2011, the ways in which transport can be funded in Oxfordshire has changed. To ensure the county's transport systems are fit to support the population and economic growth, OCC has developed a 4th Local Transport Plan: Connecting Oxfordshire. The Plan was updated in 2016 in order to strengthen the emphasis on improving air quality and making better provision for walking and cycling.

2.7.2 The following policies are of relevance to the development proposal:

2.7.3 **Policy 03**:

- *"Oxfordshire County Council will support measures and innovation that make more efficient use of transport network capacity by reducing the proportion of single occupancy car journeys and encouraging a greater proportion of journeys to be made on foot, by bicycle, and/or by public transport."*

2.7.4 **Policy 04**:

- *"Oxfordshire County Council will prioritise the needs of different types of users in developing transport schemes or considering development proposals, taking into account road classification and function/purpose, the characteristics and function of the place and the need to make efficient use of transport network capacity."*

2.7.5 **Policy 17**:

- *"Oxfordshire County Council will seek to ensure through cooperation with the districts and city councils, that the location of development makes the best use of existing and planned infrastructure, provides new or improved infrastructure and reduces the need to travel and supports walking, cycling and public transport."*

2.7.6 **Policy 34**:

- *"Oxfordshire County Council will require the layout and design of new developments to proactively encourage walking and cycling, especially for local trips, and allow developments to be served by frequent, reliable and efficient public transport. To do this, we will:*

- *Secure transport improvements to mitigate the cumulative adverse transport impacts from new developments in the locality and/or wider area, through effective Travel Plans, financial contributions from developers or direct works carried out by developers;*
- *Identify the requirement for passenger transport services to service the development and negotiate the provision of these passenger transport services with the developer;*
- *Ensure that developers promote and enable cycling and walking for journeys associated with the new development, including through the provision of effective travel plans;*
- *Require that all infrastructure associated with the developments is provided to appropriate design standards and to appropriate timescales;*
- *Set local routing agreements where appropriate to protect environmentally sensitive locations from traffic generated by new developments;*
- *Seek support towards the long-term operation and maintenance of facilities, services and selected highway infrastructure from appropriate developments, normally through the payment of commuted sums;*
- *Secure works to achieve suitable access to and mitigate against the impact of new developments in the immediate area, generally through direct works carried out by the developer."*

## 2.8 Connecting Oxfordshire: Oxfordshire LTP4 2015-2031: Active & Healthy Travel Planning

2.8.1 This updated plan has brought active and healthy travel modes together as an Active & Healthy Travel Strategy. This builds on what was already in the original LTP4. It updates the LTP4 cycling strategy and adds new sections on walking and Door to Door integrated journeys, which covers longer journeys undertaken by cycling or walking in combination with bus or rail.

2.8.2 The Active & Healthy Travel Strategy aims to contribute to reducing pressure on the road network, contribute to economic growth and the reduction of emissions, quality of life and health, and link active travel with bus and rail options by enabling sustainable door to door journeys combining cycling or walking with public transport.

2.8.3 In terms of new development, the report states that: "*It is essential that new developments are planned with cycling in mind and with facilities to make cycling both convenient and safe. Designing new developments so that cycling is the most convenient transport method for the majority of trips will naturally increase the proportion of journeys made in this way*."

## 2.9 Summary

2.9.1 In summary, the national and local planning policy above, aims to ensure that sustainable development takes place within the county of Oxfordshire. More specifically, a key theme within transport policy is

for new developments to be as sustainable as possible in terms of pedestrian, public transport and cycle movements.

2.9.2 Application sites should evolve to integrate with existing and proposed transport infrastructure; encouraging the use of sustainable modes to ensure that all occupants and visitors are provided with genuine modal choice.

2.9.3 Furthermore, the planning policy considered requires that sites are completed to appropriate timescales and design standards.

2.9.4 This TA has been prepared in line with current best practice guidance and methodology.

# 3 Existing Situation

## 3.1 Introduction

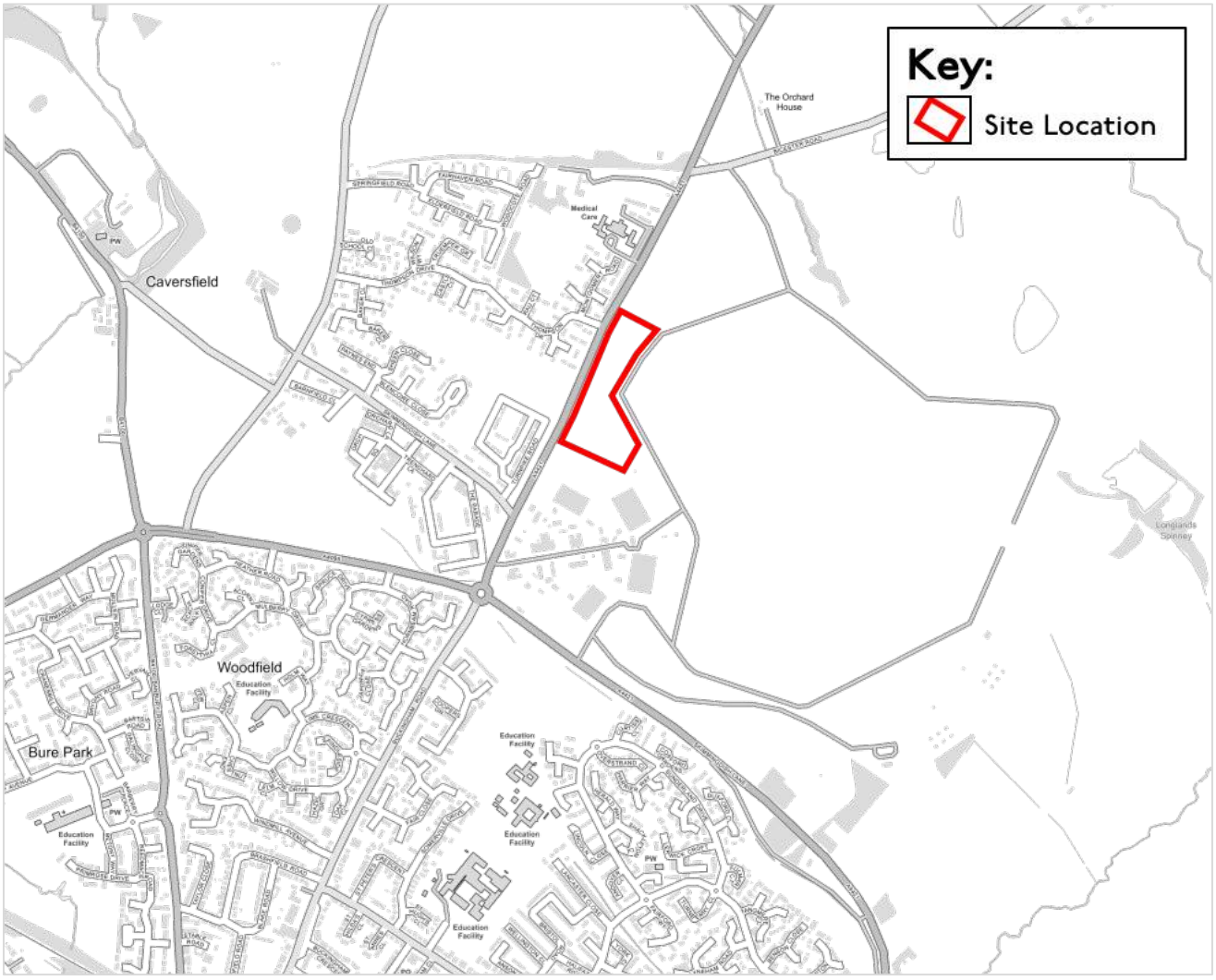
3.1.1 This chapter provides an overview of the site; explaining the site location, access, land use, existing highway network and sustainable transport infrastructure.

## 3.2 Land Use and Site Location

3.2.1 The application site is situated to the east of the A4421 Buckingham Road; approximately 2km to the north of Bicester and is located within the Cherwell District Council authority area, with Oxfordshire County Council as the Highway Authority.

3.2.2 The site location is illustrated in **Figure 3.1**.

### Figure 3.1: Site Location Plan




3.2.3 The site forms a part of the Bicester Airfield, formerly RAF Bicester, which is an airfield that is located on the outskirts of the town of Bicester in Oxfordshire. The airfield and the majority of the listed buildings within the site generally remain in an unmodified condition from their original RAF use.

3.2.4 In 2003, Bicester Airfield was acquired from the MOD by Bicester Heritage Limited who use the site as an area to store, restore and maintain vintage and classic motorcars, motorcycles and aeroplanes. This part of the airfield is currently accessed via an existing gated entrance from the A4421 Buckingham Road in the immediate vicinity of the roundabout junction of Buckingham Road, the A4421 Buckingham Road, the A4095 Southwold Lane and the A4421 Skimmingdish Lane.

3.2.5 The site's existing main access is shown in **Figure 3.2**, for reference**.**

### Figure 3.2: Bicester Heritage Site's Existing Main Access

3.2.6 Additionally, the hotel application site is positioned to the north of the existing main Bicester Heritage site and access; located within the vicinity of a gated access to the flying field on the A4421 Buckingham Road, opposite the existing residential built up area of Thompson Drive.

## 3.3 Local Highway Network

3.3.1 To the southwest of the site, the A4421 Buckingham Road provides a route for vehicles travelling between the town centre of Bicester and the airfield site. North from the site, the A4421 Buckingham Road provides a link from Bicester's local highway network past the airfield, to the built-up area of Caversfield and onwards towards the villages of Stratton Audley, Fringford, Finmere and into Buckinghamshire.

3.3.2 Approximately 400m to the southwest of the proposed site access on the A4421 Buckingham Road, the A4421 Buckingham Road forms a four-arm roundabout junction with the A4421 Skimmingdish Lane, the A4095 Southwold Lane and Buckingham Road.

3.3.3 The roundabout facilitates southwest, southeast and west bound vehicle movements from the application site to the centre of Bicester and around its northern perimeter.

3.3.4 The local highway network within the vicinity of the site; including the A4421 Buckingham Road, the A4095 Southwold Lane and the A4421 Skimmingdish Lane are all subject to a 50mph speed limit and incorporate street lighting.

3.3.5 From the southwest arm of the roundabout junction, Buckingham Road is subject to a 40mph speed limit and a 7.5 tonne weight restriction.

**Existing Baseline (2016) Traffic Flows**

3.3.6 To understand the existing base line traffic flow conditions on the adjacent highway network, a number of traffic counts were carried out. The full outputs are attached as **Appendix B**.

3.3.7 An Automatic Tube Counter (ATC) was installed on the A4421 in the vicinity of the proposed site access. The survey was undertaken between 13/07/2016 - 19/07/2016.

3.3.8 The ATC demonstrated that the two-way 24-Hour Annual Average Daily Traffic (AADT) flow along Buckingham Road, in 2016 was circa 15,480 vehicles, with average speeds of 45mph recorded in both directions, and a worst directional 85th percentile speed of 53mph (northbound).

3.3.9 Further Manual Classified Count (MCC) surveys were also completed at the following junctions and were agreed with OCC during pre-application discussions:

- A4095 Lords Lane/B4100 Banbury Road/A4095 Southwold Lane roundabout;
- A4095 Southwold Lane/A4421 Buckingham Road/A4421 Skimmingdish Lane/Buckingham Road roundabout; and
- A4421 Skimmingdish Lane/Launton Road/A4421Charbridge Lane roundabout.

3.3.10 The MCC surveys took place on Wednesday 15th June 2016 between the hours of 07:00 AM and 19:00 PM to include the AM, PM and inter-peak periods (full 12-hours). Full traffic count data is provided in **Appendix B**.

3.3.11 It should be noted that the weekday AM and PM peak hours are considerably higher than any peak hour recorded over the weekend (on a Saturday/Sunday); as a result, this TA will only assess the weekday peak hours, as a worst-case scenario. The traffic flow differences between weekdays and weekends can be seen from the traffic survey data contained in **Appendix B**.

## 3.4 Highway Safety

3.4.1 Personal Injury Accident (PIA) data has been obtained from OCC for the most recent five-year period available between 01/01/2013 and 31/12/2017 for a study area comprising of the following, as illustrated in **Figure 3.3**:

- A4421 Buckingham Road;

- A4421 Buckingham Road/A4421 Skimmingdish Lane/A4095 Southwold Lane/Buckingham Road Roundabout;
- A4421 Skimmingdish Lane/Launton Road/A4421 Roundabout;
- A4095 Lords Lane/B4100 Banbury Road/A4095 Southwold Lane Roundabout; and
- Buckingham Road.

## Figure 3.3: Extent of PIA Review


3.4.2 Full details of the accident data including the study area, the severity and location of the accidents are attached as **Appendix C.**

3.4.3 To analyse the accident data, the overall study area has been separated into individual areas including junctions and links. A PIA summary is provided in **Table 3.1**.

## Table 3.1: PIA Summary

| Junction (J) / Link (L) | Accident Severity | | | Sensitive Users | |
|---|---|---|---|---|---|
| | Slight | Serious | Fatal | Peds | Cyclists |
| (J) A4421 Skimmingdish Ln/Launton Rd/A4421 Charbridge Ln R'bout | 3 | 0 | 0 | 0 | 1 |
| (J) A4095 Lords Ln/B4100 Banbury Rd/A4095 Southwold Ln R'bout | 3 | 0 | 0 | 0 | 1 |
| (J) A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095 Southwold Ln R'bout | 3 | 0 | 0 | 0 | 1 |
| (J) A4421 Buckingham Road J/W Thompson Drive (Priority) | 2 | 0 | 0 | 0 | 0 |
| (J) A4421 Buckingham Road/Churchill Road Mini-R'bout | 2 | 0 | 0 | 0 | 1 |
| (J) A4421 Buckingham Road J/W Skimmingdish Lane (Priority) | 1 | 0 | 0 | 0 | 0 |
| (J) A4095 Southwold Lane J/W Hornbeam Road (Priority) | 1 | 2 | 0 | 0 | 1 |
| (J) A4095 Southwold Lane J/W Heather Road (Priority) | 1 | 0 | 0 | 0 | 0 |
| (L) B4100 | 0 | 1 | 0 | 0 | 0 |
| (L) A4421 Buckingham Road | 0 | 2 | 0 | 1 | 0 |
| (L) A4095 Southwold Lane | 0 | 2 | 0 | 1 | 0 |
| (L) A4421 Skimmingdish Lane | 1 | 0 | 0 | 0 | 0 |
| (L) Buckingham Road | 0 | 1 | 0 | 0 | 0 |
| **TOTAL** | **17** | **8** | **0** | **2** | **5** |

3.4.4 As summarised above, 25 accidents were reported in the study area, between 01/01/2013 and 31/12/2017 of which 17 were classified as 'slight' in severity, 8 were classified as 'serious' in severity and there were no fatalities.

3.4.5 The highest number of PIAs within the study area were recorded at the A4421 Skimmingdish Lane/Launton Road/A4421 roundabout, the A4095 Lords Lane/B4100 Banbury Road/A4095 Southwold Lane roundabout and the A4095 Southwold Lane priority junction with Hornbeam Road.

3.4.6 At each of these cluster sites, three PIAs were reported during the past five years and the A4095 Southwold Lane priority junction with Hornbeam Road had the worst severity record with two 'serious' incidents and one 'slight' PIA being noted.

3.4.7 The contributory factors for the accidents, within the aforementioned clusters, were the result of neglectful/erroneous driving; none of the accidents at these locations were directly attributed to the road or junction layout.

3.4.8 **Figure 3.4** below illustrates the locations of PIAs within the study area and identifies where incidents involving sensitive highway users occurred.

## Figure 3.4: PIA Locations Map (Inc. Sensitive Users)


3.4.9 As demonstrated above, all PIAs are dispersed throughout the study area. In total, five cyclists were involved in PIAs over the past five years and also, two incidents impacted on pedestrians.

3.4.10 Additionally, no more than one PIA involving a sensitive user was reported at any separate junction within the study area, and the A4095 Southwold Lane has the highest PIA record for pedestrian and cycle users, with one pedestrian and one cycle PIA on the link – this is considered a low accident rate for sensitive road users, and the two incidents along Southwold Lane were remote from each other.

3.4.11 It should be noted that zero accidents have been recorded within the immediate vicinity of the proposed site access location.

3.4.12 Overall, the available data suggests that there is no strong correlation in how incidents occurred or are dispersed throughout the study area. Furthermore, the majority of accidents were recorded as 'slight' in severity, with only 8 classed as 'serious' and zero fatal accidents. It is not considered that highway safety will be exacerbated by the proposed development.

3.4.13 As such, the PIA record for highways within the vicinity of the site suggests that there will be no requirement for any specific road safety issues to be addressed as a part of the development proposals.

## 3.5 Sustainable Access

3.5.1 The application site is located in proximity to a number of existing sustainable transport links which will provide staff and guests with the option to travel to the site by active and accessible means.

**Walking & Cycling**

3.5.2 The surrounding local highway network offers pedestrian connectivity to nearby residential areas and amenities, including Bicester Heritage, and Bicester town centre.

3.5.3 There is a 2.5m shared use footway/cycleway which runs parallel to the application site boundary on the western side of Buckingham Road; this route extends from Thompson Drive to the north towards the A4421 Buckingham Road/A4095 Southwold Lane/A4421 Skimmingdish Lane/Buckingham Road roundabout to the south.

3.5.4 The existing footway network follows pedestrian desire lines and includes uncontrolled crossings with dropped kerbs at the Skimmingdish Lane and Thompson Drive priority junctions along the western side of Buckingham Road; however, there is currently no footway provision along the eastern side of the carriageway.

3.5.5 At the roundabout to the south, pedestrian crossing points are provided via splitter islands on the southern (Buckingham Road) and western (A4095) arms. At the A4095 arm of the junction, there is a controlled toucan crossing that provides a link to the existing shared footway and cycleway infrastructure that abuts the southern side of the A4095 carriageway, to provide a convenient walking/cycling route westbound in the direction of Southwold (as shown in **Figure 3.5**, overleaf).

3.5.6 At the Buckingham Road (southern) arm of the roundabout, the splitter island provides an informal crossing with dropped kerbs and tactile paving to enable pedestrian travel along the A4421 Skimmingdish Lane, the A4095 Southwold Lane and Buckingham Road, towards Bicester town centre.

## Figure 3.5: Existing Toucan Crossing on the A4095

3.5.7 To the east of the roundabout, the A4421 Skimmingdish Lane has a street-lit, shared use footway/cycleway on the southern side of the carriageway.

3.5.8 From the southwest arm of the junction, Buckingham Road benefits from footways on both sides of the carriageway which provide a walking route to the wider local area.

3.5.9 As aforementioned, the extant cycle infrastructure within the vicinity of the site includes a shared use footway/cycleway opposite the application site along the western side of the A4421 Buckingham Road, providing a north-south connection towards Bicester town centre.

3.5.10 Approximately 340m to the south of the proposed site access, sheltered cycle parking is provided on the western and eastern side of the carriageway of the A4421. Four Sheffield cycle stands (eight spaces) are on the western side of the carriageway and three Sheffield cycle stands (six spaces) are on the eastern side; immediately next to the southbound sheltered bus stop.

3.5.11 Additionally, there are dedicated shared cycleway/footways on carriageway along the A4421 Skimmingdish Lane and the A4095 Southwold Lane.

3.5.12 The shared footway/cycleway along Skimmingdish Lane (eastbound), provides a cycle connection with Sustrans National Cycle Network (NCN) Route 51 – NCN 51 is a long-distance route connecting major cities in the south of England (such as Milton Keynes), and more locally, connects Bicester town centre

with Steeple Claydon and Winslow to the north and Weston-on-the-Green and Bletchingdon to the south.

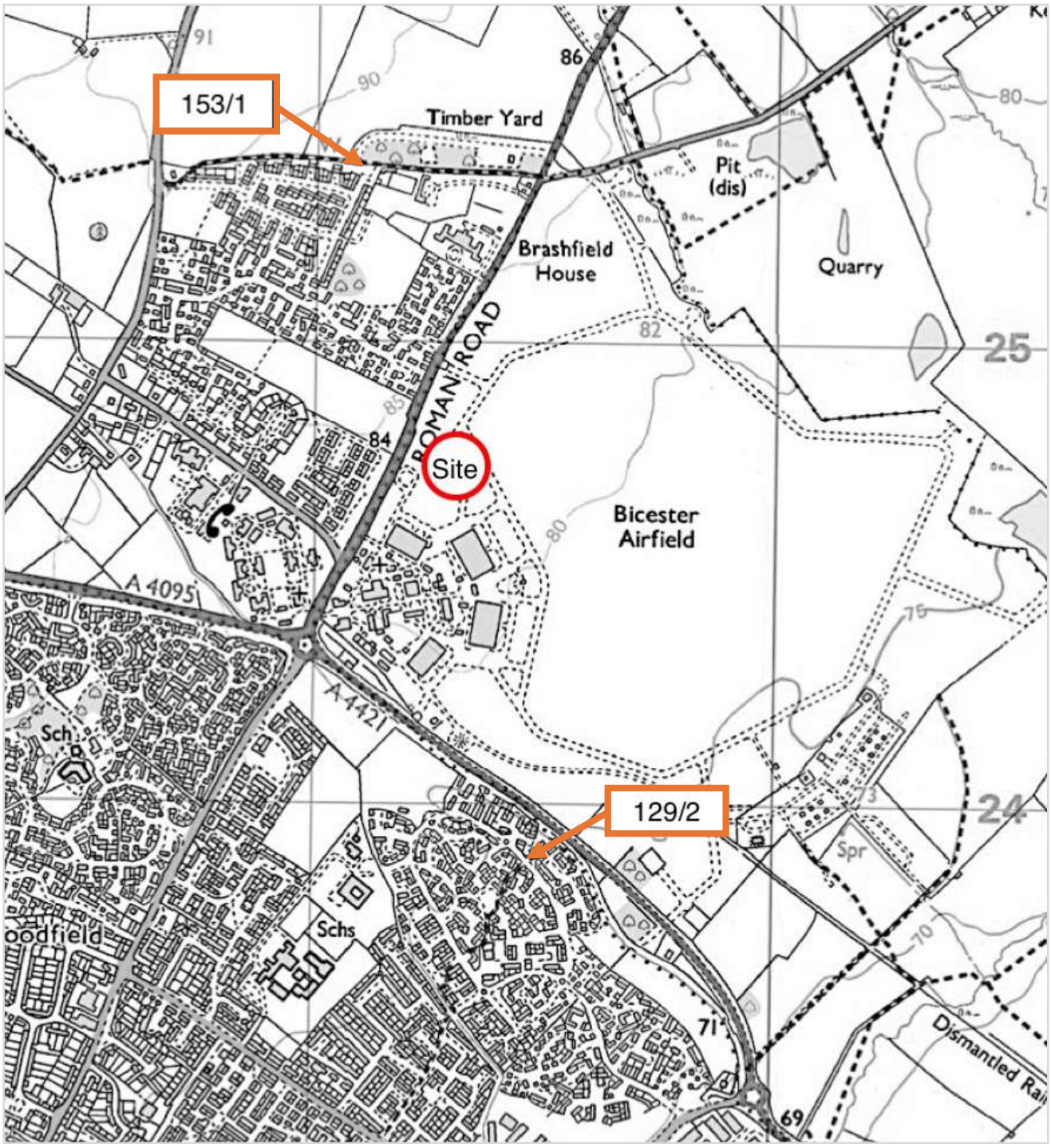
**Public Rights of Way (PRoW)**

3.5.13 There are two PRoWs within proximity of the wider airfield site. The closest PRoW is a public footpath (Routecode 153/1) which runs west along the north of Caversfield to Fringford Road. The footpath provides access to countryside to the northwest of the development.

3.5.14 A second PRoW near to the proposed site is public footpath 129/2. The PRoW routes through the east of Bicester; from the A4421 Skimmingdish Lane via the built up residential area to the south, crossing the railway line and terminating at Mapel Road.

3.5.15 Both PRoWs are remote from the application site and will not be directly impacted on by development proposals. The nearest PRoWs to the application site are shown in **Figure 3.6**, overleaf.

## Figure 3.6: PRoW in the Vicinity of the Site




**Bus Services**

3.5.16 The 'Guidelines for Planning for Public Transport in Developments' (Chartered Institution of Highways and Transportation, 1999), states that *"generally walking distances to bus stops in urban areas should be a maximum of 400m and preferably no more than 300m".*

3.5.17 The nearest bus stops (serving both northbound and southbound directions) are situated circa 300m (c.4-min walk) to the south of the proposed site access and are accessible via the existing footways along the western side of the A4421 Buckingham Road.

3.5.18 The southbound bus stop is in the form of a lay-by, shelter with a hard-standing waiting area, a flag, pole and timetable display cabinet. There are no footways or formal crossing points along this side of the A4421. The northbound bus stop benefits from a lay-by, flag, pole and timetabling information.

3.5.19 The southbound bus stop along Buckingham Road is served by the Stagecoach X5 service and the Langston & Tasker no. 18 service. The northbound bus stop along Buckingham Road is only served by the Stagecoach X5 service.

3.5.20 **Table 3.2** provides a summary of the typical frequencies of bus services aforementioned that route near to the site and serve the local area and bus stops along Buckingham Road.

## Table 3.2: Local Bus Services

| Bus No. | Bus Route | Typical Daytime Frequency | | |
|---|---|---|---|---|
| | | Weekday | Saturday | Sunday |
| 18 | Buckingham – Steeple Claydon - Bicester | 1 / Day | - | - |
| X5 | Cambridge – Bedford – Central Milton Keynes – Buckingham – Bicester – Oxford City Centre | 2 / Hour | 2 / Hour | 2 / Hour |

3.5.21 These services provide a public transport connection between the site, Bicester Village and Bicester town centre, and also link the development to key towns and cities such as Oxford, Cambridge, Milton Keynes and Buckingham.

**Rail Services**

3.5.22 The nearest railway station to the site is Bicester North Railway Station which is situated circa 2km to the south of the site. The railway station is located on the Chiltern Main Line which provides frequent direct services to and from key destinations around the country including Birmingham Snow Hill, Birmingham Moor Street, Banbury and London Marylebone via the following general frequencies:

- Birmingham Snow Hill – Every hour
- Birmingham Moor Street – Every hour
- Banbury – Two per hour
- London Marylebone – Two per hour

3.5.23 Also, the railway station is accessible from the A4421 Buckingham Road via the X5 direct bus service which routes along the A4421 (within a 2 - 5-minute bus journey), effectively acting as an 'interchange' between sustainable bus and rail travel modes.

3.5.24 Platforms 1 and 2 are both accessible for mobility impaired users via a lift which operates Monday to Friday from 0600 to 2300 (assistance can be requested outside these hours).

3.5.25 There are 65 secure and sheltered bicycle stands near the station, by the Bicester North Railway Station bus stop and also on the opposite side of the station approach.

3.5.26 Car parking provision at the station has capacity for 575 cars and operates over 24-hours. The weekday daily rate of parking is £7 and the off-peak rate is £4.50. Monthly and annual tickets can be purchased at reduced rates.

**Summary**

3.5.27 A review of the existing transport infrastructure within the vicinity of the site has demonstrated that the site is accessible by car and via the local highway network, with good links to the strategic road network.

3.5.28 The site is also accessible by sustainable modes of travel; with bus routes offering frequent services, within a short walk of the site. Pedestrian and cycle links surround the site and provide good connections with neighbouring residential areas and links to Bicester town centre.

3.5.29 In addition, analysis of the local highway network in the vicinity of the site has demonstrated that there are no existing safety concerns, and therefore, no highway safety issues that are likely to be exacerbated by the development proposals.

# 4 Development Proposals

## 4.1 Introduction

4.1.1 This section summarises the development and access proposals for the application site. Delivery, refuse, parking and sustainable travel measures incorporated within the design of the site are also specified.

## 4.2 Proposed Development

4.2.1 The development proposals for the application site are for the construction of a new 344-bedroom hotel/aparthotel, including access, parking and landscaping. The development schedule mix includes 252 hotel bedrooms and 92 aparthotel bedrooms.

4.2.2 The main hotel building will also incorporate the following ancillary uses:

- Atrium/Lobby;
- Kitchen and plant facilities;
- Restaurant;
- Courtyard;
- Gym/Swimming Pool; and,
- Ballroom/Conference Centre.

4.2.3 An Illustrative Masterplan is attached as **Appendix D**, for reference.

4.2.4 The development proposals will add a new asset to the existing Bicester Heritage site and will function as accommodation for guests using the Bicester Heritage site and attending events both on the airfield and in the events hangar.

4.2.5 Guests will not be exclusively connected to the Bicester Heritage operation and the development site will also attract other leisure visitors/tourists who will be visiting the town of Bicester, Bicester Village and other destinations within the surrounding areas of Cherwell and Oxfordshire.

4.2.6 The application site has a Gross Internal Area (GIA) of 18,003m$^2$ and is forecast to open in 2020/21 and reach full operational capacity by 2026.

## 4.3 Access

4.3.1 Access to the hotel will be provided from the A4421 Buckingham Road; via a new ghost island priority junction set circa 220m to the north of the A4421 Buckingham Road/Skimmingdish Lane priority junction.

4.3.2 The access will form a ghost island priority junction with a 6.0m wide access carriageway and incorporate compound curve corner kerb radii with Buckingham Road. The access junction will allow for all movements entering the site but will prohibit vehicles leaving the site from turning right across Buckingham Road by deflecting traffic left using an appropriate splitter island and road markings. Localised widening/realignment will be carried out on Buckingham Road in order to facilitate a right-turn lane (provided at 3.5m wide) for vehicles entering the site.

4.3.3 A 3.0m shared footway/cycleway will be provided on the southern side of the proposed internal access road. The new pedestrian footway/cycleway will also route around the southern corner of the access junction, and continue for approximately 200m south, along the eastern side of the A4421 Buckingham Road, where this will then taper down to a 2m footway connecting with the existing southbound bus stop.

4.3.4 A new toucan crossing is also proposed at the end of the 3m footway/cycleway, approximately 20m south of Skimmingdish Lane; this will provide a safe crossing for pedestrians and cyclists and link with the existing shared footway/cycleway on the western side of Buckingham Road and the northbound bus stop.

4.3.5 Drawing no. **J32-3569-PS-100 (Rev A)** contained in **Appendix E** illustrates the site access proposals (including pedestrian/cycle infrastructure along Buckingham Road) for the hotel development, whilst drawing no. **J32-3569-PS-101 (Rev A)** illustrates vehicle tracking of the site access.

4.3.6 A Stage 1 Road Safety Audit of the access proposals will be undertaken by an independent highway safety consultancy; this has been acknowledged by both OCC and mode and will be undertaken during the detailed design stage.

4.3.7 The access junction has been designed against the standards detailed in the 'Design Manual for Roads and Bridges' in particular, TD 41/95 and TD 42/95 which specify geometric design of major/minor priority junctions and also, principles for vehicular access to all purpose trunk roads.

4.3.8 As the site access is located on the A4421 Buckingham Road, with a speed limit of 50mph, DMRB TD 41/95 has been used as guidance for the visibility that is required to be achieved from the site access.

4.3.9 DMRB standards state that:

> *"Visibility splays shall be provided to enable emerging drivers using the direct access to have adequate visibility in each direction to see oncoming traffic in sufficient time to make their manoeuvre safely without influencing the road traffic speed. Drivers of vehicles on the major road shall also have forward visibility equivalent to the minimum stopping sight distance to be aware of the presence of the access"*

4.3.10 To illustrate that suitable visibility can be achieved from the site access, an 'X' set-back distance of 2.4m has been measured along the centre line of the direct access.

4.3.11 Furthermore, in accordance with DMRB, to illustrate visibility splay, the 'Y' distance along the major road has been measured based on design speed criteria which correspond to Minimum Stopping Sight Distances set out by Table 2/1 in TD 41/95 and Table 3 in TD9 (DMRB 6.1.1).

4.3.12 In the vicinity of the existing site access, the A4421 Buckingham Road is subject to a 50mph speed limit and to understand the current speeds of passing vehicle movements in the vicinity of the proposed site access, an ATC was installed on the A4421 Buckingham Road. The survey was undertaken between 13/07/2016 - 19/07/2016 and the full output is attached at **Appendix B**, for reference**.**

4.3.13 The ATC indicated that the 85th percentile of passing vehicle speeds in the location of the proposed site access were 51.2mph and 53.3mph northeast and southwest bound, respectively. In alignment with DMRB criteria, the required splays based on the recorded speeds (53.3mph) is therefore calculated as 163m.

4.3.14 The visibility splays from the proposed access arrangements are shown in Drawing no. **J32-3569-PS-100 (Rev A)** contained in **Appendix E**.

## 4.4 Servicing; Deliveries, Site Transit & Refuse Collection

4.4.1 Site servicing; for example, food deliveries, laundry services, post, couriers and refuse collection are anticipated to make daily deliveries either by a panel van, or small to medium-sized lorries/vehicles. However, apart from vehicles turning into/out of the site access there will not be any additional vehicles on the local highway network as a result.

4.4.2 All servicing is anticipated to be carried out/undertaken to the southern end of the development, within a dedicated servicing area, as shown on the illustrative Masterplan (**Appendix D**).

## 4.5 Parking

**Car Parking**

4.5.1 The proposed car park layout for the development has been designed following advice provided during pre-application discussions with OCC; and has been calculated based on the parking standards illustrated in **Table 4.1** below.

### Table 4.1: OCC Specified Car Parking Standards[1]

| Use Class | Car Parking Standard |
|---|---|
| | Guests & Staff |
| C1 Hotel | 1 Space per Bedroom |

4.5.2 As demonstrated in the 'Marketing and Financial Feasibility Study' for the hotel; at full operation, hotel developments will usually only operate at a maximum capacity of c.80%. Therefore, it is anticipated that the 344-bed hotel will typically have a maximum of c.275 rooms rented out at any one time. As a worst case, assuming that every guest drives to the hotel, there would be a typical requirement for 275 spaces for guest use.

4.5.3 Furthermore, during pre-application discussions/comments, OCC also advised that the number of employees of the hotel should be forecast and based upon the Homes & Communities Agency (HCA), 'Employment Density Guide 2015' which provides an 'Employment density matrix' for developers, with guidance for the C1 Hotel use class, as shown in **Table 4.2**.

### Table 4.2: HCA Employment Density Matrix (C1 Hotel Use Class)

| Use Class | Standard | Sub-Sector | Density (sqm) | Notes |
|---|---|---|---|---|
| C1 | Hotels | Limited Service/Budget | 1 per 5-beds | FTE per bed |

[1] Based on recommended and required standards as specified by OCC during pre-application discussions

| Use Class | Standard | Sub-Sector | Density (sqm) | Notes |
|---|---|---|---|---|
| | | Mid-Scale | 1 per 3-beds | FTE per bed |
| | | Upscale | 1 per 2-beds | FTE per bed |
| | | Luxury | 1 per 1-bed | FTE per bed |

4.5.4 Based on the HCA 'Employment Density Matrix', the proposed C1, 252-bedroom hotel and 92-bedroom aparthotel is forecast to employ 144 FTE staff, with a maximum of 48 FTEs on-site, at any one time (based on an assumption of one third/three shift patterns per day). In addition, the split of staff for the hotel and aparthotel use has been estimated as follows:

- C1 252-bedroom hotel (upscale; 1 staff per 2-beds) = 126 total FTE staff; and,
- C1 92-bedroom aparthotel (limited service/budget; 1 staff per 5-beds) – 18 total FTE staff.

4.5.5 Further to the above, 2011 Census Method of Travel to Work data for the Middle Super Output Area (MSOA), E02005933: Cherwell 013, demonstrate that c.73% of people travel to work via private car – therefore, in relation to staff parking, the site will provide 35 car parking spaces.

4.5.6 As shown by the Masterplan layout in **Appendix D**, 311 car parking spaces will be provided at the development.

4.5.7 The level of parking that is provided is in line with the provision that is required for the typical operating capacity of hotels i.e. c. 80% of rooms occupied (275 rooms/parking spaces) and also encompasses 35 spaces to accommodate employees working at the site.

4.5.8 Within the car parking layout, 32 spaces (10% of the total) will be allocated as disabled parking bays in order to meet the OCC parking standard which was agreed during pre-application discussions as being 10% of the total capacity.

4.5.9 Electric Vehicle (EV) charging points will also be provided alongside 10 parking bay spaces within the car park – this would equate to 5 EV charging units/posts which would have the capability of simultaneously charging two vehicles at once; in the absence of specific OCC and CDC policy/guidance, this is considered to be an appropriate level in order to accommodate sustainable EV provision. Furthermore, underground ducting/space will be safeguarded, which will allow the retrofitting of additional equipment and charging units if considered necessary in the future and if the EV charging spaces were observed to be highly utilised.

4.5.10 The overall provision of car parking is considered to be an adequate and appropriate level for the development proposals. Should occupancy levels at the hotel be in excess of the 80% typically anticipated there is space to provide further parking within the vicinity of the site frontage and Hangar A as shown on the masterplan.

4.5.11 The inner site layout will also provide a c.16m drop-off point adjacent to the main hotel entrance for taxis, shuttle (mini) buses, as illustrated on the Masterplan (**Appendix D**).

**Cycle Parking**

4.5.12 Cycle parking at the application site will be provided to accommodate up to 18 (guest) and 6 (staff) bicycles (24 in total). Cycles will be parked in covered Sheffield stands, which will enable bicycles to

be securely chained. The cycle parking will be located close to the main hotel & aparthotel entrances (as shown on the masterplan layout).

4.5.13 The level of cycle parking complies with (and exceeds) OCC's cycle parking standard which was agreed for a C1 Hotel Use Class for staff during pre-application discussions as, "1 (Sheffield stand): 12 staff", whilst the quantum of cycle parking for guests has been provided at 5% of the total number of bedrooms at the application site.

4.5.14 Furthermore, shower changing and locker facilities will be provided for staff, in order to encourage sustainable travel by bicycle to/from the site.

4.5.15 This provision of cycle parking is considered to be adequate and appropriate for the hotel development proposals.

## 4.6 Sustainable Travel Measures

4.6.1 The proposed scheme will provide a suite of measures to increase the sustainability of the site and increase non-car travel. These include the following:

- Adequate footway and cycle links will be provided throughout the site that will link with the existing provision in the vicinity of the site.
- A new 3m shared footway/cycleway will be provided on the southern side of the proposed internal access road – footways will continue throughout the site providing safe and permeable routes towards the main hotel building and guest facilities.
- The new 3m pedestrian footway/cycleway will also continue for approximately 200m south, along the eastern side of the A4421 Buckingham Road, where this will then taper down to a 2m footway connecting with the existing southbound bus stop.
- A new toucan crossing is also proposed at the end of the 3m footway/cycleway, approximately 20m south of Skimmingdish Lane; providing a safe crossing for pedestrians and cyclists and linking with the existing shared footway/cycleway on the western side of Buckingham Road and the northbound bus stop.
- Secure and sheltered guest and staff cycle parking will be provided close to the main hotel entrance.
- A drop-off layby facility will be provided within the site (adjacent the hotel entrance) to enable mini buses and taxis to circulate between the application site and the local area.
- The site layout will include pedestrian and cycle friendly infrastructure; landscaping, signage, areas for social exchange, recreation and seating.

4.6.2 The measures detailed above will increase the permeability of the site for hotel users and will improve accessibility to local facilities and public transport services to provide staff and guests with attractive non-car options for their travel.

# 5 Travel Demand

## 5.1 Introduction

5.1.1 This chapter provides an overview of the methodology used to calculate the forecast travel demand associated with the development proposals; consideration is given to the following:

- Vehicular trip generation;
- Multi-modal trip generation; and
- Distribution of traffic.

## 5.2 TRICS Vehicular Trip Rates / Traffic Generation

5.2.1 The proposed residential trip rates for the development site have been sourced from the TRICS V7.3.1 online database and are summarised in **Table 5.1**.

5.2.2 The trip rates are considered to be relevant for a hotel development located within Bicester, in an edge of town location, and these have been agreed with OCC Highways.

5.2.3 TRICS trip rates have been selected based on the following parameters:

- Planning Regions: All Regions in England (Exc. London);
- Land Use Category: 06 – A – Hotels;
- Hotel Room/Bed Range: 100 –400 Units;
- Survey Days: Weekdays, Monday – Friday;
- Location Types: Suburban Area, Edge of Town, Neighbourhood & Freestanding; and
- Location Sub-Categories: Development, Village & Out of Town.

5.2.4 It should also be noted that the specific hotel survey sites that have been chosen for the generation of trip rates, include ancillary facilities such as conferencing and gym/swimming pool/spa facilities; this ensures that any trip generation from site users, who are not necessarily staying over at the hotel are encapsulated within the overall trip rate forecast.

### Table 5.1: Hotel Trip Rates & Trip Generation

| | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
|---|---|---|---|---|---|---|
| | Arrive | Depart | Total | Arrive | Arrive | Total |
| Trip Rate (per room) | 0.230 | 0.299 | 0.529 | 0.242 | 0.192 | 0.434 |
| Trips (343 rooms) | 79 | 103 | 182 | 83 | 66 | 149 |

5.2.5 The trip generation detailed in **Table 5.1** indicates that for a hotel/aparthotel of 344 rooms, the application site is forecast to generate 182 two-way vehicle trips during the AM peak and 149 two-way vehicle trips during the PM peak. This is the equivalent of three vehicles entering or leaving the site every minute, during the weekday peak hours.

5.2.6 A full TRICS output report for the proposed hotel land use can be found in **Appendix F**.

## 5.3 Multi-Modal Trip Generation

5.3.1 Indicative multi-modal percentages have been sourced from 2011 Census, Method of Travel to Work data for the Cherwell 013 Middle Super Output Area (MSOA) where the development site is located (E02005933). These have been applied to the two-way vehicle trips in **Table 5.1** in order to generate a multi-modal assessment for the development proposals.

5.3.2 The forecast multi-modal trip generation at the development for journeys to work is summarised in **Table 5.2** below.

### Table 5.2: Multi-Modal Development Trips

| Mode of Travel | % Mode Split | Two-Way Trip Generation | |
|---|---|---|---|
| | | AM Peak (08:00-09:00) | PM Peak (17:00-18:00) |
| Train | 1% | 2 | 2 |
| Bus | 1% | 4 | 3 |
| Motorcycle | 1% | 3 | 2 |
| Taxi | 0% | 1 | 1 |
| Car Driver | 73% | 182 | 149 |
| Car Passenger | 6% | 16 | 13 |
| Bicycle | 8% | 19 | 16 |
| Walk | 10% | 25 | 20 |
| **Total** | **100%** | **252** | **206** |

5.3.3 **Table 5.2** indicates that the site is forecast to generate 252 and 206 total person trips during the AM and PM peak hours, respectively.

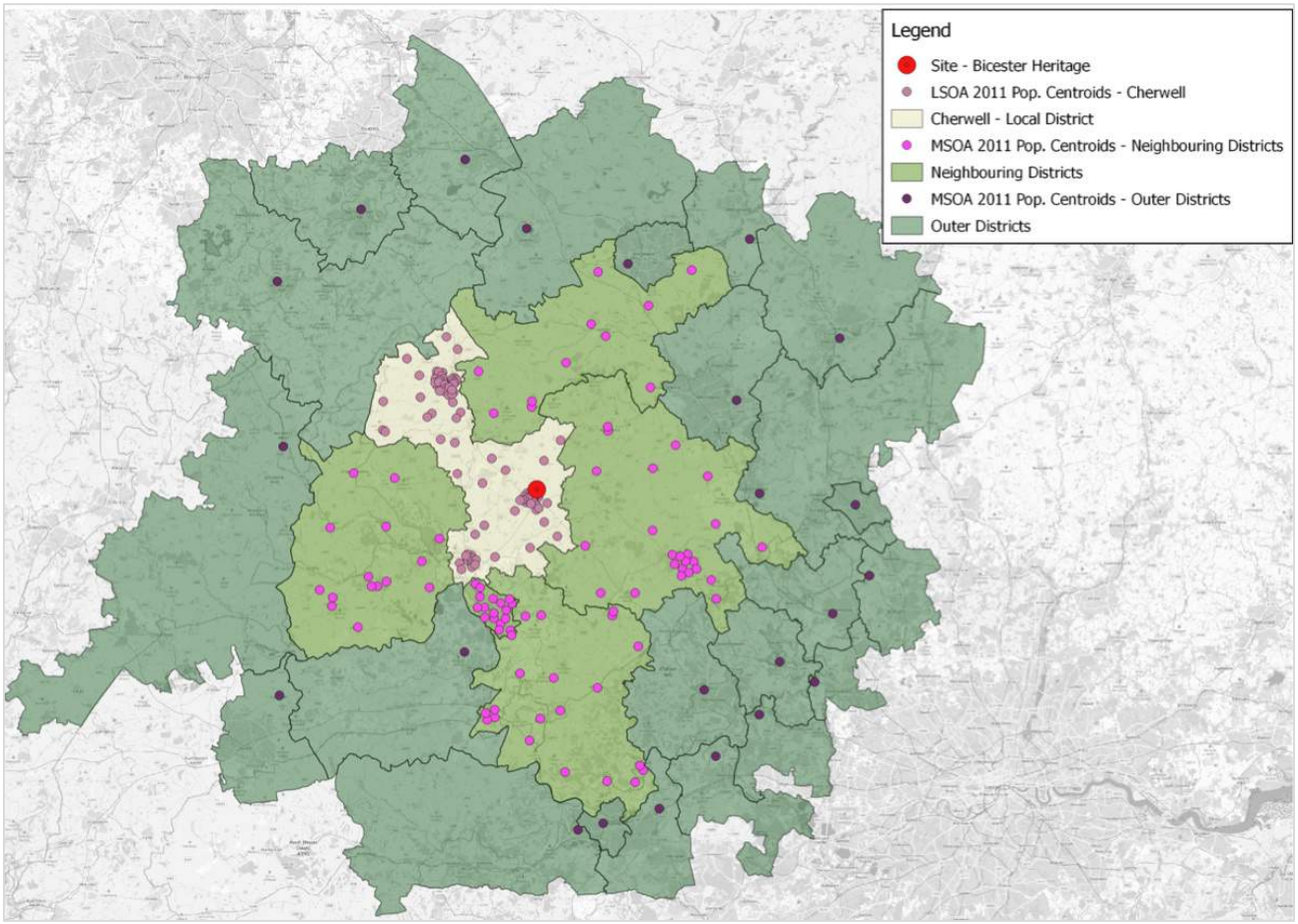
## 5.4 Vehicle Trip Distribution

5.4.1 A gravity model has been developed to inform the trip distribution for the hotel development, based on 2011 Census population data using following methodology:

- District Areas, Middle Super Output Areas (MSOA) & Lower Super Output Areas (LSOAs) identified within a 50km catchment area of the site; and,
- A distribution proportion has been calculated based on resident populations within the identified catchment areas (Districts, MSOAs & LSOAs).

5.4.2 **Figure 5.1**, overleaf, illustrates the identified population weighted centroids of the Districts, MSOAs, LSOAs and catchment area used.

## Figure 5.1: Distribution Catchment/Methodology

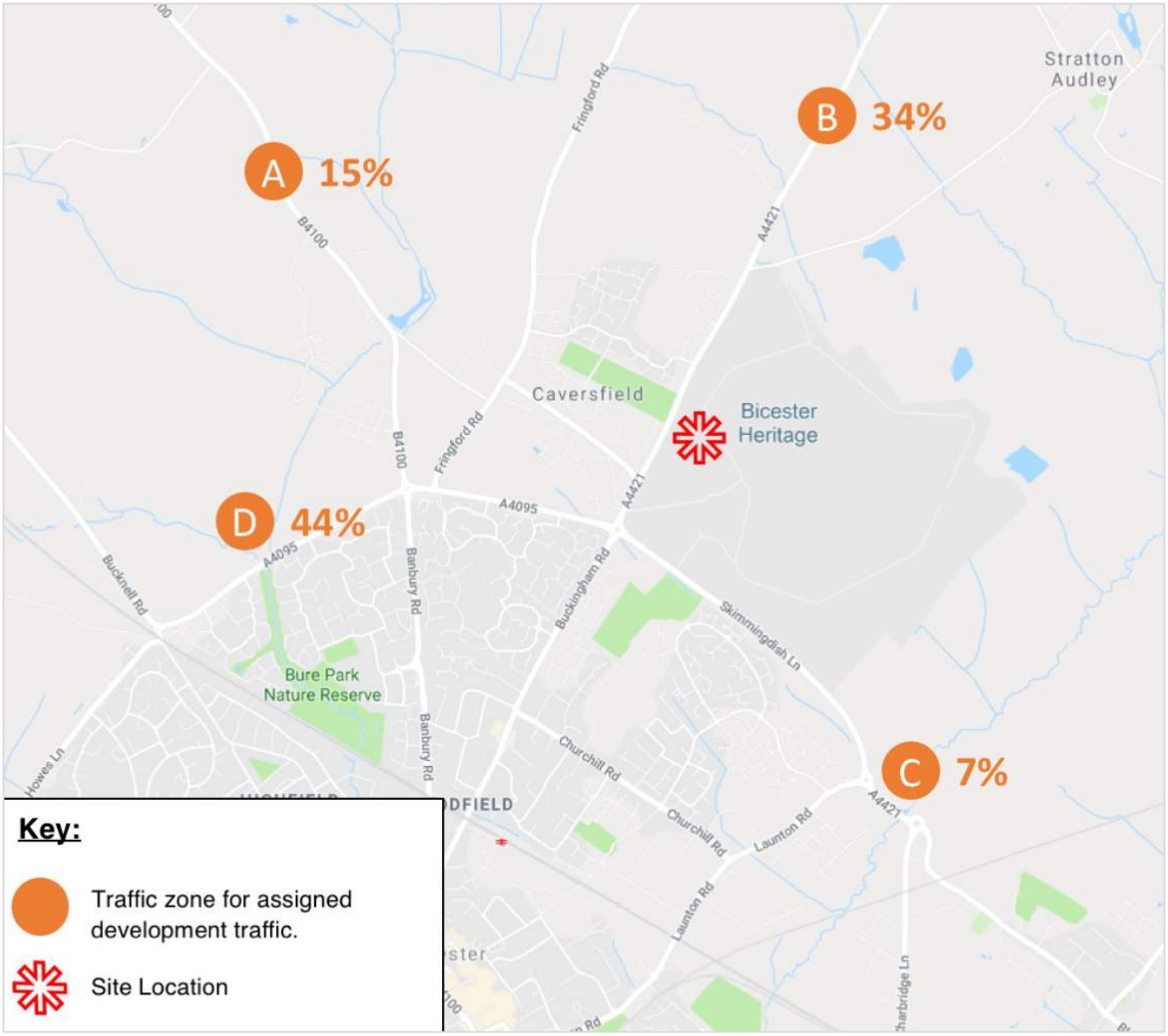



5.4.3 A weighted distance factor of -1 was applied to the gravity model, which results in a greater influence of longer distances to the site; i.e. the further away the area from the site the greater proportion of people who will gravitate to it (which is quite typical of guests staying at a hotel facility).

5.4.4 The hotel vehicular trips have been assigned to the local highway network based upon the locations of the above Districts, MSOAs & LSOAs, and the logical routes taken to and from these areas.

5.4.5 The distribution percentages are shown graphically in **Figure 5.2**, and are summarised by route assignment **Table 5.3**, overleaf.

## Figure 5.2: Development Traffic Distribution




## Table 5.3: Development Traffic Distribution Route Assignment

| Zone | Traffic Distribution Route | Distribution % |
|---|---|---|
| A | B4100 Banbury Road/A4095 Southwold Lane/A4421 Buckingham Road | 15% |
| B | A4421 Buckingham Road (N) | 34% |
| C | Charbridge Lane/A4421 Skimmingdish Lane/A4421 Buckingham Road | 7% |
| D | A4095 Lords Lane/A4095 Southwold Lane/A4421 Buckingham Road | 44% |

5.4.6 **Appendix G** contains the full hotel gravity model data, spreadsheets and outputs, for reference. The distribution percentages and associated development-only traffic flows can also be seen within the traffic flow diagrams contained within **Appendix H**.

5.4.7 It should be noted that a population-based gravity model was agreed with OCC as the best forecast of traffic distribution for the purposes of a hotel development; given that 2011 Census JtW Data would only be appropriate for residential and employment development based distributions.

# 6 Highway Assessment

## 6.1 Introduction

6.1.1 This section provides a summary of the detailed junction capacity assessments that have been undertaken using outputs from Bicester's SATURN Model (as requested/agreed with OCC), to understand the impact of the development proposals on the operation of the local highway network.

## 6.2 Geographical Scope of Assessment

6.2.1 It was agreed with OCC that capacity assessments would be undertaken at the following junctions during weekday AM and PM peak hours:

- A4421 Buckingham Road/A4421 Skimmingdish Lane/Buckingham Road/A4095 – 4-Arm Roundabout;
- B4100/A4095/Banbury Road – 4-Arm Roundabout; and,
- A4421 Skimmingdish Lane/Wyndham Hall Care Home Access/Launton Road – 4-Arm Roundabout.

6.2.2 Further to the junctions detailed above, a capacity assessment for the site access priority junction at Buckingham Road has also been undertaken.

## 6.3 Assessment Scenarios

6.3.1 The following scenarios (Inc. future year SATURN model outputs) have been agreed with OCC and subsequently modelled at the aforementioned junctions; the traffic network flow diagrams for each of these scenarios are contained within **Appendix H**:

- 2016 Base (Surveyed);
- 2021 (Future Year SATURN Model);
- 2021 + Proposed Development;
- 2026 (Future Year SATURN Model); and,
- 2026 + Proposed Development.

6.3.2 The full SATURN model outputs provided by OCC, including the model's uncertainty logs[2]/committed developments, are contained in **Appendix I**, for reference.

6.3.3 The peak hours of 08:00-09:00 for the AM and 17:00-18:00 for the PM have been used for the basis of assessment. As previously mentioned within this report (**Section 3.3**), the AM and PM peak hours are considerably higher than any peak hour recorded over the weekend (Saturday/Sunday); as a result, this chapter will only assess the weekday peak hours, as a worst-case scenario.

[2] For reference, it is understood that the 'Near Certain' and 'More than Likely' developments within the uncertainty logs are included within the SATURN model as committed development.

## 6.4 Junction Capacity Analysis

6.4.1 Industry standard software package, Junctions 9 (ARCADY & PICADY modules), have been used to assess the capacity of the junctions. A summary of the modelling results is presented below, with full model outputs provided in **Appendix J**.

6.4.2 The junction assessments have been based on 100% of the development generated traffic and do not take into account any Travel Plan mode shift measures.

6.4.3 When assessing junction capacity, it is generally accepted that, a Ratio of Flow to Capacity (RFC) value of below 0.85 represents a junction that is considered to be operating satisfactorily. At junctions operating at or close to zero practical reserve capacity, which equates to an RFC value of approximately 1.00 or above, small reductions in capacity may result in exponential queuing and/or delay results. Therefore, junctions operating close to or above 1.00 should be carefully reviewed to ensure that queueing and delay is not significantly impacted upon, and to ensure that the new development will not have a 'severe' or detrimental impact upon the existing highway infrastructure.

**Junction 1 - A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095**

6.4.4 ARCADY assessments have been undertaken for this roundabout junction and the results of the relevant scenarios are summarised below.

### Table 6.1: 2016 Base

| J1 - A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095 – 2016 Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| A4421 Buckingham Rd | 0.82 | 14.72 | 5 | 0.43 | 4.07 | 1 |
| A4421 Skimmingdish Ln | 0.51 | 5.43 | 1 | 0.78 | 10.42 | 3 |
| Buckingham Rd | 0.44 | 5.54 | 1 | 0.64 | 10.36 | 2 |
| A4095 | 0.66 | 6.89 | 2 | 0.71 | 9.02 | 2 |

### Table 6.2: 2021 SATURN Base

| J1 - A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095 – 2021 SATURN Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| A4421 Buckingham Rd | 0.86 | 18.59 | 6 | 0.63 | 6.49 | 2 |
| A4421 Skimmingdish Ln | 0.66 | 7.46 | 2 | 0.98 | 52.86 | 21 |
| Buckingham Rd | 0.33 | 5.04 | 1 | 0.69 | 15.88 | 2 |
| A4095 Southwold Ln | 0.71 | 8.36 | 2 | 0.93 | 36.34 | 11 |

## Table 6.3: 2021 SATURN Base + Proposed Development

| J1 - A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095 – 2021 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| A4421 Buckingham Rd | 0.94 | 37.30 | 12 | 0.68 | 7.38 | 2 |
| A4421 Skimmingdish Ln | 0.66 | 7.46 | 2 | 1.02 | 78.98 | 34 |
| Buckingham Rd | 0.36 | 5.59 | 1 | 0.72 | 18.46 | 2 |
| A4095 Southwold Ln | 0.76 | 10.19 | 3 | 0.99 | 64.23 | 21 |

## Table 6.4: 2026 SATURN Base

| J1 - A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095 – 2026 SATURN Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| A4421 Buckingham Rd | 0.95 | 40.07 | 13 | 0.83 | 14.00 | 5 |
| A4421 Skimmingdish Ln | 0.74 | 9.11 | 3 | 1.04 | 102.73 | 46 |
| Buckingham Rd | 0.40 | 6.13 | 1 | 0.93 | 52.46 | 9 |
| A4095 Southwold Ln | 0.75 | 9.88 | 3 | 1.04 | 103.76 | 34 |

## Table 6.5: 2026 SATURN Base + Proposed Development

| J1 - A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095 – 2026 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| A4421 Buckingham Rd | 1.04 | 97.01 | 40 | 0.87 | 17.32 | 6 |
| A4421 Skimmingdish Ln | 0.77 | 10.65 | 3 | 1.08 | 142.97 | 67 |
| Buckingham Rd | 0.43 | 6.87 | 1 | 0.96 | 66.99 | 11 |
| A4095 Southwold Ln | 0.80 | 12.55 | 4 | 1.10 | 164.10 | 58 |

6.4.5 The results indicate that the junction is operating close to practical capacity (RFC of 1.00) during the '2021 SATURN Base' (**without development**) scenario, on the A4421 Skimmingdish Lane, and A4095 Southwold Lane arms during the PM peak hour.

6.4.6 Similarly, the results show that the junction is operating over practical capacity (RFC of 1.00) during the '2026 SATURN Base' (**without development**) scenario, on the A4421 Skimmingdish Lane, and A4095 Southwold Lane arms during the PM peak hour, and the A4421 Buckingham Road arm during the AM peak hour.

6.4.7 The model results indicate that development increases queues on the A4421 Skimmingdish Lane and the A4095 Southwold Lane by 21 and 24 vehicles, respectively, during the '2026 SATURN Base plus development' PM peak hour scenario. Although these queue increases are high in value, it should be emphasised and noted that the associated RFCs are above practical capacity at 1.08 and 1.10 (Inc. 1.04 during the '2026 Base'); once model RFC values surpass 1.00, the queue values increase exponentially and can become misleading.

6.4.8 It is important to note that without the hotel development coming forward, the '2026 SATURN Base' and scenario in the PM peak hour will operate overcapacity, and therefore, there is already a prerequisite for this junction to be improved/mitigated.

6.4.9 The percentage impact of the development at this junction results in a 4.4% increase in traffic during the AM peak hour (155 two-way vehicle trips) and a 3.3% increase during the PM peak hour (120 two-way vehicle trips). This impact is not considered significant or severe.

**Junction 2 - B4100 Banbury Road/A4095 Southwold Lane/A4095 Lords Lane**

6.4.10 ARCADY assessments have been undertaken for this roundabout junction and the results of the relevant scenarios are summarised below.

## Table 6.6: 2016 Base

| J2 - B4100/A4095/Banbury Road – 2016 Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| B4100 Banbury Road (N) | 0.67 | 8.37 | 2 | 0.55 | 7.09 | 1 |
| A4095 Southwold Ln (E) | 0.80 | 12.53 | 4 | 0.77 | 9.62 | 3 |
| B4100 Banbury Road (S) | 0.33 | 6.20 | 1 | 0.50 | 8.12 | 1 |
| A4095 Lords Ln (W) | 0.51 | 5.93 | 1 | 0.80 | 16.11 | 4 |

## Table 6.7: 2021 SATURN Base

| J2 - B4100/A4095/Banbury Road – 2021 SATURN Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| B4100 Banbury Road (N) | 0.72 | 8.82 | 3 | 0.76 | 12.45 | 3 |
| A4095 Southwold Ln (E) | 0.87 | 18.36 | 6 | 0.92 | 27.52 | 10 |
| B4100 Banbury Road (S) | 0.35 | 6.61 | 1 | 0.72 | 16.93 | 3 |
| A4095 Lords Ln (W) | 0.47 | 6.90 | 1 | 1.02 | 99.94 | 24 |

## Table 6.8: 2021 SATURN Base + Proposed Development

| J2 - B4100/A4095/Banbury Road – 2021 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| B4100 Banbury Road (N) | 0.74 | 9.57 | 3 | 0.77 | 13.38 | 3 |
| A4095 Southwold Ln (E) | 0.91 | 26.13 | 9 | 0.95 | 36.16 | 14 |
| B4100 Banbury Road (S) | 0.36 | 7.12 | 1 | 0.74 | 18.94 | 3 |
| A4095 Lords Ln (W) | 0.52 | 7.62 | 1 | 1.07 | 141.61 | 37 |

## Table 6.9: 2026 SATURN Base

| J2 - B4100/A4095/Banbury Road – 2026 SATURN Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| B4100 Banbury Road (N) | 0.93 | 30.45 | 11 | 1.05 | 118.18 | 45 |
| A4095 Southwold Ln (E) | 0.99 | 57.36 | 22 | 0.98 | 50.30 | 20 |
| B4100 Banbury Road (S) | 0.39 | 7.80 | 1 | 0.82 | 26.80 | 4 |
| A4095 Lords Ln (W) | 0.54 | 8.86 | 1 | 1.04 | 114.72 | 28 |

## Table 6.10: 2026 SATURN Base + Proposed Development

| J2 - B4100/A4095/Banbury Road – 2026 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| B4100 Banbury Road (N) | 0.95 | 40.05 | 14 | 1.07 | 140.12 | 54 |
| A4095 Southwold Ln (E) | 1.03 | 88.79 | 39 | 1.00 | 66.41 | 28 |
| B4100 Banbury Road (S) | 0.40 | 8.12 | 1 | 0.84 | 30.04 | 5 |
| A4095 Lords Ln (W) | 0.59 | 9.74 | 1 | 1.09 | 165.81 | 44 |

6.4.11 The results indicate that the junction is operating over practical capacity during the '2021 SATURN Base' (**without development**) scenario, on the A4095 Lords Lane (W) arm during the PM peak hour.

6.4.12 Furthermore, the results demonstrate that the junction also operates over practical capacity (RFC of 1.00) during the '2026 SATURN Base' scenario (**without development**), at the A4095 Lords Lane (W) and B4100 Banbury Road (N) arms during the PM peak hour, and close to practical capacity (RFC of 1.00) at the A4095 Southwold Ln (E) arm during the AM peak.

6.4.13 The model results indicate that development increases queues on Banbury Road (N), Southwold Lane (E) and Lords Lane (W) by 9, 8 and 16 vehicles, respectively, during the '2026 SATURN Base plus development' PM peak hour scenario. During the AM peak hour, the queues increase by 17 vehicles on the A4095 Southwold Lane (E). Although these queue additions are high in value, it should be emphasised and noted that the associated RFCs are above practical capacity at 1.07, 1.00, 1.09 and 1.03 (Inc. 1.05, 0.98, 1.04 and 1.03 during the '2026 Base'); once model RFC values surpass 1.00, the queue values increase exponentially and can become misleading.

6.4.14 It is important to note that without the hotel development coming forward, the '2026 SATURN Base' during the PM and AM peak hours, and '2021 SATURN Base' scenarios in the PM peak hour will operate overcapacity; and therefore, there is already a prerequisite for this junction to be improved/mitigated.

*6.4.15* The percentage impact of the development at this junction results in a 3.3% increase in traffic during the AM peak hour (106 two-way vehicle trips) and a 2.3% increase during the PM peak hour (87 two-way vehicle trips). This impact is not considered significant or severe.

**Junction 3 - A4421 Skimmingdish Ln/Care Home Access/Launton Rd**

6.4.16 ARCADY assessments have been undertaken for this roundabout junction and the results of the relevant scenarios are summarised below.

## Table 6.11: 2016 Base

| J3 - A4421 Skimmingdish Ln/Care Home Access/Launton Rd – 2016 Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| Care Home Access | 0.00 | 0.00 | 0 | 0.00 | 0.00 | 0 |
| A4421 Skimmingdish Ln (SE) | 0.85 | 21.38 | 5 | 0.76 | 11.29 | 3 |
| Launton Rd | 0.49 | 4.94 | 1 | 0.75 | 10.56 | 3 |
| A4421 Skimmingdish Ln (N) | 0.90 | 24.91 | 8 | 0.53 | 5.52 | 1 |

## Table 6.12: 2021 SATURN Base

| J3 - A4421 Skimmingdish Ln/Care Home Access/Launton Rd – 2021 SATURN Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| Care Home Access | 0.24 | 13.49 | 0 | 0.50 | 18.23 | 1 |
| A4421 Skimmingdish Ln (SE) | 1.03 | 93.80 | 32 | 0.99 | 63.62 | 22 |
| Launton Rd | 0.49 | 5.52 | 1 | 0.87 | 21.25 | 6 |
| A4421 Skimmingdish Ln (N) | 0.98 | 52.00 | 19 | 0.83 | 15.27 | 5 |

## Table 6.13: 2021 SATURN Base + Proposed Development

| J3 - A4421 Skimmingdish Ln/Care Home Access/Launton Rd – 2021 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| Care Home Access | 0.24 | 13.64 | 0 | 0.51 | 18.50 | 1 |
| A4421 Skimmingdish Ln (SE) | 1.03 | 98.41 | 34 | 1.00 | 67.21 | 23 |
| Launton Rd | 0.50 | 5.54 | 1 | 0.87 | 21.61 | 6 |
| A4421 Skimmingdish Ln (N) | 0.98 | 55.31 | 21 | 0.83 | 15.61 | 5 |

## Table 6.14: 2026 SATURN Base

| J3 - A4421 Skimmingdish Ln/Care Home Access/Launton Rd – 2026 SATURN Base | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| Care Home Access | 0.34 | 20.14 | 1 | 0.89 | 97.07 | 5 |
| A4421 Skimmingdish Ln (SE) | 1.20 | 387.25 | 138 | 1.26 | 514.75 | 189 |
| Launton Rd | 0.70 | 9.43 | 2 | 0.81 | 15.57 | 4 |
| A4421 Skimmingdish Ln (N) | 1.18 | 311.26 | 128 | 1.07 | 132.62 | 54 |

## Table 6.15: 2026 SATURN Base + Proposed Development

| J3 - A4421 Skimmingdish Ln/Care Home Access/Launton Rd – 2026 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| Care Home Access | 0.34 | 20.18 | 1 | 0.89 | 98.13 | 5 |
| A4421 Skimmingdish Ln (SE) | 1.20 | 397.42 | 141 | 1.26 | 527.13 | 194 |
| Launton Rd | 0.70 | 9.48 | 2 | 0.81 | 15.68 | 4 |
| A4421 Skimmingdish Ln (N) | 1.19 | 323.93 | 132 | 1.07 | 137.38 | 56 |

6.4.17 The results indicate that the junction is operating over practical capacity (RFC of 1.00) during the '2021 SATURN Base' (**without development**), at the A4421 Skimmingdish Lane (SE) arm during the AM peak hour; the same arm is also operating close to practical capacity (RFC of 1.00) in the PM peak hour.

6.4.18 Similarly, the results show that the junction is operating over practical capacity (RFC of 1.00) during the '2026 SATURN Base' scenarios (**without development**), at the A4421 Skimmingdish Lane (SE) and A4421 Skimmingdish Lane (N) arms, during both the AM and PM peak hours.

6.4.19 The model results indicate that development increases queues on Skimmingdish Lane (SE) and Skimmingdish Lane (N) by 3 and 4 vehicles, respectively, during the '2026 SATURN Base plus development' AM peak hour, and by 5 and 2 vehicles during the PM peak hour.

6.4.20 The reported queues during the '2026 SATURN Base plus Proposed Development' scenarios are high in value, it should be emphasised and noted that the associated RFCs are above practical capacity at 1.20 and 1.19 for the AM peak hour, and 1.26 and 1.07 for the PM peak hour; once model RFC values surpass 1.00, the queue values increase exponentially and can become misleading.

6.4.21 It is important to note that without the hotel development coming forward, both the '2021 SATURN Base' and '2026 SATURN Base' scenarios in the AM and PM peak hours will operate overcapacity, and therefore, there is already a prerequisite for this junction to be improved/mitigated.

*6.4.22* The percentage impact of the development at this junction results in an 0.4% increase in traffic during the AM peak hour (13 two-way vehicle trips) and an 0.3% increase during the PM peak hour (11 two-way vehicle trips). This impact is considered negligible and not significant.

**J4 – Buckingham Road Access Junction**

6.4.23 PICADY assessments have been undertaken for this proposed access junction and the results of the relevant scenarios are summarised below.

### Table 6.16: 2026 SATURN Base + Proposed Development

| J4 – Buckingham Rd Access Junction – 2026 SATURN Base + Proposed Development | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| Development Access Road | 0.31 | 14.13 | 0 | 0.20 | 12.21 | 0 |
| Buckingham Road | 0.13 | 9.44 | 0 | 0.14 | 9.55 | 0 |

6.4.24 The results indicate that the junction would operate with significant reserve capacity during the '2026 SATURN Base plus development' scenarios. There are anticipated to be no queueing vehicles at the proposed access junction, either within the site or along Buckingham Road, during the peak hours.

## 6.5 Summary / Mitigation

6.5.1 As aforementioned, all three roundabout junctions assessed within the previous section are currently under stress within either the existing baseline (2016) or forecast future years of 2021 and 2026; it should be noted that specific arms at the existing junctions are over capacity without the impacts of the proposed hotel development coming forward.

6.5.2 Following communication with OCC the following information/response was elicited in response to proposed infrastructure improvements in the local area, which is summarised below in the following paragraphs:

6.5.3 OCC's LTP 4 Bicester Area Strategy includes aspirational proposals for improvements to the eastern peripheral corridor to which the Bicester Heritage site lies to the north of; i.e. along the A4421 Skimmingdish Lane. Stating:

*"Eastern peripheral corridor: upgrade to dual carriageway on the A4421 between the Buckingham Road and Gavray Drive to complement the transport solution at the railway level crossing at Charbridge Lane and facilitate development in the area. This scheme will improve the operation of this section of the eastern perimeter road and enhance the integration of the North-East Bicester Business Park site with the rest of the town. This will include improvements to the Buckingham Road / A4221 junction to provide the necessary capacity for the additional trips generated from nearby employment and residential development, as well as support the heritage tourism development of the neighbouring Former RAF Bicester site."*

6.5.4 Furthermore, CDC's Infrastructure Development Plan (IDP) supporting the Cherwell Local Plan states that, for Skimmingdish Lane, dualling and signalisation of various junctions along the corridor, including improvements to the strategic highway capacity are prioritised as critical in the medium to long term.

6.5.5 In terms of timescales, OCC are unable at this time to indicate precisely when these improvements are likely to come forward; and as such, it is believed that this will be sometime within the end of the local plan period at 2031.

6.5.6 Therefore, and in summary, mode considers that the development may be required to make a fair and proportionate contribution towards the wider improvement schemes, whenever they may come forward; and as such, it will be important to consider appropriate mitigation, in order to offset the impact of the hotel development proposals, and achieve a nil-detriment to the existing and proposed future year highway network.

***Mitigation***

6.5.7 The forecast level of impact resulting from the development proposals can be mitigated (comparable to 2026 SATURN Base levels) by increasing the flare lengths and entry widths of specific problematic approach arms on each of the roundabouts; the results of the proposed mitigation are summarised from **Table 6.17** to **Table 6.19**, below, and the full model outputs are contained in **Appendix J**, for reference. Preliminary mitigation layout plans have also been prepared for the 3 roundabouts, and are contained in **Appendix K**, for reference.

**Junction 1 - A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095**

## Table 6.17: 2026 SATURN Base + Proposed Development (MITIGATED)

| J1 - A4421 Buckingham Rd/A4421 Skimmingdish Ln/Buckingham Rd/A4095 – 2026 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| A4421 Buckingham Rd | 0.98 | 54.35 | 20.2 | 0.85 | 15.26 | 5.5 |
| A4421 Skimmingdish Ln | 0.70 | 7.69 | 2.3 | 0.98 | 50.99 | 20.6 |
| Buckingham Rd | 0.41 | 6.27 | 0.7 | 0.97 | 72.23 | 12.4 |
| A4095 Southwold Ln | 0.68 | 6.57 | 2.1 | 0.92 | 30.38 | 9.2 |

**Junction 2 - B4100 Banbury Road/A4095 Southwold Lane/A4095 Lords Lane**

## Table 6.18: 2026 SATURN Base + Proposed Development (MITIGATED)

| J2 - B4100/A4095/Banbury Road – 2026 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| B4100 Banbury Road (N) | 0.86 | 15.48 | 5.6 | 0.97 | 49.90 | 16.9 |
| A4095 Southwold Ln (E) | 0.99 | 55.86 | 22.6 | 0.97 | 46.13 | 18.7 |
| B4100 Banbury Road (S) | 0.42 | 8.5 | 0.7 | 0.86 | 33.84 | 5.2 |
| A4095 Lords Ln (W) | 0.55 | 8.32 | 1.2 | 1.00 | 83.96 | 20.3 |

**Junction 3 - A4421 Skimmingdish Ln/Care Home Access/Launton Rd**

## Table 6.19: 2026 SATURN Base + Proposed Development

| J3 - A4421 Skimmingdish Ln/Care Home Access/Launton Rd – 2026 SATURN Base + Proposed Dev | | | | | | |
|---|---|---|---|---|---|---|
| ARM | AM Peak (08:00-09:00) | | | PM Peak (17:00-18:00) | | |
| | RFC | Delay (s) | Q (Veh) | RFC | Delay (s) | Q (Veh) |
| Care Home Access | 0.57 | 51.23 | 1.2 | 0.99 | 155.36 | 8 |
| A4421 Skimmingdish Ln (SE) | 0.95 | 33.72 | 13.4 | 0.97 | 43.21 | 18.6 |
| Launton Rd | 0.75 | 12.50 | 2.9 | 0.90 | 29.16 | 7.5 |
| A4421 Skimmingdish Ln (N) | 1.00 | 60.12 | 25.3 | 0.89 | 21.20 | 7.4 |

6.5.8 It should be noted, however, that given the minimal impacts forecast from the development proposals and considering that the junctions are over practical capacity during the 2021 and 2026 baseline scenarios (**without development**), the extents of the required mitigation works would equate to no more than minor kerb realignments and would be a mathematical ARCADY fix, rather than fully tangible mitigation schemes.

6.5.9 As aforementioned in Para 6.5.6, it is instead proposed as more appropriate that mitigation be offered in the form of fair and proportionate contribution towards OCC's wider improvement schemes, whenever they come forward. This methodology will be subject to further discussion and agreement with OCC as part of the application's S106 process.

# 7 Summary & Conclusion

## 7.1 Summary

7.1.1 This Transport Assessment has been prepared by mode transport planning on behalf of Bicester Heritage; it is intended to accompany a full planning application for the construction of a 344-bedroom hotel/aparthotel, including various ancillary facilities, associated landscaping and car parking, on land at the existing Bicester Airfield site, formerly 'RAF Bicester'.

7.1.2 An analysis of the existing transport infrastructure within the vicinity of the site has demonstrated that the site is highly accessible by car via the local highway network, with links to the wider strategic road network.

7.1.3 Traffic surveys undertaken during July 2016 demonstrate that the two-way 24-Hour Annual Average Daily Traffic (AADT) flow along Buckingham Road, in 2016 was circa 15,480 vehicles, with average speeds of 45mph recorded in both directions, and a worst directional 85$^{th}$ percentile speed of 53mph.

7.1.4 Analysis of the accident records for the local highway network surrounding the development site has concluded that there are no historic or existing safety concerns, and therefore, no highway safety issues that might be exacerbated by the development proposals.

7.1.5 The site is adequately accessible by sustainable modes of travel; existing pedestrian and cycle links are located within close proximity of the site and provide good connections with local facilities/amenities in the local area and towards Bicester town centre.

7.1.6 Bus stops are situated circa 300m (c.4-min walk) to the south of the proposed development; the local bus services provide a public transport connection between the site, Bicester Village and Bicester town centre, and also link the development to key towns and cities such as Oxford, Cambridge, Milton Keynes and Buckingham. The X5 route provides a frequent half hourly (Mon-Sun) service.

7.1.7 Vehicular access to the hotel will be provided from the A4421 Buckingham Road via a new ghost island priority junction; the access junction will allow for all movements entering the site but will prohibit vehicles leaving the site from turning right across Buckingham Road (left out/exit only).

7.1.8 A 3.0m shared footway/cycleway will be provided on the southern side of the proposed internal access road. The new pedestrian footway/cycleway will also route for approximately 200m south, along the eastern side of the A4421 Buckingham Road, where this will then provide a 2m footway connecting with the existing southbound bus stop.

7.1.9 A new toucan crossing will also be provided, approximately 20m south of Skimmingdish Lane; this will provide a safe crossing for pedestrians and cyclists and link with the existing shared footway/cycleway on the western side of Buckingham Road and the northbound bus stop.

7.1.10 The hotel site will provide 311 car parking spaces considering the typical operating capacity of hotels and the parking standards recommended by OCC. The level of parking provided exceeds the 275 spaces that would be required for guests when the hotel operates at a usual maximum capacity of 80% and also, provides sufficient provision for employees working at the site.

7.1.11 Within the car park layout 32 spaces (of the total) will be allocated as disabled parking bays in order to meet the OCC parking standard which was agreed during pre-application discussions as being 10% of the total capacity.

7.1.12 Electric Vehicle (EV) charging points will also be provided alongside 10 parking bay spaces within the main car park – this equates to 5 EV charging units/posts which would have the capability of simultaneously charging two vehicles at once.

7.1.13 Cycle parking at the application site will also be provided to accommodate up to 18 (guest) and 6 (staff) bicycles. Cycles will be parked in covered Sheffield stands, which will enable bicycles to be securely chained. The cycle parking will be located close to the main hotel entrance.

7.1.14 A travel demand review has been undertaken which indicates that the site will generate 181 two-way vehicle trips during the AM peak and 149 two-way vehicle trips during the PM peak. This is the equivalent of three vehicles entering or leaving the site every minute, during the weekday peak hours.

7.1.15 All three roundabouts that have been assessed indicate that the '2021 SATURN Base' and '2026 SATURN Base' scenarios in both the AM and PM peak hours will operate overcapacity, without the introduction of the hotel development proposals and therefore, there is already a prerequisite for these junctions to be improved/mitigated.

7.1.16 The largest impact occurs at the Buckingham Road/Skimmingdish Lane roundabout to the south of the Bicester Heritage site and main access, where the results indicate that development increases queues on Skimmingdish Road and Southwold Lane by 21 and 24 vehicles, respectively, during the '2026 SATURN Base plus development' PM peak hour scenario. Although these queue additions appear high in value, it should be emphasised and noted that the associated RFCs are above practical capacity at 1.08 and 1.10; once model RFC values surpass 1.00, the queue values increase exponentially and can become misleading.

7.1.17 The forecast level of impact resulting from the development proposals have been mitigated (comparable to 2026 SATURN Base levels) by increasing the flare lengths and entry widths of specific problematic approach arms on each of the roundabouts.

7.1.18 It should be noted, however, that given the relatively small impacts forecast as a result of the development proposals, and considering that the junctions are over practical capacity during the 2021 and 2026 baseline scenarios (without development), the extents of the required mitigation works would equate to no more than minor kerb realignments and would be mathematical ARCADY fixes, rather than fully tangible mitigation schemes.

7.1.19 It is therefore considered more appropriate that mitigation be offered in the form of fair and proportionate contribution towards OCC's wider improvement schemes (dualling of the A4421 / specific junctions improvements), whenever they come forward. This methodology will be subject to further discussion and agreement with OCC as part of the application's S106 process.

7.1.20 Buckingham Road site access capacity assessments have also been undertaken and conclude that the hotel access junction will operate with significant reserve capacity with zero vehicles queueing on both the major (Buckingham Road) and minor (hotel site access) roads. The proposed access junction is considered sufficient and appropriate to serve the proposed hotel development.

## 7.2 Conclusion & Recommendation

7.2.1 On the basis of the information presented in this report it is considered that the proposed development can be comfortably accommodated within the local area. As such there should be no reason why the application cannot be recommended in terms of highways and transportation.

7.2.2 It is therefore concluded that the proposed development will not have a significant adverse impact on the operation of the surrounding highway network and therefore, in accordance with the NPPF, the proposal should be considered acceptable in transport terms.