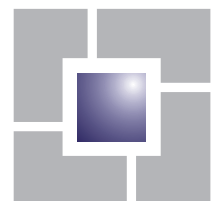


Catalyst Bicester

Transport Assessment

14th August 2019



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transport planning consultants



Catalyst Bicester

Transport Assessment

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Contents

1.	INTRODUCTION	1
2.	TRANSPORT PLANNING CONTEXT & GUIDANCE	4
2.1	National Planning Policy	4
2.2	Local Planning Policy	5
2.3	Technical Guidance	7
3.	EXISTING CONDITIONS	9
3.1	Site Location	9
3.2	Adjacent Highway Network	9
3.3	Walking and Cycling	12
3.4	Public Transport	14
3.5	Park and Ride Scheme	16
3.6	Bloombridge Application	17
3.7	Future Year Scenarios	17
3.8	Existing Road Safety Performance	18
3.9	Conclusions	19
4.	PROPOSED DEVELOPMENT	21
4.1	Planning Application	21
4.2	Trip Generation	22
4.3	Development Forecasts	27
4.4	Distribution of Traffic	28
4.5	Study Area	34
4.6	Construction Traffic	36
5.	ACCESS STRATEGY	37
5.1	Pedestrian and Cycle Access	37
5.2	Public Transport Access	38
5.3	Vehicle Access	39
5.4	Site Access	39
5.5	Road Safety Audit	40
5.6	Car Parking	41
5.7	Travel Plan	41
6.	TRAFFIC IMPACT	42
6.1	Operational Appraisal	42
6.2	Critical Flow Scenarios	42
6.3	David Lloyd Access	44

6.4	Site Access Roundabout	45
6.5	A41 – Vendee Drive Roundabout	48
6.6	A41 corridor	57
6.7	Request for Contributions	65
7.	CONCLUSIONS	67

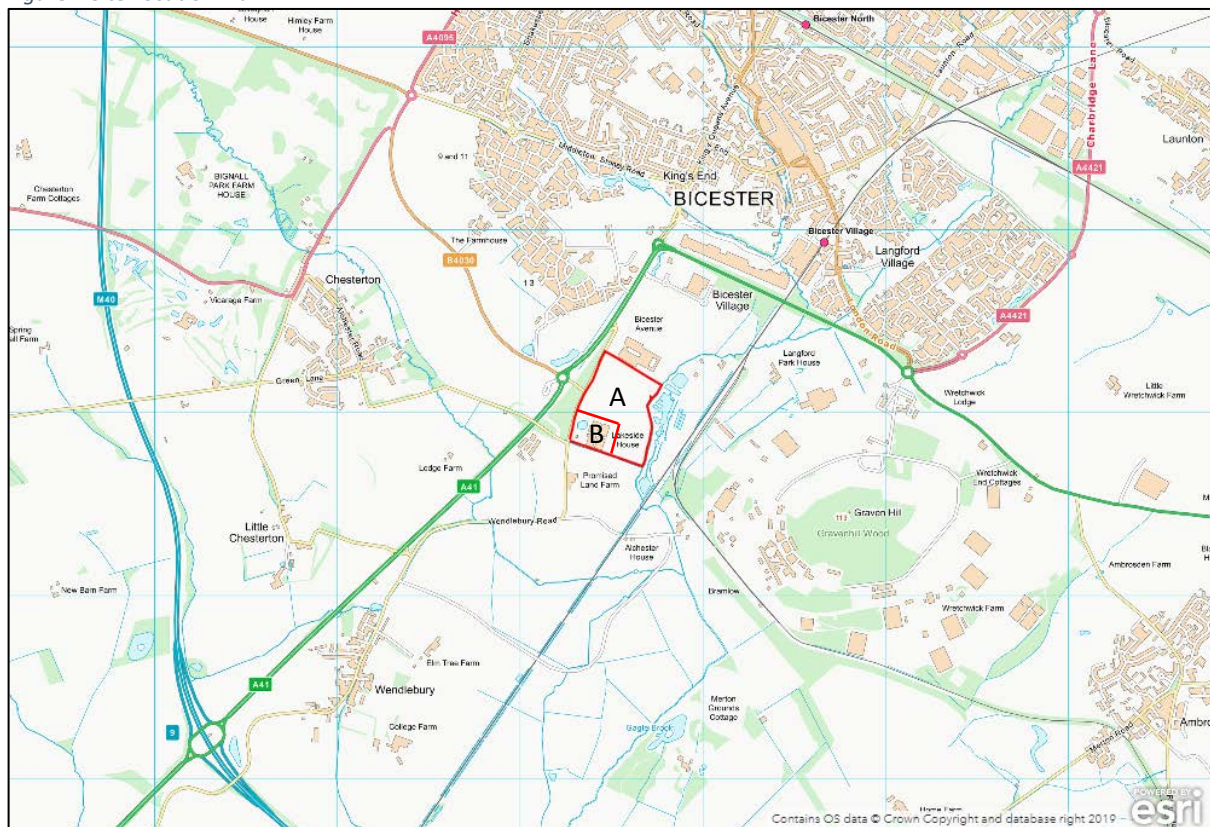
Appendices

Appendix A	Site Masterplans
Appendix B	Public Transport Information
Appendix C	Pre-application Advice from OCC
Appendix D	OCC Model Information – Uncertainty Log
Appendix E	OCC Model Information – Future Year Forecasts
Appendix F	Personal Injury Collision Data
Appendix G	TRICS Data
Appendix H	Census Journey to Work Data
Appendix I	Materiality Test
Appendix J	Site Access Drawings
Appendix K	Highway Boundary
Appendix L	Vehicle Tracking
Appendix M	Road Safety Audit
Appendix N	Framework Travel Plan
Appendix O-R	Junction Operational Appraisals

1. INTRODUCTION

- 1.1 Significant growth is planned for Bicester as set out in the Cherwell Local Plan 2016-2031. Within the Local Plan, the Catalyst Bicester site is allocated for employment use as part of the Bicester 10 allocation. This allocation, however, is not within a single ownership and part of the site (adjacent to A41) has already been brought forward for development promoted by Bloombridge. The Bloombridge scheme effectively formed a first phase of development which includes a hotel, currently under construction, and B1 employment use (outline consent only).
- 1.2 This appraisal relates to additional development promoted by Albion Land (the Applicant) on the remaining portion of the Bicester 10 allocation site (Site A) and also an enlarged site (Site B) which allows for the redevelopment of an existing chicken farm on land adjacent to the Site A. The locations of these sites are shown on **Figure 1**.

Figure 1 Site Location Plan



- 1.3 There are four B1 employment led development scenarios that have been considered through this appraisal. These are:

Scenario 1: B1 development across Site A (23,400m²):

Scenario 2: B1 development (16,800m²) and Health & Racquet Club across Site A;

Scenario 3: B1 development (33,600m²) across Site B; and

Scenario 4: B1 development (27,000m²) and Health & Racquet Club across Site A and B.

1.4 Indicative masterplans for the above development scenarios are attached in **Appendix A**.

1.5 Two applications are to be submitted. The two planning applications are:

Application A: Hybrid application for Racquets Club (D2) and highway works (full) and B1 floorspace (outline) on Site A.

Application B: Outline application for B1 floorspace on Site B.

1.6 David Tucker Associates has been commissioned by Albion Land to advise them on the access and transport implications of their proposed development.

1.7 This appraisal has been informed by discussions with Oxfordshire County Council (OCC) as the local highway authority within a formal pre-application process including Scoping Notes and consultation responses.

1.8 The development has been tested against OCC future year traffic forecasts as produced by their strategic highway modelling tools.

1.9 Reference is made within this report to Motion and their Transport Assessment for the Bicester 4 site (LPA reference 17/02534/OUT).

1.10 Reference is also made to PBA and their Transport Assessment for the Bicester 10 Phase 1 site (LPA reference 16/02586/OUT).

1.11 Ultimately the appropriateness of a proposal is contingent upon compliance with prevailing development policies where these relate to transport. These include policies set out in the National Planning Policy Framework (NPPF) 2018, from which the principle tests in transport planning terms are at paragraph 108 and 109 relating to sustainable travel, access and transport impact.

1.12 Overall the transport implications of the development are not significant. The site is well located to contribute to the development of sustainable travel patterns within Bicester providing local employment for residents in the new housing areas currently

being built out thereby helping to reduce out-commuting. The site is integrated with existing pedestrian, cycle and public transport routes, but these can be further enhanced as detailed within this appraisal.

- 1.13 Safe and suitable access is provided to the site with the arrangements conforming to contemporary design and best practice guidance.
- 1.14 The traffic impact will not have a material impact on the operation of the local road network notwithstanding which an appropriate contribution will be made to the development of strategic transport schemes in line with the requirements of the Local Plan allocation.

2. TRANSPORT PLANNING CONTEXT & GUIDANCE

2.1 National Planning Policy

National Planning Policy Framework

2.1.1 In February 2019, the government published a revised National Planning Policy Framework (NPPF). This report should therefore be read in the context of the NPPF.

2.1.2 Paragraph 109 of the NPPF is clear 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”.*

2.1.3 Within this context, the NPPF identifies in Paragraph 110 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.”

2.1.4 Paragraph 111 of the NPPF goes on to state 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”.*

2.1.5 In reinforcing the principle of supporting sustainable development, paragraph 10 stipulates that at the heart of the Framework is *“...a presumption in favour of sustainable development”.*

2.2 Local Planning Policy

Oxfordshire Local Transport Plan

- 2.2.1 The Local Transport Plan was adopted by OCC in September 2015, following public consultation on the draft plan earlier in the year. The Plan was updated in 2016 to strengthen the emphasis on improving air quality and making better provision for walking and cycling.
- 2.2.2 The LTP includes an Area Strategy for Bicester with a plan to reduce the pressure on transport networks as the population grows, and minimise emissions and other environmental damage from transport. The LTP encourages residents and visitors to travel sustainably as well as supporting the use of more sustainable public and private vehicles. The priority for Bicester is to provide the transport infrastructure which supports the aspirations set out in the Local Plan and the initiatives for their implementation.
- 2.2.3 Policy BIC1 in the Bicester Area Strategy states:

“BIC1 – Improve access and connections between key employment and residential sites and the strategic transport system by:

- *Continuing to work with Highways England to improve connectivity to the strategic highway. We will continue to work in partnership on the A34 and A43 strategies, as well as Junctions 9 and 10 of the M40 to relieve congestion*
- *Delivering effective peripheral routes around the town.*

Southern peripheral corridor: provide a South East Perimeter Road to support the significant housing and employment growth in Bicester. In the longer term, link capacity issues along Boundary Way are assessed as being a major transport issue for the town. Land is safeguarded at Graven Hill for the section of road to the south of this site, joining the A41 at the Pioneer Road junction – this prevents development on the land that would be required, but does not remove the need for full assessment, justification and planning processes to be undertaken. This will need extending westwards to join the A41 north of M40 Junction 9. The preferred alignment for this extension has been approved as a connection from the Little Chesterton junction across to Graven Hill. The solution will also include a new link through the South East Bicester development site from the A41 Pioneer Road junction up to Wretchwick Way, providing connectivity through the site, in particular for buses.”

- 2.2.4 Policy BIC 2 states:

“BIC2 – We will work to reduce the proportion of journeys made by private car through implementing the Sustainable Transport Strategy by: Improving Bicester’s bus services along key routes and providing improved public transport infrastructure considering requirements for and integrating strategic development sites.

Bus connectivity improvements may be required at anticipated pinch points within the town as future developments come forward. This will include connections between North West Bicester and the town centre and consider the need for bus lanes along the A41 to connect with the Park and Ride scheme.”

Cherwell Local Plan 2016-2031

- 2.2.5 The Cherwell Local Plan was adopted in July 2015 and sets out the long-term spatial vision for the District and contains policies to help deliver that vision.
- 2.2.6 The Local Plan seeks to use this potential to deliver jobs-led growth, supported by housing, with 138.5 ha of employment land, and approximately 10,000 new homes are planned for Bicester. The Local Plan also sets out an ambition for Bicester to become a greener more pleasant place to live, work and visit.
- 2.2.7 Within the Local Plan the site allocated for employment use within the ‘Bicester 10’ allocation. This is a strategic site which will help ‘reduce the number of people out commuting to Oxford and London’. The wording of the transport related sections of the allocation is as follows.

Policy Bicester 10: Bicester Gateway

Development Area: 18 hectares

Development Description: Knowledge economy employment development to the south of the existing retail area (Wyevale Garden Centre), adjacent to the A41.

Infrastructure Needs

- *Access and Movement – M40, Phase 2 improvements to Junction 9. Contributions to improvements to the surrounding local and strategic road networks, including safeguarding land for future highway improvements to peripheral routes on this side of the town.*

Key site specific design and place shaping principles:

- *Provision and encouragement for sustainable travel options as the preferred modes of transport rather than the private car, and provision of a Travel Plan. Good accessibility to public transport services should be provided for.*
- *The provision of a detailed transport assessment tailored to assess in detail the impact of the proposed use class and floorspace on the strategic road network.*
- *Provision for safe pedestrian and cyclist access from the A41 including facilitating the provision and upgrading of footpaths and cycleways that link with existing networks to improve connectivity generally, to maximise walking and cycling links between this site and nearby development sites and the town centre.*
- *Accommodation of bus stops to link the development to the wider town.*
- *Maximisation of walking and cycling links to the adjoining mixed use development at South West Bicester as well as the garden centre to the north.*
- *Contribution to the creation of a footpath network around Bicester.*

- *A layout that maximises the potential for walkable neighbourhoods and enables a high degree of integration and connectivity between new and existing communities.*

2.2.8 The allocation is in two ownerships. A thin strip alongside the A41 has already been promoted by Bloombridge for a hotel and B1 uses for which outline planning permission has been granted. A detailed application for the hotel has subsequently been granted (LPA reference 16/02586/OUT). The remaining larger part of the allocation is to the rear and is the focus of this report. This site is currently accessed via the Vendee Drive Link, or to the north or south via Wendlebury Road.

DfT Circular 02/2013

2.2.9 Highways England are responsible for the operation of the strategic road network. In the context of the Site the nearest parts of the SRN are the A34 and M40.

2.2.10 The circular sets out how Highways England will engage with the planning system. In general, as set out in para 21, *'where development proposals are consistent with an adopted Local Plan, the Highways Agency does not anticipate the need for engagement in a full assessment process at the planning applications stage'*.

2.2.11 At para 28, *'the preparation and implementation of a robust travel plan that promotes use of sustainable transport modes such as walking, cycling and public transport is an effective means of managing the impact of development on the road network, and reducing the need for major transport infrastructure'*.

2.3 Technical Guidance

2.3.1 The following technical guidance is relevant to the development:

Planning Practice Guidance (2014)

- Travel Plans, Transport Assessments and Statements (2014)
- Transport evidence bases in plan making and decision taking (2015)

Manual for Streets (DfT, 2007)

Manual for Streets 2 (CIHT, 2010)

Design Manual for Roads and Bridges (DfT, various)

- TD 9/93 Link Design;
- CD 116 R0 Geometric Design of Roundabouts;

Guidance on Transport Assessments (DfT, 2007 – withdrawn)

Planning for Public Transport in Developments (IHT, 1999)

Providing for Journeys on Foot (IHT, 2000)

3. EXISTING CONDITIONS

3.1 Site Location

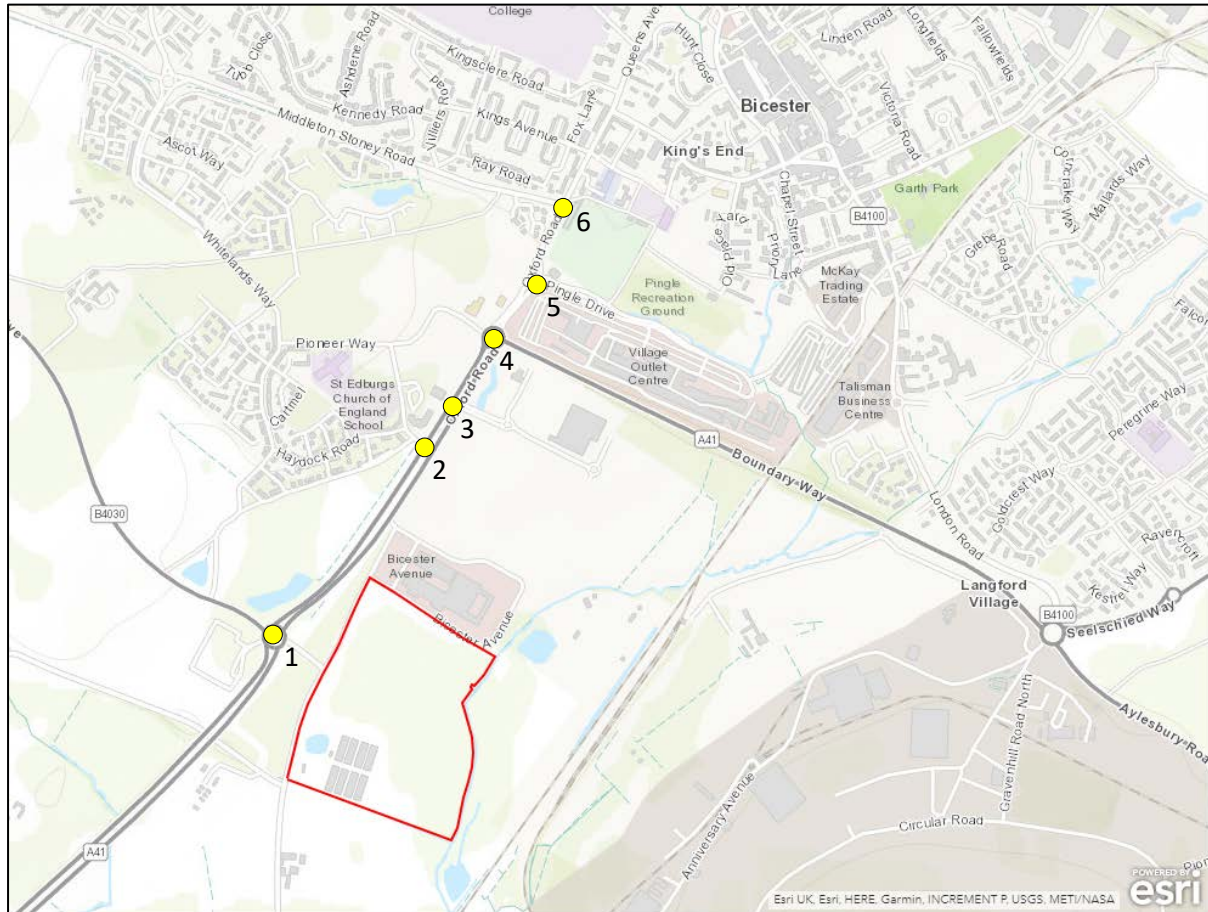
- 3.1.1 The development site has been subdivided into two sites. Site A is the area of land wholly within the Bicester 10 allocation. Site B is an enlarged area which includes the existing chicken farm.
- 3.1.2 The sites are located approximately 2.5km north-east of the M40 Junction 9, on the A41 southern approach to Bicester centre.
- 3.1.3 The sites are located to the east of Wendlebury Road which forms the western site boundary. The site is bounded to the north by an access road into the Thames Water treatment works. The treatment works itself is located to the east of the site adjacent to the north-south railway lines. Immediately to the north of this access road is the Bicester Avenue garden centre and retail park. To the south of the site is farmland which is also designated as a scheduled ancient monument.
- 3.1.4 Wendlebury Road runs east of and parallel to the A41. There is a link from the A41 to Wendlebury Road connecting to a relatively recently constructed roundabout junction where the A41 meets Vendee Drive (southwest Bicester perimeter road).
- 3.1.5 Between A41 and Wendlebury Road are two small parcels of land which comprise the Bloombridge development and part of the Bicester 10 allocation. In the northernmost parcel a hotel is currently under construction. On the southernmost parcel, which extends south of the allocation in line with the southern boundary of the chicken farm, outline planning permission has been granted for office development.

3.2 Adjacent Highway Network

- 3.2.1 The local road network is shown on **Figure 2** below. Wendlebury Road is a single carriageway road and is approximately 5.5m wide on the Site frontage (western edge), is unlit and subject to National speed limit. The Bloombridge Bicester 10 Phase 1 scheme promoted a reduction in speed limit to 40mph. It is not known when this change will occur. Approximately central to the western site boundary, Wendlebury Road forms a T-junction with the Vendee Drive Link. There are no footways on Wendlebury Road to the south of the T-junction, but it does form part of the National Cycle Network Route 51. To the north, a footway/cycleway on the western side of the carriageway falls just short of the Bicester Avenue Garden Centre. This continues to

be part NCN51. Beyond the garden centre, this continues on carriageway to the junction between Wendlebury Road and the A41, before reverting to an off carriageway facility adjacent to the A41 as it heads towards Bicester town centre.

Figure 2 Local Road Network



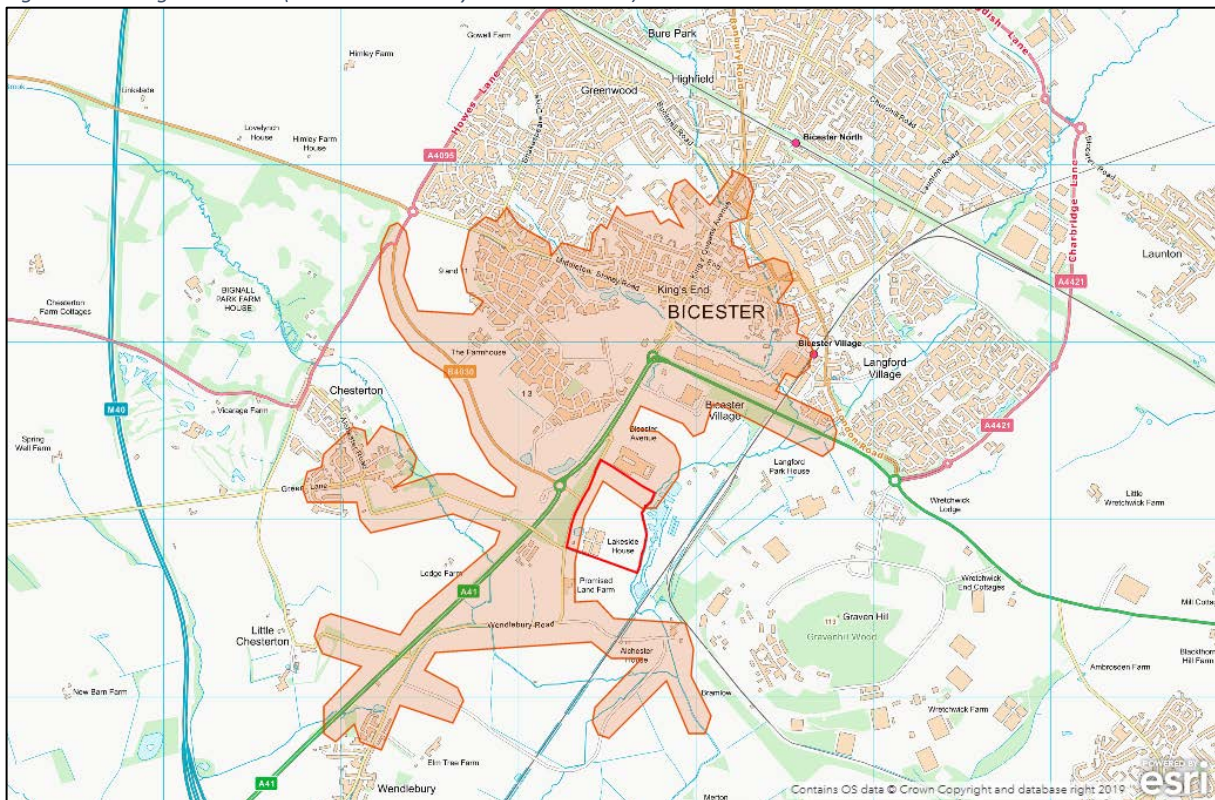
- 3.2.2 The T-junction with the Vendee Drive Link is the subject of a consented scheme to implement a mini-roundabout identified as part of the employment component of consent on Bicester 10 Phase 1 (see LPA reference 16/02586/OUT) to the west of Wendlebury Road.
- 3.2.3 The Vendee Drive Link which connects Wendlebury Road to the A41 is an unlit 7m wide single carriageway. It comprises a northern sided footway.
- 3.2.4 The Vendee Drive Link joins a 5 arm roundabout (Location 1 in **Figure 2**) with the A41, Vendee Drive to the west and the Bicester Park and Ride site. The roundabout has a diameter of approximately 65-70m.
- 3.2.5 The Bicester Park and Ride site comprises 580 parking bays, with bus services between Bicester and Oxford.

- 3.2.6 The A41 was formerly part of the strategic road network. In the vicinity of the site it is a dual two lane all-purpose (D2AP) road. To the south of the Vendee Drive roundabout the road remains a limited access road with a pair of left-in left-out junctions north of Wendlebury and Chesterton only up to the gyratory M40 Junction 9.
- 3.2.7 Vendee Drive forms a southwest perimeter road for Bicester and joins the A41 at a large at grade priority roundabout. Vendee Drive is a 7.3m wide distributor road which provides access to the west of Bicester and the site of the future eco-town developments.
- 3.2.8 To the north of the roundabout, signal controlled all-movements junctions have been created to access Kingsmere developments (Location 2 in **Figure 2**) and Bicester 4 development (Location 3 in **Figure 2**). Both of these junctions have two ahead lanes in both directions with additional lanes to accommodate the turning movements. Both junctions include controlled pedestrian crossings
- 3.2.9 North of the Bicester 4 site the A41 turns east at the Oxford Road roundabout (Location 4 in **Figure 2**). This is a four armed roundabout with two arms serving the A41 approaches, a third arm with runs in toward Bicester town centre and a fourth arm serving the road service area (petrol filling station and restaurant). This has recently been signalised with a south to east cut through lane between the A41 arms. The A41 from this point is a modern single carriageway (S2) road.
- 3.2.10 North of the Oxford Road roundabout, the Oxford Road continues north at a dual carriageway standard the short distance up to the entrance to the Bicester Village retail park (Location 5 in **Figure 2**). This is a three arm signal controlled junction which was recently upgraded (formerly a roundabout junction). The layout has however been developed to maximises the right turn capacity from Oxford Road south to Pingle Drive; the two inbound lanes have a circa 40m centreline radius, as well as the left turn out capacity from Pingle Drive to Oxford Road south.
- 3.2.11 North of Pingle Drive the Oxford Road drops to a single carriageway road but with two northbound lanes for circa 150m up to the mini-roundabout junction with Middleton Stoney Road (Location 6 in **Figure 2**). All arms at this junction have single lane exits and hence the two lane entries on Oxford Road and Middleton Stoney Road have designated destinations. North of this junction Oxford Road becomes Kings End.

3.3 Walking

3.3.1 Walking is a convenient mode for most people for trips up to around 2.0km in length which translates into approximately 20 minutes of walking. This walking catchment for the site is shown on **Figure 3**. As can be seen from this plan the site is well located with respect to nearby existing and planned residential areas. The key linkages are the routes to the north and west. At present there is a discontinuous footway on the western side of the carriageway on Wendlebury Road but there is an existing connection along the northern side of Vendee Drive connecting to the existing north – south provision on the A41. As part of the adjacent Bloomsbridge development a new controlled pedestrian crossing will be provided on A41 linking into the Kingsmere residential development and associated walking and cycling routes.

Figure 3 Walking catchment (based on currently available routes)



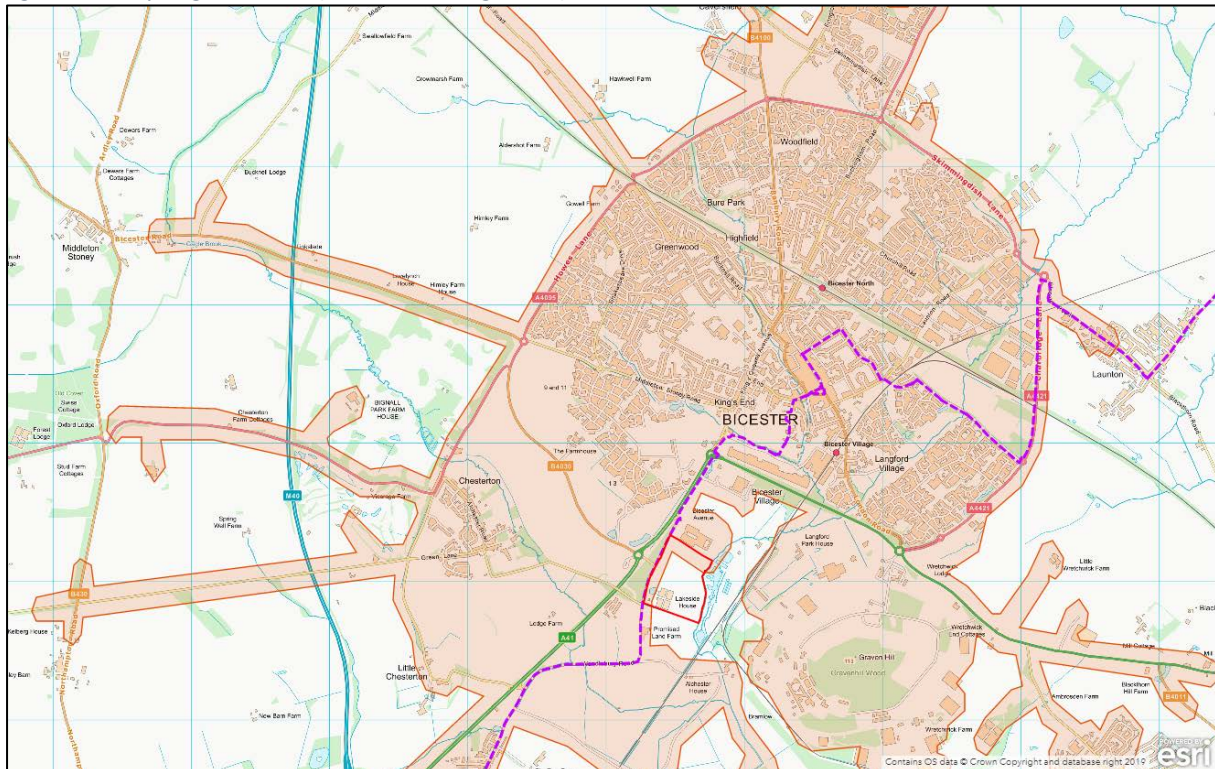
Note that Langford lane has been diverted (to the south) to provide a grade separated crossing but this is not reflected within the above isochrones plot.

3.4 Cycling

3.4.1 Cycling is a convenient mode for most people for trips up to around 5km in length which equates to a 20-minute journey time in an urban environment. This wider catchment areas is also shown on **Figure 4**. This catchment covers Bicester and many

of the surrounding villages in the immediately hinterland. In practice there will be many people for whom trips well in excess of 5km is feasible.

Figure 4 5km Cycling catchment (based on existing routes)



3.4.2 In towns many cyclists will choose to use the local road network. In Bicester, however, there is a developing network of dedicated cycle routes, including around the orbital routes such as Vendee Drive, that will be future expanded as the new residential suburbs are developed i.e. the eco-town etc. Furthermore, within these new residential areas, homes will generally be provided with cycle storage to current requirements. The level of cycle use reported within the 2011 Census is therefore unlikely to reflect travel characteristics for developments that have taken place since that time.

3.4.3 There are also regional cycle routes. The National Cycle Network is a network of signed paths and routes for walking and cycling. This includes some on-street running section such as along Wendlebury Road in the vicinity of the site. Wendlebury Road forms part of NCN 51 (dashed purple line in **Figure 4**), the Varsity Way Cycle Route from Oxford to Cambridge. In practice cyclists also have a choice to use the existing dedicated pedestrian/cycleway which runs along the side of the southbound carriageway of the A41.

3.5 Public Transport

3.5.1 Bicester is a well-connected area in terms of public transport provision with regular bus and train services providing connections to various local and national locations.

Bus Network

3.5.2 The primary bus operator within Bicester is Stagecoach who provide three key services which run to and from the vicinity of the proposed development site. These services are the 26, S5 and NS5 and a summary of their routes and frequencies are shown in **Table 1** below.

Table 1 - Summary of Bus Services and Frequency from Chesterton Turn North

Service No.	Route	Frequency		
		Mon-Fri	Sat	Sun
26	Bicester - Kingsmere - Bicester	30mins	30mins	~
S5	Oxford - Gosfrod - Bicester - Glory Farm - Launton	15mins	15mins	30mins
NS5	Oxford - Gosford - Bicester - Glory Farm	One Service (night)	4 x hourly service to Bicester, 2 services to Oxford (night)	4 x hourly service to Bicester, 2 services to Oxford (night)

3.5.3 The nearest bus stop to the site is known as Chesterton Turn North and is located on the A41, approximately 250m west of the site. Pedestrian access to this bus stop from the site will be greatly improved by plans to establish a traffic signal-controlled pedestrian crossing from the consented hotel site across the A41. This crossing would benefit safe travel to and from the site and the bus stop.

3.5.4 The S5/NS5/26 services travelling in the north-eastbound direction run into Bicester town centre and beyond calling at Launton, Ambrosden and Arncott. The 26 runs between the proposed site and the Bicester North Railway Station providing a connection allowing for longer journeys to be feasibly undertaken using public transport.

3.5.5 The S5 service which provides a regular connection to Oxford city centre, Glory Farm and Bicester north has a total journey time to Oxford centre of 31 minutes and Bicester town centre of 8 minutes. Furthermore, the S5 service also runs south westbound, the location of this stop is at the Park and Ride site which is approximately 400m from the site (on the A41 – Vendee Drive roundabout).

- 3.5.6 The S5 route connects Bicester to Oxford providing a convenient link across the 'Knowledge Spine' which locates the proposed development site within this identified growth area.
- 3.5.7 Stagecoach also operates an 'express service' between Oxford, Buckingham, Milton Keynes, Bedford and Cambridge. This service stops at Bicester Village, located approximately 1.5km north of the proposed site, every half an hour throughout the day (Monday to Sunday).
- 3.5.8 Details of the bus services are attached at **Appendix B**.

Rail Network

- 3.5.9 There are two train station facilities within a convenient distance from the proposed site.
- 3.5.10 The first is Bicester Village Station approximately 2.0km on foot/bicycle to the north east of the site, which is located on the Oxford spur from the Chiltern Mainline with services to Oxford and London.
- 3.5.11 The second is Bicester North approximately 2.5km by cycle to north of the site, on the Chiltern Mainline with services to Birmingham and London.

Bicester Village Station

- 3.5.12 Bicester Village railway station (previously named Bicester Town) is operated by Chiltern Railways. The station was redeveloped as part of the works to provide a new chord linking the Bicester – Oxford railway line to the Chiltern Mainline to the east of Bicester. Following these works passenger numbers using the station have increased tenfold (Bicester Town numbers have reduced somewhat but overall there has been a 50% increase in rail passengers).
- 3.5.13 The station is located in a highly accessible location around a walking/ cycling time of 25 minutes and 8 minutes respectively and also accessible by bus. The station provides half hourly services to and from Oxford Parkway, and half hourly services to and from London Marylebone. The journey time to Oxford Parkway from Bicester is 10 minutes. The proximity of the site to this station provides convenient commute options to both major destinations. The key services, their frequency and journey time are summarised in **Table 2** below.

Table 2 - Summary of Train Services at Bicester Village Station

Destination	Frequency	Journey Time
London Marylebone	Half Hourly	50 mins
High Wycombe	Half Hourly	25 mins
Oxford	Half Hourly	15-20 mins

3.5.14 The station benefits from sheltered cycle storage which can accommodate for up to 50 bicycles, this high level of provision encourages linked commuting trips.

Bicester North

3.5.15 Bicester North station is located north of the site. The cycle journey time to the station is approximately 10 minutes and is also accessible by bus. Bicester North is also operated by Chiltern Railways and is the primary train station for the town, providing regular services to local and national destinations. The key services, their frequency and journey time are summarised in **Table 3** below.

Table 3 Summary of Train Services at Bicester North Station

Destination	Frequency	Journey Time
London Marylebone	Half Hourly	45min – 1hr 10 min
Birmingham Snowhill	Hourly	1hr 15-30mins
Banbury	Half Hourly	12/17 mins
Warwick	Hourly	36/52 mins
Leamington Spa	Hourly/ Half Hourly	30 - 40mins

3.5.16 The station benefits from cycle parking provision for up to 80 bicycles which will encourage linked commuting.

3.6 **Park and Ride Scheme**

3.6.1 The Bicester Park and Ride site forms part of the Oxfordshire County Council Park and Ride scheme which comprises 5 sites throughout Oxfordshire's ring roads and provide regular bus services into the city centre from the car parks.

3.6.2 The Bicester Park and Ride is located off the A41 on B4030 Vendee Drive roundabout, Kingsmere close to Bicester Shopping Village and approximately 600m south west of the proposed Promised Land Farm site.

3.6.3 The Park and Ride provides car parking spaces for 580 vehicles with an additional 14 disabled bays and a covered cycle stand. The park is free of charge for 24 hours and the number S5, Bicester to Oxford service, runs regularly.

3.7 Bloombridge Application

3.7.1 Bloombridge promoted Phase 1A hotel development and Phase 1B B1 employment development within the Bicester 10 allocated site. Outline planning permission was granted (LPA Reference 16/02586/OUT). The TA was prepared by PBA. In broad terms Phase 1A development requires works to improve pedestrian and public transport connectivity. Phase 1B development requires works to improve access and road capacity. These include a flare on the A41 roundabout and upgrade the Wendlebury Road T-junction to a mini-roundabout.

3.7.2 A reserved matters application for the construction of the hotel has been submitted and approved (LPA Reference 16/02586/OUT). The hotel is currently being constructed.

3.8 Future Year Scenarios

3.8.1 Oxfordshire County Council commissioned a traffic assignment model for Bicester to forecast future travel demand patterns arising from planned developments within the Bicester Area.

3.8.2 These forecasts include the travel demand from a significant amount of planned and committed developments. The uncertainty log is attached at **Appendix C** and this sets out the planning assumptions including the development locations and the anticipated delivery.

3.8.3 Baseline traffic forecasts were extracted from this model for the following scenarios:

- 2026;
- 2031 without the south east perimeter road; and,
- 2031 with the south east perimeter road.

3.8.4 This data is attached in **Appendix D**.

3.8.5 There are two 2031 scenarios with and without the South East Perimeter Road (SEPR). SEPR is a road scheme promoted by Oxfordshire County Council. In 2015 OCC consulted on the route of the SEPR in 2015 with two options being considered. Option 1 ran through the Bicester 10 allocation from the Vendee Roundabout, across the railway line and around the Graven Hill site to rejoin the A41 to the east of Bicester. Option 2 ran from the left-in left out junction to the north of Wendlebury, across the

railway line and around the Graven Hill site to the A41 to the east of Bicester. The function of the route in both instances would be the same, i.e. to remove the through A41 traffic from the local Bicester traffic as well as enhancing accessibility of sites to the east of Bicester. Following on from the consultation the Option 2 route was adopted by OCC as the preferred route.

- 3.8.6 These flow forecasts include comprehensive committed developments from a large number of sites, including Bicester 10 Phase 1 (LPA reference 16/02586/OUT) and Bicester 4 (LPA reference 17/02534/OUT) and committed infrastructure but do not make any allowance for the development site itself.

3.9 Existing Road Safety Performance

- 3.9.1 The existing road safety performance has been assessed with reference to the most recent available personal injury accident data for the last 5 years obtained from Oxfordshire County Council. An extensive study area was obtained including the A41 corridor from south of the Vendee Drive roundabout up to the Oxford Road roundabout extending north up Queen's Avenue to the Bucknall Road junction on Buckingham Road. Only a small proportion of this study area would experience a change in travel demand that could have a bearing on road safety performance.

- 3.9.2 Within the study area as a whole there were 70 reported incidents in the sixty month period from 1st January 2014 to 31st December 2018. 8 incidents were classified as serious including 3 incidents involving cyclists and 1 incident involving a pedestrian. Details are attached in **Appendix E**. The remaining 62 incidents were classified as slight including 5 incidents involving cyclists and 5 incidents involving pedestrians.

- 3.9.3 There have been no reported incidents on Wendlebury Road.

- 3.9.4 The A41 – Vendee Drive roundabout is a busy five arm at grade roundabout junction with dual carriageway approaches on the A41 arms. The junction currently carries around 11 million vehicle movements/year which is likely to increase to around 14 million movements/year by 2036. The majority of these occur without incident. In the last five years there have been eleven reported accidents at the roundabout, an average of 2.2 incidents/year. Nine incidents were classified as slight and two as serious. Eight occurred at the A41 South entry including the two serious incidents, however five of the incidents involved drivers medically impaired (including by alcohol or drugs) or where the vehicle was involved in the course of crime. DMRB TD16/07

“Geometric Design of Roundabouts” reports that the average 5 arm roundabout with dual carriageway approaches had 3.8 accidents per year of which 7.1% are fatal or serious. The junction is therefore statistically performing better than average and the relatively high severity rate is skewed by other contributory factors.

3.9.5 Notwithstanding this, more recently it is understood that a fatal accident occurred during week beginning 17th June 2019, for which detailed circumstances are not available at the time of writing.

3.9.6 The highway authority has previously advised that it was undertaking studies of the safety record at the roundabout. There is no published information available in this regard.

3.9.7 The A41 – Oxford Road (Bicester Bypass) roundabout is a large at grade roundabout which has been recently remodelled as a signalised roundabout with a cut-through. In the last five years there have been eight reported incidents at this location including one serious incident. TD16/07 reports that the average 4 arm roundabout with dual carriageway approaches had 2.65 accidents per year of which 7.1% are fatal or serious. This junction is also performing better than average. The serious incident involved a cyclist crossing at the puffin crossing on the eastern arm. The contributory factors however were not related to the layout. There was an incident involving a pedestrian but it was reported that this was preceded by an argument hence not related to the layout. A further incident took place during roadworks and hence atypical.

3.9.8 Overall it is considered that the local road network is performing better than expectations given the volume of vehicular traffic demand carried.

3.10 **Conclusions**

3.10.1 Drawing from the evidence discussed above, it can be concluded that the proposed development site benefits from excellent connectivity and accessibility by non-car transport modes which can also be integrated together allowing for linked commute trips. This connectivity is provided by the following:

- Excellent bus connections into Bicester Town Centre, other local destinations and Oxford City Centre;

- The newly recently established Park and Ride Scheme which provides direct bus travel to and from Oxford;
- Excellent rail connectivity provided by the two nearby train stations, Bicester Village and Bicester North both of which provide regular services to local and national destinations;
- Excellent pedestrian and cycle links into and around Bicester town centre and public transport services which are within a reasonable walking or cycling distance from the site.

4. PROPOSED DEVELOPMENT

4.1 Planning Application

4.1.1 Two applications are to be submitted. The two planning applications are:

Application A: Hybrid application for Racquets Club and highway works (full) and B1 floorspace (outline) on Site A.

Application B: Outline application for B1 floorspace on Site B.

4.1.2 Four development scenarios are considered:

Scenario 1: B1 development across Site A (23,400m²);

Scenario 2: B1 development (16,800m²) and Health & Racquet Club across Site A;

Scenario 3: B1 development (33,600m²) across Site B; and

Scenario 4: B1 development (27,000m²) and Health & Racquet Club across Site A and B.

4.1.3 In all cases, the maximum quantum of B1a office floorspace is capped at 35% of the gross B1 floorspace to be delivered. **Table 4** sets out the maximum amount of B1a floorspace for each Scenario.

Table 4 – Floorspace Schedule (maximum B1a office component)

Scenario	Floorspace Maximum Office
Scenario 1	8,190 m ²
Scenario 2	5,880 m ²
Scenario 3	11,760 m ²
Scenario 4	9,450 m ²

4.1.4 Two of the new development scenarios include a Health & Racquet Club on a 1.65 Hectare plot within the site. This is a D2 leisure use, but a use that has a clear synergy in transport terms with the adjacent planned employment and hotel uses both within the Bicester 10 allocation but also at Bicester 4. This is considered in greater detail at Section 4.4 below.

4.1.5 It is envisaged that construction would commence in 2020 and could last 3 years.

4.2 Trip Generation

- 4.2.1 As set out above there are four development scenarios which vary whether based on the Local Plan allocation site only or the enlarged site including the current poultry farm; and also with and without the Health and Racquets Club.
- 4.2.2 In light of the policy aspiration for knowledge industries, two employment outcomes are evaluated within this report:
- i) Knowledge Industry comprising office (35%) & production/light industrial (65%); and,
 - ii) Science Park.
- 4.2.3 These two options represent the worst case in terms of trip generation reflecting the maximum level of offices sought by the applicant or a comprehensive Science Park therefore not including B1c floorspace with lower traffic generation potential. The trip generation is greatest in the AM peak for the Science Park scenario but in the PM peak for the Knowledge Industry scenario.
- 4.2.4 The B1 trip rates are presented by PBA and Motion in their TAs for adjacent sites are typical for a B1 office site although the underlying data has not been published. The rates are however summarised in **Table 5** below.

Table 5 Office B1(a) Trip Rates per 100m² (as per PBA & Motion TAs)

Time Period	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	1.53	0.14	1.67	0.00	0.00	0.00
PM Peak (17:00-18:00)	0.11	1.60	1.71	0.00	0.00	0.00
12 Hour (07:00 – 19:00)	6.00	6.00	12.00	0.03	0.03	0.05

#12 Hour flows were not quoted by PBA or Motion and these have been estimated from TRICS

- 4.2.5 The Science Park trip rates have been estimated based on the Cambridge Science Park data from the TRICS database. There were 92 companies registered at the site at the time of the survey. These were classified as 50% B1(a) and 50% B1(b). The employment density is in line with expected levels of this type of use. The resulting rates are summarised in **Table 6** below.

Table 6 Science Park Trip Rates per 100m²

Time Period	Person Trips					
	Arrive	Depart	Total			
AM Peak (08:00 – 09:00)	1.309	0.230	1.539			
PM Peak (17:00-18:00)	0.109	0.953	1.062			
12 Hour (07:00 – 19:00)	3.731	3.546	7.277			
Time Period	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	0.837	0.104	0.941	0.001	0.000	0.001
PM Peak (17:00-18:00)	0.034	0.547	0.581	0.000	0.001	0.001
12 Hour (07:00 – 19:00)	1.903	1.837	3.740	0.011	0.009	0.020

4.2.6 The TRICS report for this site is attached at **Appendix F**.

4.2.7 As further corroboration of the above rates, the trip rates summarised in **Table 7** below at the Begbroke Science Park were recently agreed (LPA reference 18/00803/OUT) with OCC by the applicant there. The AM peak rates were lower whereas the PM peak directly comparable.

Table 7 Begbroke Science Park

Time Period	All vehicles		
	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	0.634	0.085	0.718
PM Peak (17:00-18:00)	0.070	0.549	0.620

4.2.8 The B1(c) trip rates are summarised in **Table 8** below.

Table 8 B1(c) Trip Rates per 100m²

Time Period	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	0.382	0.066	0.448	0.018	0.014	0.032
PM Peak (17:00-18:00)	0.066	0.315	0.381	0.014	0.014	0.029
12 Hour (07:00 – 19:00)	1.568	1.689	3.257	0.153	0.142	0.295

4.2.9 The TRICS report for these sites is attached at **Appendix F**.

4.2.10 The proportion of B1(a) office on the site would be up to 35% which is higher than would typically be expected within a B1(c), manufacturing and production, development.

4.2.11 Typically, circa 10% of the buildings would be office ancillary to the principle land use. To allow flexibility for up to 35% office element the trip estimates have been calculated based on a ratio of 27.8:72.2 B1(a) to B1(c) (i.e. the 72.2% B1(c) includes 7.2% ancillary office which when added to 27.8% B1(a) = 35% overall). The net trip rates are summarised in **Table 9**.

Table 9 Net trip rates for Knowledge Industry

Time Period	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	0.694	0.086	0.780	0.013	0.010	0.023
PM Peak (17:00-18:00)	0.078	0.665	0.742	0.010	0.010	0.021
12 Hour (07:00 – 19:00)	2.774	2.862	5.635	0.120	0.112	0.228

4.2.12 The masterplan allows for flexibility to include four different potential land use scenarios as defined at para 4.1.2. In **Table 10** the trip generation from Scenario 1 is summarised for the Science Park and Knowledge Industry options. As can be seen the Science Park option generates the higher peak hour generation but the Knowledge Industry generates more demand over the day.

Table 10 Scenario 1 (employment generation)

Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	196	24	220	0	0	0
PM Peak (17:00-18:00)	8	128	136	0	0	0
12 Hour (07:00 – 19:00)	445	429	874	3	2	5
Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	162	20	182	3	2	5
PM Peak (17:00-18:00)	18	155	174	2	2	5
12 Hour (07:00 – 19:00)	648	669	1317	28	26	53

4.2.13 In **Table 11** the trip generation from Scenario 2 is summarised for the Science Park and Knowledge Industry options. Note that the Health & Racquet Club traffic is additional and is considered further below.

Table 11 Scenario 2 (employment generation only)

Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	141	17	158	0	0	0
PM Peak (17:00-18:00)	6	92	98	0	0	0
12 Hour (07:00 – 19:00)	320	309	628	2	2	3
Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	117	14	131	2	2	4
PM Peak (17:00-18:00)	13	112	125	2	2	4
12 Hour (07:00 – 19:00)	466	481	947	20	19	38

4.2.14 In **Table 12** the trip generation from Scenario 3 is summarised for the Science Park and Knowledge Industry options.

Table 12 Scenario 3 (employment generation)

Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	281	35	316	0	0	0
PM Peak (17:00-18:00)	11	184	195	0	0	0
12 Hour (07:00 – 19:00)	639	617	1255	4	3	7
Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	233	29	262	4	3	8
PM Peak (17:00-18:00)	26	223	249	3	3	7
12 Hour (07:00 – 19:00)	931	961	1892	40	37	77

4.2.15 In **Table 13** the trip generation from Scenario 4 is summarised for the Science Park and Knowledge Industry options. Note that the Health & Racquet Club traffic is additional and is considered further below.

Table 13 Scenario 4 (employment generation only)

Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	226	28	254	0	0	0
PM Peak (17:00-18:00)	9	148	157	0	0	0
12 Hour (07:00 – 19:00)	514	496	1010	3	2	5
Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	187	23	211	4	3	6
PM Peak (17:00-18:00)	21	179	200	3	3	6
12 Hour (07:00 – 19:00)	749	772	1521	32	30	62

Health and Racquet Club

4.2.16 The travel demands generated by the proposed Health & Racquet Club has been estimated using the TRICS (7.6.1) Online database. Within the database a number of parameters were selected including: All regions, site area between 0.8 and 2.0 Hectares, survey date range between 01/01/01 to 21/05/14 and survey locations to

include 'Edge of town centre', 'Suburban area' and 'Edge of Town', i.e. excluding town centre sites.

4.2.17 There are four sites which are similar to the one proposed in terms of size (the average area from the sample was 1.75Ha) and therefore the trip data recorded for these sites are representative of the proposal.

4.2.18 The resulting trip rates have been calculated based on trips per Ha and these are summarised in **Table 14** below. The use of the overall site area rather than the building area was adopted to pick up elements such as the tennis courts although in practice given that the comparison sites were all fairly similar the overall trip generation estimates are broadly consistent with the equivalent GFA based rates. The TRICS output information is included at **Appendix F**.

Table 14 Leisure/Fitness Club per Ha

Time Period	Person trips			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	24.6	29.2	53.8			
PM Peak (17:00-18:00)	70.7	38.9	109.5			
12 Hour (07:00 – 19:00)	561.4	547.2	1108.6			
Time Period	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	20.5	15.8	39.0	0.142	0.142	0.284
PM Peak (17:00-18:00)	51.7	26.5	78.2	0.000	0.000	0.000
12 Hour (07:00 – 19:00)	411.1	410.1	821.3	1.423	1.423	2.845

4.2.19 The resulting trip estimates based on the proposed 1.65Ha site area are summarised in **Table 15** below. This includes the network peak periods whereas in practice the development peak is 18:00 – 19:00.

Table 15 Health and Racquet Club Trip Estimates

Time Period	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	41	48	89			
PM Peak (17:00 – 18:00)	117	64	181			
PM Peak (18:00 – 19:00)	88	97	186			
Daily	926	903	1829			
Time Period	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	34	42	76	0	0	1
PM Peak (17:00 – 18:00)	85	44	129	0	0	0
PM Peak (18:00 – 19:00)	56	72	128	0	0	0
Daily	678	677	1355	2	2	5

4.3 Development Forecasts

4.3.1 These Health and Racquet Club trips have been added onto those Science Park and Knowledge Industry trips summarised above and combined where appropriate with the employment trip generation estimates. These are summarised in **Table 16 – 19** below. Note that no allowance has been included within these estimates for internalisation which is considered in more detail below.

Table 16 Scenario 1 Trip Generation (garden gate)

Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	196	24	220	0	0	0
PM Peak (17:00-18:00)	8	128	136	0	0	0
12 Hour (07:00 – 19:00)	445	429	874	3	2	5
Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	162	20	182	3	2	5
PM Peak (17:00-18:00)	18	155	174	2	2	5
12 Hour (07:00 – 19:00)	648	669	1317	28	26	53

Table 17 Scenario 2 Trip Generation (garden gate)

Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	175	59	234	0	0	1
PM Peak (17:00-18:00)	91	136	227	0	0	0
12 Hour (07:00 – 19:00)	998	986	1983	4	4	8
Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	151	56	207	2	2	5
PM Peak (17:00-18:00)	98	156	254	2	2	4
12 Hour (07:00 – 19:00)	1144	1158	2302	22	21	43

Table 18 Scenario 3 Trip Generation (garden gate)

Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	281	35	316	0	0	0
PM Peak (17:00-18:00)	11	184	195	0	0	0
12 Hour (07:00 – 19:00)	639	617	1255	4	3	7
Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	233	29	262	4	3	8
PM Peak (17:00-18:00)	26	223	249	3	3	7
12 Hour (07:00 – 19:00)	931	961	1892	40	37	77

Table 19 Scenario 4 Trip Generation (garden gate)

Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	260	70	330	0	0	1
PM Peak (17:00-18:00)	94	192	286	0	0	0
12 Hour (07:00 – 19:00)	1192	1173	2365	5	4	10
Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	221	65	287	4	3	7
PM Peak (17:00-18:00)	106	223	329	3	3	6
12 Hour (07:00 – 19:00)	1427	1449	2876	34	32	67

4.4 Distribution of Traffic

- 4.4.1 The Local Plan provides a balance between the employment and housing within Bicester. At present around 35% residents within Bicester work within Bicester (Source 2011 Census journey to work data). At present 50% of employees, however, specifically those that drive to work, originate within the town. There is, therefore, a net outflow in the AM peak and corresponding inflow in the PM peak as there are more residents than jobs.
- 4.4.2 This is significant as if the employment sites within the Local Plan do not come forward in a timely manner relative to the housing sites, then the net external additional residential trips will be greater than or equal to the net external additional employment trips. This is not tested directly within this study as the baseline network flows have the forecast trips associated with the site removed from the model trip matrices.

Removing these trips will suppress the forecast trip generation from residential areas within Bicester in the do-nothing scenario.

4.4.3 The employment traffic distribution methodology is as adopted on adjacent sites (Bicester 10 Phase 1 and Bicester 4). These were based on analysis of Census 2011 journey to work data for the middle super output area (see **Appendix G**) with the trips distributed pro-rata to the existing reported pattern. As such the trips are constrained at the work trip end only i.e. not at the residential trip end. As set out above however this is allowed for within the base flow forecasts.

4.4.4 The distribution of traffic is summarised below in **Table 20**.

Table 20 Employment distribution

Route	Proportion
M40 N	2.90%
M40 S	6.30%
A34	18.80%
Vendee Drive	28.20%
A41 Oxford Road	18.10%
Bicester Town Centre	25.70%
Total	100%

4.4.5 OCC have queried the assignment of HGV traffic in particular the initial assumption that 90% would route directly to the Strategic Road Network via M40 Junction 9, i.e. directly onto A34 or M40. It was agreed that DTA would review the traffic movements on the local network to understand the split between the A41 and M40/A34 corridor.

4.4.6 The development will generate around 10 HGV movements in the peak hour which is relatively small in the context of the local traffic demand on the A41. It is therefore considered that the development is not particularly sensitive. For the purposes of assessment therefore the HGV traffic has been split 50:50 north and south on the A41.

Health & Racquet Club

4.4.7 The trips related to the Health & Racquet Club will include home based trips but potentially a significant proportion of secondary trips, i.e. trips which are already on the local road network. Previous Transport Assessment Reports that have been agreed for Health & Racquet Clubs elsewhere estimated that the proportion of secondary trips

would be around 50% however the underlying survey data on which this was based was not available for review. It was therefore agreed with the Council that a new survey would be undertaken of David Lloyd clubs in Colchester, Enfield, Exeter, Milton Keynes, Oxford, Raynes Park, Ringwood, Southampton, Swindon and Worcester. This survey was sent to members attending the clubs during January and June.

- 4.4.8 **Table 21** below summarises the number of visitors by time of day and the proportion of trips followed by a trip home. As can be seen from this data the majority of members return home after visiting the gym (75%) however there are significant variations by time of day. The most significant variation as would be expected is at the start of the day where members visit the gym before work. Such linked trips account for 59% trips between 06:00 and 07:00 and 51% trips between 07:00 and 08:00.
- 4.4.9 Note that the hours within the table relate to the arrival period rather than departure period and therefore the impact of this behaviour would affect the network AM peak period. For each secondary trip, a home-work trip on the local network will be replaced by a home-gym trip (prior to the peak) followed by a gym-work trip (during the peak). Where the home-work trip is already on the immediate network the change in traffic will be neutral.
- 4.4.10 **Table 22** below summarises the number of visitors by time of day and proportion of trips that were preceded by a trip from home. As can be seen from this data the majority of members travel from home before visiting the gym (82%) however again there is significant variation by time of day. The most significant variation as would be expected is the end of the working day where members visit the gym after work. Such linked trips account for 39% trips between 17:00 and 18:00 and 32% trips between 18:00 and 19:00. For each secondary trip, a work-home trip on the local network will be replaced by a work-gym trip (during the peak) followed by a gym-home trip (after the peak). Where the work-home trip is already on the immediate network the change in traffic will be neutral.

Table 21 David Lloyd Survey - Destination after visit

2019 David Lloyd Member Travel Survey – Destination after visit to Club										
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	5-day total	7-day total	
6am to 7am	223	20	25	17	42	2	1	327	330	
Home	86	9	14	7	18	1	1	134	136	
%primary	39%	45%	56%	41%	43%	50%	100%	41%	41%	
7am to 8am	84	3	12	14	27	52	53	140	245	
Home	43	1	7	5	12	38	39	68	145	
%primary	51%	33%	58%	36%	44%	73%	74%	49%	59%	
8am to 9am	163	11	11	22	38	106	99	245	450	
Home	103	7	9	18	21	82	85	158	325	
9am to 10am	376	20	40	70	107	150	197	613	960	
Home	262	15	25	48	78	127	154	428	709	
10am to 11am	242	18	21	51	95	129	169	427	725	
Home	165	12	16	32	71	99	136	296	531	
11am to 12pm	48	22	38	48	78	64	116	234	414	
Home	36	12	27	37	58	49	99	170	318	
12pm to 1pm	27	18	24	32	65	48	79	166	293	
Home	17	16	20	21	53	40	59	127	226	
1pm to 2pm	27	12	22	27	44	55	70	132	257	
Home	19	8	12	15	27	42	51	81	174	
2pm to 3pm	9	11	24	26	46	58	92	116	266	
Home	7	9	20	20	41	51	78	97	226	
3pm to 4pm	15	19	12	31	42	57	104	119	280	
Home	9	17	10	27	29	41	86	92	219	
4pm to 5pm	18	25	25	33	60	44	104	161	309	
Home	16	22	24	28	55	37	92	145	274	
5pm to 6pm	27	25	57	80	104	41	93	293	427	
Home	24	21	52	70	91	27	79	258	364	
6pm to 7pm	32	35	57	50	64	31	78	238	347	
Home	29	32	49	46	58	24	69	214	307	
7pm to 8pm	22	31	36	41	28	16	44	158	218	
Home	20	28	35	36	25	14	34	144	192	
8pm to 9pm	11	13	9	21	17	4	17	71	92	
Home	10	10	8	18	16	4	16	62	82	
9pm to 10pm	2	3	3	5	6	1	4	19	24	
Home	2	2	1	4	6	1	4	15	20	
10pm to 11pm	1					1		1	2	
Home	1					1		1	2	
Grand Total	1327	286	416	568	863	859	1320	3460	5639	
	849	221	329	432	659	678	1082	2490	4250	
	64%	77%	79%	76%	76%	79%	82%	72%	75%	

Table 22 David Lloyd Survey – Origin before visit

2019 David Lloyd Member Travel Survey – Origin of visit to Club									
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	5-day totals	7-day totals
6am to 7am	223	20	25	17	42	2	1	327	330
Home	200	17	24	15	36	1	1	292	294
7am to 8am	84	3	12	14	27	52	53	140	245
Home	78	3	10	14	21	44	42	126	212
8am to 9am	163	11	11	22	38	106	99	245	450
Home	132	10	10	20	34	86	85	206	377
9am to 10am	376	20	40	70	107	150	197	613	960
Home	311	17	37	57	100	129	165	522	816
10am to 11am	242	18	21	51	95	129	169	427	725
Home	229	16	20	50	86	104	136	401	641
11am to 12pm	48	22	38	48	78	64	116	234	414
Home	44	20	37	43	69	53	87	213	353
12pm to 1pm	27	18	24	32	65	48	79	166	293
Home	23	15	18	28	55	34	62	139	235
1pm to 2pm	27	12	22	27	44	55	70	132	257
Home	20	8	19	19	37	40	55	103	198
2pm to 3pm	9	11	24	26	46	58	92	116	266
Home	7	10	20	18	40	41	74	95	210
3pm to 4pm	15	19	12	31	42	57	104	119	280
Home	11	11	8	19	28	46	77	77	200
4pm to 5pm	18	25	25	33	60	44	104	161	309
Home	13	20	16	22	39	36	82	110	228
5pm to 6pm	27	25	57	80	104	41	93	293	427
Home	16	19	34	51	60	32	76	180	288
%primary	59%	76%	60%	64%	58%	78%	82%	61%	67%
6pm to 7pm	32	35	57	50	64	31	78	238	347
Home	19	22	39	36	47	28	62	163	253
%primary	59%	63%	68%	72%	73%	90%	79%	68%	73%
7pm to 8pm	22	31	36	41	28	16	44	158	218
Home	18	29	26	36	20	13	39	129	181
8pm to 9pm	11	13	9	21	17	4	17	71	92
Home	10	11	7	20	14	4	13	62	79
9pm to 10pm	2	3	3	5	6	1	4	19	24
Home	2	3	3	4	6		4	18	22
10pm to 11pm	1					1		1	2
Home	1					1		1	2
Grand Total	1327	286	416	568	863	859	1320	3460	5639
Home	1134	231	328	452	692	692	1060	2837	4589
%primary	85%	81%	79%	80%	80%	81%	80%	82%	81%

4.4.11 The data provides a more nuanced picture of the trip patterns associated with Health & Racquet Clubs than the broad brush assumptions applied elsewhere. For this assessment it will be assumed that 50% trips and 36% trips in the AM and PM peaks respectively would be secondary trips. The replaced trips are equivalent to 45 vehicles per hour in the AM peak and 51 vehicles per hour in the PM peak. Of these trips it is estimated that 9 vehicles per hour would be internalised within the allocation site in the AM peak and 14 vehicles per hour in the PM peak. In operational appraisal terms these differences are very small and so in terms of the capacity/operational appraisals these deductions have not been included.

4.4.12 Given that there is an existing David Lloyd club in Oxford and a Bannatyne club in Banbury it is likely that the catchment for the Health and Racquet Club will be focused on Bicester and its immediate environs. As such **Table 23** summarises the projected planning assumptions within from the national trip end model (TEMPRO). It has been assumed that the home trip ends would be distributed pro-rata to resident population (16-74). It has been assumed that the work trip ends would be distributed pro-rata to the number of jobs.

Table 23 TEMPRO 2031 Planning Assumptions

Name	< 16	16 to 74	75+	Total	HHs	Jobs	Workers
Cherwell 011	2,488	8,355 (19%)	1,033	11,876	4,858	4,602 (16%)	6,157
Cherwell 012	2,070	6,409 (14%)	531	9,010	3,903	1,345 (5%)	5,025
Cherwell 013	1,854	7,135 (16%)	882	9,871	4,294	6,783 (24%)	5,210
Cherwell 014	2,334	8,705 (19%)	1,284	12,323	5,135	2,207 (8%)	6,149
Cherwell 015	1,961	6,599 (15%)	937	9,497	4,562	7,295 (26%)	5,086
Cherwell 016	2,091	7,903 (18%)	1,398	11,392	4,880	5,841 (21%)	5,355

4.4.13 In terms of the proportion of trips that would be linked to other uses on the site, the site is located within the Bicester 10 allocation which taking into account the site constraints is still likely to provide circa 10% employment (the LP envisaged 12.5% employment) within the Bicester Area (Cherwell 011-016). OCC have queried whether members would drive between their workplace and the Club. This is unlikely but if such trips do occur they would have very little impact on the operation of the wider network. The resulting distribution of trips is set out in **Table 24**.

Table 24 Health & Racquet Club Assignment

	Distribution		AM		PM	
	Resi	Emp	inbound	outbound	inbound	outbound
A41 South	10%	11%	10%	10%	10%	10%
Wendlebury/Chesterton	3%	0%	3%	2%	2%	3%
Vendee Drive	37%	17%	37%	29%	30%	37%
Middleton Stoney Road	9%	4%	9%	7%	7%	9%
A41 East	33%	31%	33%	32%	32%	33%
Bicester Town Centre	8%	12%	8%	10%	9%	8%
Bicester 4	0%	15%	0%	6%	5%	0%
Bicester 10	0%	10%	0%	4%	4%	0%
	100%	100%	100%	100%	100%	100%

4.5 Study Area

4.5.1 The percentage impact at each junction (percentage change in daily demand) within the study area has been calculated for the base year scenarios provided by OCC. The percentage change relative to the 2026 forecast base flows at each location is shown in **Table 25** for the 4 development scenarios. As can be seen from this data the only location where there is a percentage change in excess of 5% is Junction 11, A41 – Vendee Drive roundabout. Full details are attached in **Appendix H**.

Table 25 2026 Materiality Test (Knowledge Industry)

Jn Ref	Description	Scenario 1	Scenario 2	Scenario 3	Scenario 4
8	A41 / Oxford Road /Services roundabout	1.6%	2.5%	2.7%	3.3%
9	Oxford Road / Pingle Drive roundabout	1.8%	1.9%	2.6%	2.7%
10	Oxford Road/ Kings End/Middleton Stoney Road	1.9%	2.2%	2.7%	2.8%
11	A41 Oxford Road / Vendee Drive roundabout	4.1%	5.0%	6.0%	6.7%
12	M40 Junction 9	0.7%	0.8%	1.1%	1.1%
22	A41 Oxford Road/ Tesco's	2.1%	2.7%	2.8%	3.4%
23	A41 Oxford Road/ Premier Inn	2.8%	3.6%	3.8%	4.7%
24	A41 Oxford Road/ Wendlebury Road	2.7%	3.7%	4.2%	4.9%
25	B4100/St John's Street/Queens Avenue	1.8%	1.7%	2.5%	2.4%

4.5.2 The percentage change relative to the 2031 forecast base flows at each location is shown in **Table 26** for the 4 development scenarios. As would be expected the percentage changes are less than with the 2026 flows.

4.5.3 The percentage change relative to the 2031 with SEPR forecast base flows at each location is shown in **Table 27** for the 4 development scenarios. As would be expected the percentage changes are higher than the without SEPR as the effect of the perimeter road is to reduce the ahead flows on the A41.

Table 26 2031 Materiality Test (Knowledge Industry)

Jn Ref	Description	Scenario 1	Scenario 2	Scenario 3	Scenario 4
8	A41 / Oxford Road /Services roundabout	1.5%	2.3%	2.5%	3.1%
9	Oxford Road / Pingle Drive roundabout	1.6%	1.7%	1.2%	2.4%
10	Oxford Road/ Kings End/Middleton Stoney Road	1.8%	2.2%	1.0%	2.7%
11	A41 Oxford Road / Vendee Drive roundabout	3.8%	4.5%	1.6%	6.2%
12	M40 Junction 9	0.7%	0.7%	0.1%	1.1%
22	A41 Oxford Road/ Tescos	1.9%	2.5%	2.6%	3.2%
23	A41 Oxford Road/ Premier Inn	2.6%	3.3%	3.6%	4.3%
24	A41 Oxford Road/ Wendlebury Road	2.6%	3.3%	3.9%	4.5%
25	B4100/St John's Street/Queens Avenue	1.7%	1.6%	1.2%	2.3%

Table 27 2031 with SEPR Materiality Test (Knowledge Industry)

Jn Ref	Description	Scenario 1	Scenario 2	Scenario 3	Scenario 4
8	A41 / Oxford Road /Services roundabout	1.8%	2.7%	3.0%	3.6%
9	Oxford Road / Pingle Drive roundabout	1.7%	1.8%	2.4%	2.5%
10	Oxford Road/ Kings End/Middleton Stoney Road	1.8%	2.2%	2.6%	2.7%
11	A41 Oxford Road / Vendee Drive roundabout	4.5%	5.4%	6.6%	7.4%
12	M40 Junction 9	0.7%	0.7%	1.0%	1.0%
22	A41 Oxford Road/ Tescos	2.2%	2.9%	3.0%	3.7%
23	A41 Oxford Road/ Premier Inn	3.3%	4.2%	4.5%	5.5%
24	A41 Oxford Road/ Wendlebury Road	3.6%	4.6%	5.3%	6.2%
25	B4100/St John's Street/Queens Avenue	1.7%	1.6%	2.4%	2.3%

4.6 **Construction Traffic**

- 4.6.1 Based on similar sites the construction phase is expect to generate a maximum of 28 HGV movements per day (14 arrivals and 14 departures), if both the employment and the Health and Racquet club are built at the same time. Assuming that 10% trips take place in the peak hours then this is equivalent to 3 movements per hour or 1 HGV movement every 20 minutes.
- 4.6.2 There are existing HGV restrictions on vehicle routeing through Wendlebury. The Site will be subject to a Construction Traffic Management Plan. This will be used to prohibit HGV movements from arriving and leaving via Wendlebury Road to the south and to strongly deter any HGV movements along Wendlebury Road from the north.
- 4.6.3 Parking for construction staff will be accommodated on site.

5. ACCESS STRATEGY

5.1 Pedestrian and Cycle Access

- 5.1.1 Wendlebury Road is a Sustrans cycle route. This will not be affected by the proposals however given that there will be an increase in vehicular demand in Wendlebury Road in the southbound direction it is proposed to provide an off-line alternative for cyclists.
- 5.1.2 It is proposed that there would be a combined foot-cycleway 2.5m-3.0m wide which would run from the site access roundabout along the eastern side of Wendlebury Road and join into the existing foot-cycleway immediately to the north of the A41 – Wendlebury Road junction (as shown in **Appendix J**). Where the foot-cycleway crosses the accesses to the Thames Water site and Bicester Avenue appropriate crossing details will be provided including dropped kerbs, tactile paving and appropriate signage. This similarly applies to the scenarios including the Health & Racquet Club which will take direct access from Wendlebury Road.
- 5.1.3 To connect to the new signal controlled toucan crossing on A41, to be implemented as part of the Bloombridge hotel development, for the northern part of the Catalyst Bicester site it is proposed to provide a link north of the Bloombridge site within publicly adopted highway land (as shown in **Appendix J**). This will provide more direct access to the residential development at Kingsmere as well as pedestrian access to longer distance bus services on the A41 corridor.
- 5.1.4 The employment site access roundabout splitter islands across Wendlebury Road and the site access have been widened to allow cyclists to cross. These crossing points will be provided with dropped kerbs, tactile paving and appropriate signage. In line with the strategy agreed by OCC with Bloombridge, it is not proposed to provide a footway on the southern side of the Vendee Drive link road. This does not relate to any pedestrian/cycle desireline that is not already served by a parallel route (i.e. the northern side of Vendee Drive link road).
- 5.1.5 The internal road network will be developed to include appropriate footways along the development access roads. Further pedestrian paths will be developed where appropriate at the detailed design stage.
- 5.1.6 Secure and convenient cycle parking for employment units will be provided on site in accordance with prevailing parking standards. These are as set out in Oxfordshire

County Council's Walking and Cycling Design Standards and summarised in **Table 28** below.

Table 28 Cycle Parking Standards

	Office	General Industry
Long stay/employee	1 stand per 150m ²	1 stand per 350m ²
Visitor	1 stand per 500m ²	1 stand per 500m ²

5.1.7 It is proposed to provide 20 cycle spaces for the Health and Racquets Club in line with the anticipated demand.

5.2 Public Transport Access

5.2.1 There are existing frequent services on the A41 as set out in Section 3.3 above. This includes longer distance routes including the S5 service to Oxford every 15 minutes. The Bloombridge proposals made provision for enhancing access to these services via the provision of laybys and a signal controlled pedestrian crossing on A41. It is proposed to build on this by providing connectivity to the existing footway on the north side of the Vendee Drive link road as well as establishing a new link to the north of the Bloombridge hotel site within highway land. Overall it is considered that the site benefits from excellent bus services.

5.2.2 In their response to consultation OCC recommended that consideration should be given to the extension of a local bus service into the site. This comment was raised in the context of walking distances from stops on the A41 to locations on the eastern side of the site. It is understood that provision for such a service could come forward in conjunction with other development sites within Bicester. The OCC recommendation suggests that the new stop should be provided on the Vendee Drive link road, on the southern side. There is no existing footway in this location, a principle agreed between OCC and Bloombridge as set out above. Whilst this location does not lend itself to a stop it is considered that there are more suitable locations on Wendlebury Road which could be served by a clockwise running local service which would also serve the Bicester Avenue site. Preliminary feedback from OCC has included the suggestion that a contribution towards bus services in the area would be sought. This concept is acceptable subject to agreement on the amount. The development does therefore enable direct servicing by public bus services.

5.3 Vehicle Access

5.3.1 The pre-application scoping note looked at the potential to form a staggered crossroad at the site interface with Wendlebury Road. For masterplanning reasons, a roundabout is preferred at this location and it is understood that this would be preferred by the Cherwell District Council (CDC) in any event. The proposed roundabout has a diameter (ICD) of 36m and capacity testing has confirmed this size provides an appropriate level of capacity. Vehicle tracking drawings are attached at **Appendix I**.

5.4 Site Access

5.4.1 The main site access (employment) would be via a new roundabout on Wendlebury Road. This would be the sole vehicular access in the Scenarios without the Racquets Club. This will replace the existing simple priority junction if the Bloombridge Phase 1b has not been implemented or replace the mini-roundabout junction if the Bloombridge Phase 1b has been implemented.

5.4.2 Wendlebury Road and the Vendee Drive Link Road are currently derestricted, i.e. subject to national 60mph speed limit. The Bloombridge Phase 1 application proposed that the speed limit should be reduced to 40mph (PBA TA para 5.5.3). If the mini-roundabout junction were implemented it was proposed that the speed limit should be further reduced to 30mph. It is considered that the general rationale for the change in speed limit to 40mph is sound as the character of these roads will change as a result of this development and those already consented.

5.4.3 The junction will be a four arm roundabout with a 36m inscribed circular diameter. There will be single lane entries and exits on all arms. The junction has been designed in accordance with the DMRB CD 116 Geometric Design of Roundabouts. No departures from standard have been identified at this stage.

5.4.4 The roundabout will be constructed largely off-line and the existing Wendlebury Road approaches diverted to the junction. Where appropriate splitter islands have been provided to tie into existing or proposed pedestrian/cycle paths.

5.4.5 Scenarios 2 and 4 include a Health & Racquet Club which will take direct access from Wendlebury Road to the north of the main site access roundabout. Geometrically this will be a simple priority junction. There is ample visibility in both directions at this location. The splays shown on the access drawing at **Appendix I** measure 120m from a 2.4m setback commensurate with the requirements for a 40mph design speed. This

reflects the agreed position with respect to the Phase 1 development promoted by Bloombridge. At the time of writing Wendlebury Road is derestricted but in practice 60mph splays would similarly be deliverable.

5.5 Road Safety Audit

5.5.1 An independent Stage 1 Road Safety Audit was commissioned to appraise the safe implications of the proposed site access arrangements and the pedestrian and cycle improvements on Wendlebury Road. The Road Safety Audit was undertaken by Mott MacDonald in accordance with the requirements of DMRB GG119. The Safety Audit report is attached at **Appendix J**.

5.5.2 There were two issues identified within the audit.

Problem 1.01

Location: Southern side of Wendlebury Road.

Summary: Drop at back of footway may present a hazard to pedestrians.

A new 2.5m footway / cycleway is proposed along the southern side of Wendlebury Road. There is an overgrown ditch running the length of Wendlebury Road throughout the scheme, with a noticeable level difference from the carriageway level to the bottom of the ditch. Provision of a footway at this location will result in drop at the back of the footway, which may present a hazard to pedestrians or cyclists should they leave the paved surface. This may result in falls resulting in personal injury.

Recommendation

It is recommended that a fence or guardrail is provided at the back of the footway wherever a drop to surrounding surface levels is present. Alternatively, ground at the back of the footway should be graded to avoid a steep drop.

5.5.3 Designer's Response: Agree, a fence of guardrail will be provided at the back of the footway where a drop to in levels is present or the ground graded as appropriate.

2.2 Problem 1.02

Location: Wendlebury Road – western extent of scheme.

Summary: Unclear end of footway / cycleway.

A new 2.5m footway / cycleway is proposed along the southern side of Wendlebury Road. It is proposed that this will continue to the west of the proposed roundabout, but there are no existing footway / cycleway provisions on this side of the junction. It is unclear if there will be a demand in this direction and therefore the continuation of the footway / cycleway may encourage users continuing to the west to enter the carriageway increasing their vulnerability to being struck.

Recommendation

It is recommended that appropriate tie-ins with surrounding facilities are provided. If no pedestrian / cyclist demand is anticipated in this direction, the footway / cycleway to the west of the roundabout should be omitted from the scheme.

5.5.4 Designer's Response: Agree, the foot/cycleway to the west of the roundabout will be omitted from the scheme.

5.5.5 The audit drawings are included within the RSA report. The site access drawings in **Appendix I** have been updated to reflect the above issues.

5.6 Car Parking

5.6.1 For the employment units it is anticipated that sufficient parking will be provided on site to accommodate the residual parking demand after travel management policies have been taken into account. In practice a significant consideration in this regard will be the nature of individual end users on the site. The precise parking level will therefore be determined at the reserved matters stage.

5.6.2 For the Leisure and Racquet Club there will be a total of 246 parking spaces including 10 disabled parking spaces and 6 parent and child spaces. This level of parking will accommodate the demand from the Club internally to the site.

5.7 Travel Plan

5.7.1 The development will be supported by a Framework Travel Plan for the employment element and a draft Travel Plan for the Racquets Club. The Framework Travel Plan will establish the principles of the travel policies that future occupiers on the site will develop to encourage the development of sustainable travel patterns by staff and visitors to the site. This will include measures to encourage walking and cycling trips to the site, particularly for employees who live within Bicester. Other measures will encourage car sharing including a car share database and parking priority for car sharers.

5.7.2 The Framework Travel Plan is attached at **Appendix K1**. The Health & Racquets Club Travel Plan is attached at **Appendix K2**.

6. TRAFFIC IMPACT

6.1 Operational Appraisal

6.1.1 The operation of individual junctions has been tested using industry standard modelling tools including TRL Junctions and JCT's LINSIG programmes.

6.1.2 JUNCTIONS models the performance of priority junctions and roundabouts in isolation from other junctions within the network. The arrival pattern is normally profiled using the ODTAB to replicate unconstrained demand although in practice where the individual junctions are within an urban network external constraints may make this unrealistic.

6.1.3 There are three key performance metrics which are output from Junctions modelling. These are the forecast queue length (in vehicles), the average delay (in seconds) and the ratio of flow to capacity (RFC). Convention is that the modelled period is subdivided into 15 minute time segments and the highest (worst) results during the modelled period are reported.

6.1.4 There are three key performance metrics which are output from the LINSIG modelling. These are the forecast queue length (in vehicles), the average delay (in seconds) and the degree of saturation (DoS). Convention is that the modelled period with a flat profile over a one hour period.

6.2 Critical Flow Scenarios

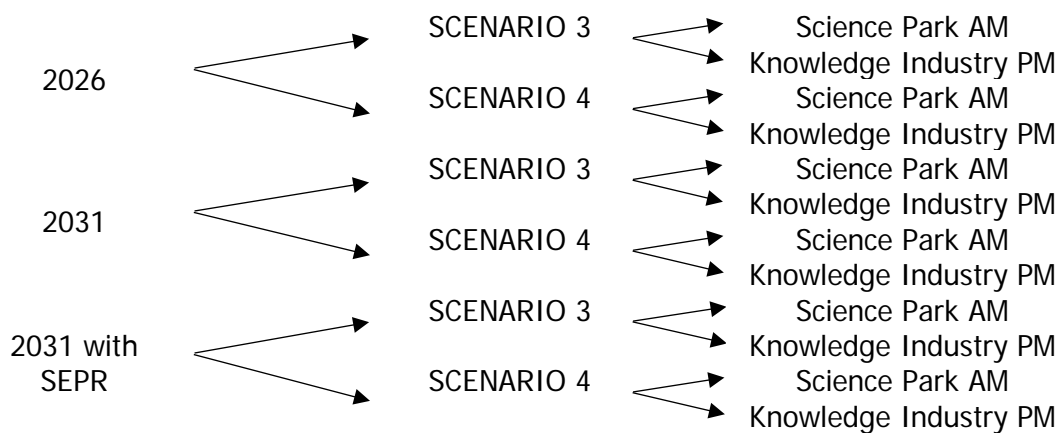
6.2.1 There are a significant number of permutations in terms of the base flow scenarios, development options, and use mixes. Not all of these combinations are critical. The employment generations are set out below in **Table 29**.

Table 29 Site Access Road forecast traffic

SCENARIO 1 – Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	196	24	220	0	0	0
PM Peak (17:00-18:00)	8	128	136	0	0	0
12 Hour (07:00 – 19:00)	445	429	874	3	2	5
SCENARIO 2 – Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	141	17	158	0	0	0
PM Peak (17:00-18:00)	6	92	98	0	0	0
12 Hour (07:00 – 19:00)	320	309	628	2	2	3
SCENARIO 3 – Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	281	35	316	0	0	0
PM Peak (17:00-18:00)	11	184	195	0	0	0
12 Hour (07:00 – 19:00)	639	617	1255	4	3	7
SCENARIO 4 – Science Park	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	226	28	254	0	0	0
PM Peak (17:00-18:00)	9	148	157	0	0	0
12 Hour (07:00 – 19:00)	514	496	1010	3	2	5
SCENARIO 1 – Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	162	20	182	3	2	5
PM Peak (17:00-18:00)	18	155	174	2	2	5
12 Hour (07:00 – 19:00)	648	669	1317	28	26	53
SCENARIO 2 – Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	117	14	131	2	2	4
PM Peak (17:00-18:00)	13	112	125	2	2	4
12 Hour (07:00 – 19:00)	466	481	947	20	19	38
SCENARIO 3 – Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	233	29	262	4	3	8
PM Peak (17:00-18:00)	26	223	249	3	3	7
12 Hour (07:00 – 19:00)	931	961	1892	40	37	77
SCENARIO 4 – Knowledge Industry	All vehicles			OGV		
	Arrive	Depart	Total	Arrive	Depart	Total
AM Peak (08:00 – 09:00)	187	23	211	4	3	6
PM Peak (17:00-18:00)	21	179	200	3	3	6
12 Hour (07:00 – 19:00)	749	772	1521	32	30	62

6.2.2 The highest employment traffic demand is generated by Scenario 3. In the AM peak the Science Park scenario generates more demand. In the PM peak the Knowledge Industry scenario generates more demand. When the Health & Racquet Club traffic is also factored in the highest overall demand is generated by Scenario 4. Again in the AM peak the Science Park scenario generates more demand and in the PM peak the Knowledge Industry generates more demand.

6.2.3 The detailed modelling presented below therefore considers the following tests unless otherwise stated:



6.3 Health & Racquet Club Access

6.3.1 Scenarios 2 and 4 include a Health & Racquet Club which will take direct access from Wendlebury Road to the north of the main site access roundabout. Geometrically this will be a simple priority junction.

6.3.2 The structure of the Bicester traffic model is such that it is not possible to disaggregate the Bicester Avenue Garden Centre traffic from the Wendlebury Road, including Bicester 10 Phase 1, traffic. Given that this location is not considered to be particularly sensitive a robust assumption has been adopted whereby there is no reduction in traffic at the Health & Racquet Club access notwithstanding that the accesses to Bicester Avenue Garden Centre are upstream.

6.3.3 There are not significant differences in the demand on Wendlebury Road across the OCC traffic scenarios, notwithstanding which all three have been tested. The Health & Racquet Club development is identical in development Scenarios 2 and 4. Scenario 4 however includes a greater quantum of employment development which results in slightly higher ahead flows on Wendlebury Road. Of the possible land use mixes, the

Science Park scenario generates the highest demand and so the access has been tested with the Scenario 4 – Science Park traffic. The results are summarised in **Table 30**.

Table 30 Health & Racquet Club Access

2026	AM Peak			PM Peak		
	Q (PCU)	Delay (s)	RFC	Q (PCU)	Delay (s)	RFC
Site Access	0.1	6.58	0.06	0.2	7.66	0.17
Wendlebury Road S	0.1	6.38	0.04	0.1	6.49	0.05
2031 no SEPR	AM Peak			PM Peak		
	Q (PCU)	Delay (s)	RFC	Q (PCU)	Delay (s)	RFC
Site Access	0.1	6.84	0.07	0.2	7.41	0.16
Wendlebury Road S	0.1	6.59	0.05	0.1	6.31	0.05
2031 with SEPR	AM Peak			PM Peak		
	Q (PCU)	Delay (s)	RFC	Q (PCU)	Delay (s)	RFC
Site Access	0.1	6.67	0.06	0.2	7.46	0.16
Wendlebury Road S	0.1	6.45	0.04	0.1	6.34	0.05

6.3.4 This shows that the access will operate with ample capacity in all of the scenarios. The full model report is attached at **Appendix L**. Note that the visibility splays reported in PICADY adopt a different convention to the splays provided to ensure the safe operation of the junction. The PICADY splays relate primarily to operational considerations and are therefore measured from a 10m setback. The splays input assume that the hedgerow loss will be minimised.

6.4 Site Access Roundabout

6.4.1 As with the Health & Racquet Club Site Access the structure of the Bicester traffic model is such that it is not possible to fully disaggregate the Bicester Avenue Garden Centre traffic from the Wendlebury Road, including Bicester 10 Phase 1, traffic. The forecast base flows have therefore been estimated from the model flows for the A41-Wendlebury Road junction and A41 – Vendee Drive roundabout arms.

6.4.2 The operation of the site access roundabout has been assessed using ARCADY module within the Junctions software for the scenarios set out in 6.2.3 and summarised in **Tables 31** and **32**.

6.4.3 Scenario 3 is not the highest development demand but the demand is differently loaded onto the local road network i.e. all on the main site access with no Health & Racquet Club access. These tests therefore show the highest demand that will be loaded onto the site access arm.

6.4.4 Scenario 4 is the highest development demand as this includes the Health & Racquet Club. This traffic is loaded onto the local road network at two separate points. As such this is not the highest demand on the site access although the opposing flows are higher. As can be seen from the summary in tables all scenarios work efficiently.

Table 31 Scenario 3

2026 Base	AM Peak			PM Peak		
	Q (PCU)	Delay (s)	Q (PCU)	Delay (s)	Q (PCU)	Delay (s)
Wendlebury Rd N	0.2	3.72	0.13	0	3.07	0.01
Site Access	0	0	0	0	0	0
Wendlebury Rd S	0.1	3.36	0.12	0.3	3.94	0.25
Vendee Link Rd	0.1	3.11	0.13	0.1	3	0.06
2026 Base + Dev	AM Peak			PM Peak		
	Q (PCU)	Delay (s)	Q (PCU)	Delay (s)	Q (PCU)	Delay (s)
Wendlebury Rd N	0.4	4.9	0.28	0	3.13	0.02
Site Access	0	3.32	0	0.3	3.64	0.22
Wendlebury Rd S	0.1	3.43	0.17	0.4	4.77	0.29
Vendee Link Rd	0.4	3.66	0.13	0.1	3.05	0.07
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Wendlebury Rd N	0.3	5.51	0.36	0	3.05	0.01
Site Access	0	3.47	0.04	0	0	0
Wendlebury Rd S	0.2	3.68	0.18	0.4	4.19	0.3
Vendee Link Rd	0.4	3.66	0.26	0	2.98	0.05
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Wendlebury Rd N	0.6	5.51	0.36	0	3.12	0.02
Site Access	0	3.47	0.04	0.3	3.62	0
Wendlebury Rd S	0.2	3.68	0.18	0.5	5.14	0.3
Vendee Link Rd	0.4	3.66	0.26	0.1	3.02	0.05
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Wendlebury Rd N	0.2	3.83	0.16	0	3.06	0.01
Site Access	0	0	0	0	0	0
Wendlebury Rd S	0.2	3.46	0.14	0.4	4.02	0.27
Vendee Link Rd	0.1	3.11	0.13	0.1	2.98	0.05
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Wendlebury Rd N	0.4	5.1	0.31	0	3.12	0.02
Site Access	0	3.37	0.03	0.3	3.62	0.22
Wendlebury Rd S	0.2	3.54	0.14	0.4	4.89	0.31
Vendee Link Rd	0.3	3.63	0.26	0.1	3.03	0.06

Table 32 Scenario 4

2026 Base	AM Peak			PM Peak		
	Q (PCU)	Delay (s)	Q (PCU)	Delay (s)	Q (PCU)	Delay (s)
Wendlebury Rd N	0.2	3.72	0.13	0	3.07	0.01
Site Access	0	0	0	0	0	0
Wendlebury Rd S	0.1	3.36	0.12	0.3	3.94	0.25
Vendee Link Rd	0.1	3.11	0.13	0.1	3	0.06
2026 Base + Dev	AM Peak			PM Peak		
	Q (PCU)	Delay (s)	Q (PCU)	Delay (s)	Q (PCU)	Delay (s)
Wendlebury Rd N	0.4	4.84	0.28	0.1	3.39	0.09
Site Access	0	3.37	0.03	0.2	3.62	0.19
Wendlebury Rd S	0.1	3.49	0.12	0.4	4.9	0.3
Vendee Link Rd	0.3	3.61	0.25	0.1	3.04	0.07
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Wendlebury Rd N	0.3	5.51	0.36	0	3.05	0.01
Site Access	0	3.47	0.04	0	0	0
Wendlebury Rd S	0.2	3.68	0.18	0.4	4.19	0.3
Vendee Link Rd	0.4	3.66	0.26	0	2.98	0.05
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Wendlebury Rd N	0.6	5.44	0.36	0.1	3.37	0.09
Site Access	0	3.52	0.03	0.2	3.6	0.18
Wendlebury Rd S	0.2	3.75	0.18	0.5	5.28	0.35
Vendee Link Rd	0.3	3.61	0.25	0.1	3.01	0.06
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Wendlebury Rd N	0.2	3.83	0.16	0	3.06	0.01
Site Access	0	0	0	0	0	0
Wendlebury Rd S	0.2	3.46	0.14	0.4	4.02	0.27
Vendee Link Rd	0.1	3.11	0.13	0.1	2.98	0.05
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Wendlebury Rd N	0.4	5.04	0.31	0.1	3.38	0.09
Site Access	0	3.42	0.03	0.2	3.61	0.19
Wendlebury Rd S	0.2	3.6	0.15	0.5	5.02	0.31
Vendee Link Rd	0.3	3.61	0.25	0.1	3.02	0.06

6.5 **A41 – Vendee Drive Roundabout**

- 6.5.1 The operation of the A41 – Vendee Drive roundabout has been assessed using the ARCADY module within the Junctions software. The parameters are unchanged from those used by Motion in their Transport Assessment for the Bicester 4 site.
- 6.5.2 The junction has been assessed according to both Science Park land use and also B1c/B1a land use. The results for these assessments are summarised in **Tables 33 – 40** below.

Table 33 Scenario 1 Science Park ARCADY Results

2026 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	9	0.67	0.8	5.01	0.46
A41 North	0.9	2.44	0.46	1.1	2.46	0.51
Site Access	0.2	3.53	0.13	0.2	3.79	0.18
A41 South	1.6	3.33	0.6	2.3	4.39	0.69
Park and Ride	0	5.22	0.01	0	7.2	0.02
2026 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.1	12.16	0.74	0.9	5.25	0.47
A41 North	1	2.61	0.47	1.1	2.37	0.52
Site Access	0.2	3.98	0.16	0.4	4.42	0.3
A41 South	1.8	3.64	0.62	2.5	4.68	0.71
Park and Ride	0	6.1	0.02	0	8.04	0.02
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.3	12.16	0.74	1.1	5.81	0.52
A41 North	1	2.61	0.47	1.4	2.83	0.58
Site Access	0.2	3.98	0.16	0.3	4.72	0.25
A41 South	1.8	3.64	0.62	2.8	5.22	0.74
Park and Ride	0	6.1	0.02	0	7.78	0.02
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	4.8	17.97	0.84	1.2	6.15	0.54
A41 North	1	2.55	0.51	1.4	2.75	0.58
Site Access	0.3	4.2	0.23	0.6	5.76	0.39
A41 South	1.9	3.77	0.66	3.1	5.64	0.76
Park and Ride	0	6.2	0.02	0	8.76	0.02
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	1.7	6.38	0.62	0.9	4.77	0.46
A41 North	0.3	1.74	0.24	0.8	2.07	0.43
Site Access	0.1	2.58	0.11	0.2	3.35	0.17
A41 South	0.9	2.48	0.46	2.2	4.32	0.68
Park and Ride	0	4.07	0.01	0	6.84	0.02
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.1	7.22	0.68	0.9	4.98	0.48
A41 North	0.3	1.68	0.25	0.8	2.04	0.43
Site Access	0.1	2.63	0.13	0.4	3.84	0.28
A41 South	0.9	2.45	0.49	2.4	4.67	0.7
Park and Ride	0	4.26	0.01	0	7.59	0.02

Table 34 Scenario 2 Science Park ARCADY Results

2026 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	9	0.67	0.8	5.01	0.46
A41 North	0.9	2.44	0.46	1.1	2.46	0.51
Site Access	0.2	3.53	0.13	0.2	3.79	0.18
A41 South	1.6	3.33	0.6	2.3	4.39	0.69
Park and Ride	0	5.22	0.01	0	7.2	0.02
2026 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.1	12.07	0.74	1	5.57	0.49
A41 North	1	2.58	0.47	1.1	2.4	0.52
Site Access	0.2	4.11	0.18	0.5	4.7	0.34
A41 South	1.8	3.66	0.62	2.6	4.95	0.72
Park and Ride	0	6.17	0.02	0	8.57	0.02
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.3	12.79	0.76	1.1	5.81	0.52
A41 North	1.1	2.61	0.5	1.4	2.83	0.58
Site Access	0.3	4.07	0.21	0.3	4.72	0.25
A41 South	1.9	3.75	0.64	2.8	5.22	0.74
Park and Ride	0	5.8	0.02	0	7.78	0.02
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	4.8	17.77	0.83	1.3	6.59	0.56
A41 North	1	2.53	0.51	1.4	2.78	0.58
Site Access	0.3	4.35	0.26	0.8	6.26	0.44
A41 South	2	3.8	0.66	3.3	6.04	0.77
Park and Ride	0	6.28	0.02	0	9.4	0.02
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	1.7	6.38	0.62	0.9	4.77	0.46
A41 North	0.3	1.74	0.24	0.8	2.07	0.43
Site Access	0.1	2.58	0.11	0.2	3.35	0.17
A41 South	0.9	2.48	0.46	2.2	4.32	0.68
Park and Ride	0	4.07	0.01	0	6.84	0.02
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2	7.19	0.67	1	5.27	0.5
A41 North	0.3	1.67	0.25	0.8	2.06	0.43
Site Access	0.2	2.69	0.15	0.5	4.05	0.32
A41 South	0.9	2.46	0.49	2.5	4.94	0.72
Park and Ride	0	4.3	0.01	0	8.06	0.02

Table 35 Scenario 3 Science Park ARCADY Results

2026 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	9	0.67	0.8	5.01	0.46
A41 North	0.9	2.44	0.46	1.1	2.46	0.51
Site Access	0.2	3.53	0.13	0.2	3.79	0.18
A41 South	1.6	3.33	0.6	2.3	4.39	0.69
Park and Ride	0	5.22	0.01	0	7.2	0.02
2026 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.1	12.79	0.76	1.1	5.81	0.52
A41 North	1	2.61	0.5	1.4	2.83	0.58
Site Access	0.2	4.07	0.21	0.3	4.72	0.25
A41 South	1.8	3.75	0.64	2.8	5.22	0.74
Park and Ride	0	5.8	0.02	0	7.78	0.02
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.3	12.79	0.76	1.1	5.81	0.52
A41 North	1.1	2.61	0.5	1.4	2.83	0.58
Site Access	0.3	4.07	0.21	0.3	4.72	0.25
A41 South	1.9	3.75	0.64	2.8	5.22	0.74
Park and Ride	0	5.8	0.02	0	7.78	0.02
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	4.8	17.77	0.83	1.3	6.59	0.56
A41 North	1	2.53	0.51	1.4	2.78	0.58
Site Access	0.3	4.35	0.26	0.8	6.26	0.44
A41 South	2	3.8	0.66	3.3	6.04	0.77
Park and Ride	0	6.28	0.02	0	9.4	0.02
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	1.7	6.38	0.62	0.9	4.77	0.46
A41 North	0.3	1.74	0.24	0.8	2.07	0.43
Site Access	0.1	2.58	0.11	0.2	3.35	0.17
A41 South	0.9	2.48	0.46	2.2	4.32	0.68
Park and Ride	0	4.07	0.01	0	6.84	0.02
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2	7.19	0.67	1	5.27	0.5
A41 North	0.3	1.67	0.25	0.8	2.06	0.43
Site Access	0.2	2.69	0.15	0.5	4.05	0.32
A41 South	0.9	2.46	0.49	2.5	4.94	0.72
Park and Ride	0	4.3	0.01	0	8.06	0.02

Table 36 Scenario 4 Science Park ARCADY Results

2026 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	9	0.67	0.8	5.01	0.46
A41 North	0.9	2.44	0.46	1.1	2.46	0.51
Site Access	0.2	3.53	0.13	0.2	3.79	0.18
A41 South	1.6	3.33	0.6	2.3	4.39	0.69
Park and Ride	0	5.22	0.01	0	7.2	0.02
2026 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.7	14.14	0.78	1	5.72	0.5
A41 North	1	2.66	0.48	1.1	2.42	0.52
Site Access	0.3	4.14	0.19	0.6	4.83	0.36
A41 South	1.9	3.77	0.63	2.7	5.02	0.73
Park and Ride	0	6.34	0.02	0	8.71	0.02
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.3	12.79	0.76	1.1	5.81	0.52
A41 North	1.1	2.61	0.5	1.4	2.83	0.58
Site Access	0.3	4.07	0.21	0.3	4.72	0.25
A41 South	1.9	3.75	0.64	2.8	5.22	0.74
Park and Ride	0	5.8	0.02	0	7.78	0.02
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	6.3	22.95	0.87	1.3	6.8	0.57
A41 North	1.1	2.61	0.52	1.4	2.81	0.59
Site Access	0.4	4.39	0.26	0.8	6.48	0.46
A41 South	2	3.93	0.67	3.4	6.15	0.77
Park and Ride	0	6.47	0.02	0	9.56	0.02
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	1.7	6.38	0.62	0.9	4.77	0.46
A41 North	0.3	1.74	0.24	0.8	2.07	0.43
Site Access	0.1	2.58	0.11	0.2	3.35	0.17
A41 South	0.9	2.48	0.46	2.2	4.32	0.68
Park and Ride	0	4.07	0.01	0	6.84	0.02
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.3	7.95	0.7	1	5.39	0.51
A41 North	0.3	1.71	0.25	0.8	2.08	0.44
Site Access	0.2	2.7	0.15	0.5	4.15	0.33
A41 South	1	2.52	0.5	2.6	5.01	0.72
Park and Ride	0	4.39	0.01	0	8.18	0.02

Table 37 Scenario 1 Knowledge Industry Results

2026 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	9	0.67	0.8	5.01	0.46
A41 North	0.9	2.44	0.46	1.1	2.46	0.51
Site Access	0.2	3.53	0.13	0.2	3.79	0.18
A41 South	1.6	3.33	0.6	2.3	4.39	0.69
Park and Ride	0	5.22	0.01	0	7.2	0.02
2026 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3	11.91	0.74	0.9	5.41	0.48
A41 North	1	2.59	0.47	1.1	2.38	0.52
Site Access	0.2	3.97	0.16	0.5	4.74	0.35
A41 South	1.8	3.62	0.62	2.6	4.89	0.72
Park and Ride	0	6.07	0.01	0	8.46	0.02
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.3	12.79	0.76	1.1	5.81	0.52
A41 North	1.1	2.61	0.5	1.4	2.83	0.58
Site Access	0.3	4.07	0.21	0.3	4.72	0.25
A41 South	1.9	3.75	0.64	2.8	5.22	0.74
Park and Ride	0	5.8	0.02	0	7.78	0.02
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	4.7	17.39	0.83	1.2	6.37	0.55
A41 North	1	2.54	0.51	1.4	2.76	0.58
Site Access	0.3	4.19	0.23	0.8	6.33	0.44
A41 South	1.9	3.75	0.66	3.2	5.95	0.77
Park and Ride	0	6.17	0.02	0	9.26	0.02
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	1.7	6.38	0.62	0.9	4.77	0.46
A41 North	0.3	1.74	0.24	0.8	2.07	0.43
Site Access	0.1	2.58	0.11	0.2	3.35	0.17
A41 South	0.9	2.48	0.46	2.2	4.32	0.68
Park and Ride	0	4.07	0.01	0	6.84	0.02
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2	7.12	0.67	0.9	5.12	0.49
A41 North	0.3	1.68	0.25	0.8	2.05	0.43
Site Access	0.1	2.62	0.13	0.5	4.08	0.32
A41 South	0.9	2.44	0.48	2.5	4.88	0.71
Park and Ride	0	4.25	0.01	0	7.96	0.02

Table 38 Scenario 2 Knowledge Industry Results

2026 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	9	0.67	0.8	5.01	0.46
A41 North	0.9	2.44	0.46	1.1	2.46	0.51
Site Access	0.2	3.53	0.13	0.2	3.79	0.18
A41 South	1.6	3.33	0.6	2.3	4.39	0.69
Park and Ride	0	5.22	0.01	0	7.2	0.02
2026 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3	11.92	0.74	1	5.69	0.5
A41 North	1	2.58	0.47	1.1	2.41	0.52
Site Access	0.2	4.09	0.18	0.6	4.95	0.37
A41 South	1.8	3.65	0.62	2.7	5.11	0.73
Park and Ride	0	6.15	0.02	0	8.88	0.02
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.3	12.79	0.76	1.1	5.81	0.52
A41 North	1.1	2.61	0.5	1.4	2.83	0.58
Site Access	0.3	4.07	0.21	0.3	4.72	0.25
A41 South	1.9	3.75	0.64	2.8	5.22	0.74
Park and Ride	0	5.8	0.02	0	7.78	0.02
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	4.7	17.42	0.83	1.3	6.76	0.57
A41 North	1	2.52	0.51	1.4	2.79	0.58
Site Access	0.3	4.33	0.25	0.9	6.7	0.48
A41 South	1.9	3.78	0.66	3.4	6.28	0.78
Park and Ride	0	6.26	0.02	0	9.78	0.02
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	1.7	6.38	0.62	0.9	4.77	0.46
A41 North	0.3	1.74	0.24	0.8	2.07	0.43
Site Access	0.1	2.58	0.11	0.2	3.35	0.17
A41 South	0.9	2.48	0.46	2.2	4.32	0.68
Park and Ride	0	4.07	0.01	0	6.84	0.02
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2	7.13	0.67	1	5.37	0.51
A41 North	0.3	1.67	0.25	0.8	2.06	0.43
Site Access	0.2	2.68	0.14	0.5	4.24	0.35
A41 South	0.9	2.46	0.48	2.6	5.09	0.72
Park and Ride	0	4.29	0.01	0	8.34	0.02

Table 39 Scenario 3 Knowledge Industry Results

2026 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	9	0.67	0.8	5.01	0.46
A41 North	0.9	2.44	0.46	1.1	2.46	0.51
Site Access	0.2	3.53	0.13	0.2	3.79	0.18
A41 South	1.6	3.33	0.6	2.3	4.39	0.69
Park and Ride	0	5.22	0.01	0	7.2	0.02
2026 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.5	13.65	0.77	1	5.64	0.49
A41 North	1	2.67	0.48	1.1	2.39	0.52
Site Access	0.2	4.02	0.16	0.7	5.35	0.42
A41 South	1.9	3.72	0.63	2.8	5.24	0.74
Park and Ride	0	6.23	0.02	0	9.16	0.02
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.3	12.79	0.76	1.1	5.81	0.52
A41 North	1.1	2.61	0.5	1.4	2.83	0.58
Site Access	0.3	4.07	0.21	0.3	4.72	0.25
A41 South	1.9	3.75	0.64	2.8	5.22	0.74
Park and Ride	0	5.8	0.02	0	7.78	0.02
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	5.9	21.64	0.87	1.3	6.69	0.56
A41 North	1.1	2.62	0.52	1.4	2.77	0.58
Site Access	0.3	4.24	0.24	1.1	7.45	0.53
A41 South	2	3.87	0.67	3.5	6.48	0.78
Park and Ride	0	6.35	0.02	0	10.11	0.02
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	1.7	6.38	0.62	0.9	4.77	0.46
A41 North	0.3	1.74	0.24	0.8	2.07	0.43
Site Access	0.1	2.58	0.11	0.2	3.35	0.17
A41 South	0.9	2.48	0.46	2.2	4.32	0.68
Park and Ride	0	4.07	0.01	0	6.84	0.02
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.3	7.78	0.7	1	5.33	0.5
A41 North	0.3	1.71	0.25	0.8	2.05	0.43
Site Access	0.2	2.64	0.13	0.6	4.52	0.39
A41 South	1	2.49	0.49	2.7	5.23	0.73
Park and Ride	0	4.33	0.01	0	8.58	0.02

Table 40 Scenario 4 Knowledge Industry Results

2026 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	9	0.67	0.8	5.01	0.46
A41 North	0.9	2.44	0.46	1.1	2.46	0.51
Site Access	0.2	3.53	0.13	0.2	3.79	0.18
A41 South	1.6	3.33	0.6	2.3	4.39	0.69
Park and Ride	0	5.22	0.01	0	7.2	0.02
2026 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.5	13.55	0.77	1	5.93	0.51
A41 North	1	2.64	0.47	1.1	2.41	0.52
Site Access	0.3	4.13	0.19	0.8	5.62	0.45
A41 South	1.9	3.75	0.63	2.9	5.48	0.75
Park and Ride	0	6.3	0.02	0	9.65	0.02
2031 Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	3.3	12.79	0.76	1.1	5.81	0.52
A41 North	1.1	2.61	0.5	1.4	2.83	0.58
Site Access	0.3	4.07	0.21	0.3	4.72	0.25
A41 South	1.9	3.75	0.64	2.8	5.22	0.74
Park and Ride	0	5.8	0.02	0	7.78	0.02
2031 Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	5.8	21.4	0.86	1.4	7.1	0.58
A41 North	1.1	2.59	0.52	1.4	2.8	0.58
Site Access	0.4	4.39	0.26	1.3	7.98	0.56
A41 South	2	3.9	0.67	3.7	6.85	0.79
Park and Ride	0	6.43	0.02	0	10.71	0.03
2031 SEPR Base	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	1.7	6.38	0.62	0.9	4.77	0.46
A41 North	0.3	1.74	0.24	0.8	2.07	0.43
Site Access	0.1	2.58	0.11	0.2	3.35	0.17
A41 South	0.9	2.48	0.46	2.2	4.32	0.68
Park and Ride	0	4.07	0.01	0	6.84	0.02
2031 SEPR Base + Dev	AM Peak			PM Peak		
	Queue	Delay (s)	Max RFC	Queue	Delay (s)	Max RFC
Vendee Drive	2.2	7.74	0.69	1.1	5.58	0.52
A41 North	0.3	1.7	0.25	0.8	2.07	0.44
Site Access	0.2	2.7	0.15	0.7	4.71	0.41
A41 South	1	2.51	0.49	2.8	5.47	0.74
Park and Ride	0	4.37	0.01	0	9.01	0.02

6.5.3 As can be seen from the above results the junction is generally operating well within capacity for the modelled scenarios.

6.5.4 The model output reports are attached at **Appendix L**.

6.6 A41 Corridor

6.6.1 There are a number of closely spaced junctions on the A41 corridor to the north of the Vendee Drive roundabout, the majority of which are now traffic signal controlled. Reflecting the approach adopted for other appraisals, such as the Bicester 4 assessment, these junctions have been modelled together.

6.6.2 The results are summarised in **Table 41** below. The base scenario shows that at the Pingle Drive junction the southbound entry is approaching capacity on Oxford Road north.

Table 41 Base traffic scenario

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	86.7%	25.6	86.2%	96.3
J2: Pringle Drive	90.3%	10.7	86.2%	38.3
J3: Tesco & Bicester 4 Access	77.7%	15.1	83.8%	12.0
J4: Premier Inn	74.1%	13.1	75.3%	22.0
J5: Wendlebury Road	21.0%	0.2	72.4%	16.4
J10: Middleton Stoney Road	68.2%	2.7	0.0%	0.0
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	95.2%	40.5	85.4%	42.3
J2: Pringle Drive	97.8%	20.7	83.0%	14.4
J3: Tesco & Bicester 4 Access	87.2%	24.9	84.7%	26.5
J4: Premier Inn	86.9%	22.6	75.3%	18.2
J5: Wendlebury Road	25.7%	0.2	34.3%	0.4
J10: Middleton Stoney Road	78.9%	4.6	85.0%	7.5
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	83.9%	27.3	85.3%	29.3
J2: Pringle Drive	95.0%	16.2	80.4%	14.3
J3: Tesco & Bicester 4 Access	83.7%	19.0	76.9%	21.2
J4: Premier Inn	73.6%	14.8	70.2%	14.2
J5: Wendlebury Road	20.3%	0.1	27.4%	0.2
J10: Middleton Stoney Road	76.6%	4.3	82.2%	6.1

Table 42 Scenario 1 – Knowledge Industries

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	91.6%	28.5	91.4%	40.6
J2: Pringle Drive	93.0%	12.5	84.4%	12.3
J3: Tesco & Bicester 4 Access	77.7%	15.5	78.0%	22.3
J4: Premier Inn	74.1%	13.4	76.5%	17.1
J5: Wendlebury Road	21.7%	0.2	31.7%	0.3
J10: Middleton Stoney Road	69.7%	2.9	81.2%	5.7
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	92.7%	35.0	84.4%	38.3
J2: Pringle Drive	102.3%	38.3	83.9%	16.6
J3: Tesco & Bicester 4 Access	87.8%	26.1	82.3%	27.2
J4: Premier Inn	86.4%	23.3	75.3%	18.8
J5: Wendlebury Road	27.1%	0.2	34.5%	0.4
J10: Middleton Stoney Road	81.5%	5.7	87.2%	8.7
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	84.3%	27.6	86.1%	30.5
J2: Pringle Drive	98.8%	23.3	80.5%	14.5
J3: Tesco & Bicester 4 Access	82.9%	19.6	76.7%	21.7
J4: Premier Inn	73.6%	15.0	70.2%	14.7
J5: Wendlebury Road	21.0%	0.1	27.5%	0.2
J10: Middleton Stoney Road	77.6%	4.5	84.4%	7.0

- 6.6.3 Under Scenario 1, summarised in **Table 42**, the overall operation of the network is largely in line with the base scenarios. There is some stress at Pingle Drive in the AM peak at the southbound entry from the north. This could be addressed by amendments to the road marking by reallocating road space from the left turn into Pingle Drive back onto the ahead movements, i.e. the nearside lane could be ahead and left rather than left turn only, however it is anticipated that the applicant will instead be making a contribution towards the SEPR. The A41 East approach to the A41 – Oxford Road roundabout is also approaching capacity albeit the relative change in performance is low.
- 6.6.4 Growth and development traffic result in further stress but there is some modest relief from the construction of the SEPR. The Science Park scenario is summarised in **Table 43** below but these results are not materially different from the knowledge industry scenario.

Table 43 Scenario 1 – Science Park

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	91.0%	28.0	85.1%	35.7
J2: Pringle Drive	94.3%	13.4	84.4%	13.5
J3: Tesco & Bicester 4 Access	73.9%	14.9	75.0%	22.6
J4: Premier Inn	74.1%	13.4	76.5%	16.9
J5: Wendlebury Road	21.9%	0.2	31.7%	0.3
J10: Middleton Stoney Road	70.0%	2.8	80.3%	5.6
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	93.6%	36.8	84.4%	43.3
J2: Pringle Drive	101.1%	32.0	83.4%	15.1
J3: Tesco & Bicester 4 Access	87.8%	26.3	82.7%	27.2
J4: Premier Inn	84.6%	22.3	75.3%	18.5
J5: Wendlebury Road	26.7%	0.2	34.4%	0.4
J10: Middleton Stoney Road	80.1%	5.4	86.2%	8.5
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	81.2%	28.0	80.5%	29.3
J2: Pringle Drive	99.4%	25.1	80.4%	14.6
J3: Tesco & Bicester 4 Access	83.7%	19.9	75.1%	21.5
J4: Premier Inn	73.6%	15.0	70.2%	14.5
J5: Wendlebury Road	21.1%	0.1	27.4%	0.2
J10: Middleton Stoney Road	77.9%	4.8	83.7%	6.7

Table 44 Scenario 2 - Knowledge Industries

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	90.4%	27.9	85.1%	39.4
J2: Pringle Drive	93.3%	12.7	85.7%	13.3
J3: Tesco & Bicester 4 Access	74.3%	15.4	74.7%	23.0
J4: Premier Inn	74.1%	13.5	76.5%	17.3
J5: Wendlebury Road	21.7%	0.2	32.4%	0.3
J10: Middleton Stoney Road	69.8%	2.9	81.3%	5.4
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	90.9%	37.4	85.3%	44.0
J2: Pringle Drive	100.8%	31.2	84.4%	15.8
J3: Tesco & Bicester 4 Access	84.6%	24.9	82.3%	27.7
J4: Premier Inn	86.4%	22.9	75.3%	19.0
J5: Wendlebury Road	26.7%	0.2	35.3%	0.4
J10: Middleton Stoney Road	80.0%	5.0	87.2%	7.7
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	82.9%	28.2	89.1%	30.9
J2: Pringle Drive	98.1%	21.8	81.3%	14.8
J3: Tesco & Bicester 4 Access	83.1%	19.7	77.1%	22.1
J4: Premier Inn	77.9%	15.3	70.2%	14.8
J5: Wendlebury Road	21.1%	0.1	28.0%	0.2
J10: Middleton Stoney Road	77.8%	4.8	84.5%	7.1

6.6.5 Under Scenario 2, summarised in **Table 44**, the overall operation of the network is largely in line with the base scenarios. There remains some stress at Pingle Drive in the AM peak at the southbound entry from the north and some street on the A41E approach to the A41 – Oxford Road roundabout. Growth and development traffic result in further stress but there is some modest relief from the construction of the SEPR. The Science Park scenario is summarised in **Table 45** below but these results are not materially different from the Knowledge Industry results in **Table 44**.

Table 45 Scenario 2 - Science Park

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	90.9%	28.3	85.1%	36.0
J2: Pringle Drive	93.7%	13.0	85.6%	14.0
J3: Tesco & Bicester 4 Access	77.7%	15.5	74.7%	23.1
J4: Premier Inn	74.1%	13.5	76.5%	17.1
J5: Wendlebury Road	21.8%	0.2	32.3%	0.3
J10: Middleton Stoney Road	70.1%	3.0	80.9%	6.0
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	94.4%	39.2	87.6%	44.4
J2: Pringle Drive	101.0%	32.3	84.4%	15.4
J3: Tesco & Bicester 4 Access	87.8%	26.0	85.0%	27.3
J4: Premier Inn	86.1%	22.8	75.3%	18.8
J5: Wendlebury Road	26.7%	0.2	35.1%	0.4
J10: Middleton Stoney Road	80.2%	5.1	86.4%	8.5
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	82.7%	28.2	88.4%	30.6
J2: Pringle Drive	98.6%	22.9	81.5%	14.7
J3: Tesco & Bicester 4 Access	83.7%	19.9	76.7%	22.0
J4: Premier Inn	77.9%	15.3	70.2%	14.7
J5: Wendlebury Road	21.1%	0.1	27.9%	0.2
J10: Middleton Stoney Road	78.0%	4.8	83.7%	6.8

Table 46 Scenario 3 – Knowledge Industries

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	91.3%	28.8	88.1%	37.7
J2: Pringle Drive	94.5%	14.0	84.2%	13.6
J3: Tesco & Bicester 4 Access	74.5%	15.6	74.7%	22.8
J4: Premier Inn	74.1%	13.6	76.5%	17.4
J5: Wendlebury Road	22.1%	0.2	31.8%	0.3
J10: Middleton Stoney Road	71.3%	3.0	82.3%	6.3
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	92.7%	35.0	84.4%	38.3
J2: Pringle Drive	102.3%	38.3	83.9%	16.6
J3: Tesco & Bicester 4 Access	87.8%	26.1	82.3%	27.2
J4: Premier Inn	86.4%	23.3	75.3%	18.8
J5: Wendlebury Road	27.1%	0.2	34.5%	0.4
J10: Middleton Stoney Road	81.5%	5.7	87.2%	8.7
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	78.9%	28.8	91.6%	31.8
J2: Pringle Drive	100.6%	29.6	80.9%	14.9
J3: Tesco & Bicester 4 Access	83.4%	20.1	76.9%	21.5
J4: Premier Inn	73.5%	15.1	74.9%	14.9
J5: Wendlebury Road	21.4%	0.1	27.5%	0.2
J10: Middleton Stoney Road	79.2%	5.0	85.3%	7.4

6.6.6 Under Scenario 3, summarised in **Table 46**, the overall operation of the network is largely in line with the base scenarios. There is some stress at Pingle Drive in the AM peak at the southbound entry from the north. Growth and development traffic result in further stress but there is some modest relief from the construction of the SEPR. The Science Park scenario is summarised in **Table 47** below but these results are not materially different from the knowledge industry scenario.

Table 47 Scenario 3 – Science Park

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	91.5%	28.9	90.2%	36.5
J2: Pringle Drive	95.3%	14.8	84.4%	13.9
J3: Tesco & Bicester 4 Access	78.1%	15.7	74.7%	22.8
J4: Premier Inn	74.1%	13.6	76.5%	17.1
J5: Wendlebury Road	22.1%	0.2	31.7%	0.3
J10: Middleton Stoney Road	71.6%	3.1	81.4%	6.2
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	92.2%	38.4	84.9%	40.2
J2: Pringle Drive	102.3%	38.4	82.9%	15.5
J3: Tesco & Bicester 4 Access	87.8%	25.3	82.3%	26.5
J4: Premier Inn	86.0%	22.8	75.3%	18.8
J5: Wendlebury Road	27.2%	0.2	34.5%	0.4
J10: Middleton Stoney Road	81.9%	5.3	87.3%	7.8
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	83.4%	28.2	86.1%	30.5
J2: Pringle Drive	100.0%	27.1	80.4%	14.5
J3: Tesco & Bicester 4 Access	83.7%	20.2	76.7%	21.6
J4: Premier Inn	73.9%	15.2	70.2%	14.7
J5: Wendlebury Road	21.5%	0.1	27.4%	0.2
J10: Middleton Stoney Road	79.7%	4.9	84.5%	7.0

Table 48 Scenario 4 - Knowledge Industries

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	90.8%	28.5	85.1%	39.7
J2: Pringle Drive	94.9%	14.5	85.8%	13.5
J3: Tesco & Bicester 4 Access	77.8%	15.7	74.7%	23.4
J4: Premier Inn	74.1%	13.6	76.5%	17.5
J5: Wendlebury Road	22.1%	0.2	32.5%	0.3
J10: Middleton Stoney Road	71.4%	3.1	82.3%	5.6
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	91.8%	37.9	88.4%	40.8
J2: Pringle Drive	102.2%	37.7	84.2%	15.8
J3: Tesco & Bicester 4 Access	87.8%	25.6	82.3%	28.0
J4: Premier Inn	86.5%	23.0	75.3%	19.3
J5: Wendlebury Road	27.1%	0.2	35.3%	0.4
J10: Middleton Stoney Road	81.6%	5.3	87.6%	9.0
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	84.4%	29.0	89.5%	31.2
J2: Pringle Drive	99.4%	25.2	81.4%	15.0
J3: Tesco & Bicester 4 Access	86.2%	20.2	75.1%	22.1
J4: Premier Inn	77.9%	15.4	74.9%	15.1
J5: Wendlebury Road	21.4%	0.1	28.0%	0.2
J10: Middleton Stoney Road	79.4%	5.0	85.4%	7.6

6.6.7 Under Scenario 4, summarised in **Table 48**, the overall operation of the network is largely in line with the base scenarios. As expected there is some stress at Pingle Drive in the AM peak at the southbound entry from the north. Growth and development traffic result in further stress but there is some modest relief from the construction of the SEPR. The Science Park scenario is summarised in **Table 49** below but these results are not materially different from the knowledge industry scenario.

Table 49 Scenario 4 - Science Park

2026	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	92.0%	29.3	85.1%	39.2
J2: Pringle Drive	95.2%	14.6	85.7%	13.3
J3: Tesco & Bicester 4 Access	77.7%	15.6	74.7%	22.8
J4: Premier Inn	74.1%	13.6	76.5%	17.3
J5: Wendlebury Road	22.1%	0.2	32.3%	0.3
J10: Middleton Stoney Road	71.8%	3.1	81.5%	6.4
2031	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	92.2%	38.4	88.4%	44.4
J2: Pringle Drive	102.4%	39.1	84.5%	15.7
J3: Tesco & Bicester 4 Access	87.8%	25.3	85.0%	27.5
J4: Premier Inn	86.2%	22.9	75.3%	19.0
J5: Wendlebury Road	27.2%	0.2	35.2%	0.4
J10: Middleton Stoney Road	82.1%	5.5	86.7%	8.6
2031 with SEPR	AM Peak		PM Peak	
	Deg Sat (%)	Total Delay (pcuHr)	Deg Sat (%)	Total Delay (pcuHr)
J1: A41/Oxford Road/Services	80.4%	28.3	83.3%	30.1
J2: Pringle Drive	99.7%	26.2	81.5%	14.9
J3: Tesco & Bicester 4 Access	86.2%	20.2	76.7%	21.9
J4: Premier Inn	77.9%	15.4	70.2%	14.8
J5: Wendlebury Road	21.5%	0.1	27.9%	0.2
J10: Middleton Stoney Road	79.8%	5.1	84.6%	7.2

6.6.8 Overall it is clear that the impact on the wider road network is modest and there are no significant differences in the future year performance of the road network between the different B1 uses and the different development scenarios. Where the scenarios include the Health and Racquets club, a proportion of the traffic will be secondary, existing trips that are already on the local road network, and therefore the actual performance will be better than forecast albeit again the differences will be small.

6.6.9 The model output report is attached at **Appendix L**.

6.7 Request for Contributions

6.7.1 It is anticipated that Oxfordshire County Council will request the following contributions:

- Strategic infrastructure contribution in accordance with Cherwell Local Plan Policy Bicester 10 calculated based on the peak hour traffic generation of the site;
- Public transport contribution
- Workplace travel plan monitoring fee of £1240

- 6.7.2 The principle of each of these contributions is accepted. The strategic infrastructure contribution is sought to assist with the delivery of the SEPR. The County have presented a formula based calculation in the consultation response to the Bicester 4 application to which they reference Bicester 10. This identifies a contribution per peak hour trip. The most recently prepared version of the formula figure cites a contribution per trip of £927.08.
- 6.7.3 Again, precedent is drawn from Bicester 4 in terms of the anticipated public transport contribution. Figures sought from Bicester 4 equate to a sliding scale of annual contribution towards part funding of an additional vehicle. The Bicester 4 contribution sought is identified as £360,000 over the course of 8 years.
- 6.7.4 Detailed discussions on both elements is anticipated, but the principle of the formula approach to the SEPR and the sliding scale bus cost approach is acknowledged.

7. CONCLUSIONS

- 7.1 This Transport Assessment has appraised the transport implications of the Bicester Catalyst development proposals. The site is allocated for B1 led employment use within the Cherwell Local Plan as part of the Bicester 10 allocation.
- 7.2 The site is already well integrated with the pedestrian and cycle networks with additional linkages being delivered by the Bloombridge site to meet the requirements of the allocation. These will be further enhanced with an off-road cycle path (combined path to be shared with pedestrians) along the eastern side of Wendlebury Road. An appropriate level of cycle parking will be provided.
- 7.3 The site is very well located within Bicester with respect to public transport with the key bus routes operating along the A41 corridor providing inter-urban and local accessibility. These can be improved and provision is planned to integrate the site with emerging town based bus services. The details of these will be agreed with Oxfordshire County Council, however the site layout makes provision for services to operate along Wendlebury Road and thereby brought closer to the site
- 7.4 There are four development scenarios which test the permutations with respect to the inclusion of the adjacent chicken farm site within the development scheme, and with the inclusion of a Health & Racquet Club. In terms of direct impact there is only modest difference between the four development scenarios on the operation of the local road network. The development will result in a relatively small change in demand on the A41 corridor, the greatest change is predicted to occur on A41 – Vendee Drive roundabout. There is an appropriate level of capacity at this location to meet the forecast demand.
- 7.5 Access to the site has been subject to an independent Stage 1 Road Safety Audit. Each recommendation from this audit has been accepted and taken on board.
- 7.6 Detailed consideration has been given to the existing performance of the local road network including the A41 – Vendee Drive roundabout. This location has been identified during discussions with OCC as a potential accident cluster. Overall, the junction is performing better than expected given the volume of traffic carried. Notwithstanding this, taken in isolation there is a higher accident occurrence recorded specifically on the A41 southern approach. The records provided by OCC however predominantly illustrate over-riding contributory factors other than junction geometry

or traffic volume. As such, it is concluded that the addition of development traffic does not materially increase the likelihood of such accidents.

- 7.7 It is anticipated that the development will make a contribution to the strategic transport infrastructure in accordance with the calculation agreed for the Bicester 4 development.
- 7.8 It is also proposed that the development will be supported by Travel Planning documents. These will establish the principles of the travel policies that future occupiers on the site will develop to encourage the development of sustainable travel patterns by staff and visitors to the site.
- 7.9 Overall it is concluded that the development accords with the transport related requirements of national and local policy and there are no transport related reasons why planning permission should not be granted.

19539-04h Catalyst Bicester TA
14th August 2019