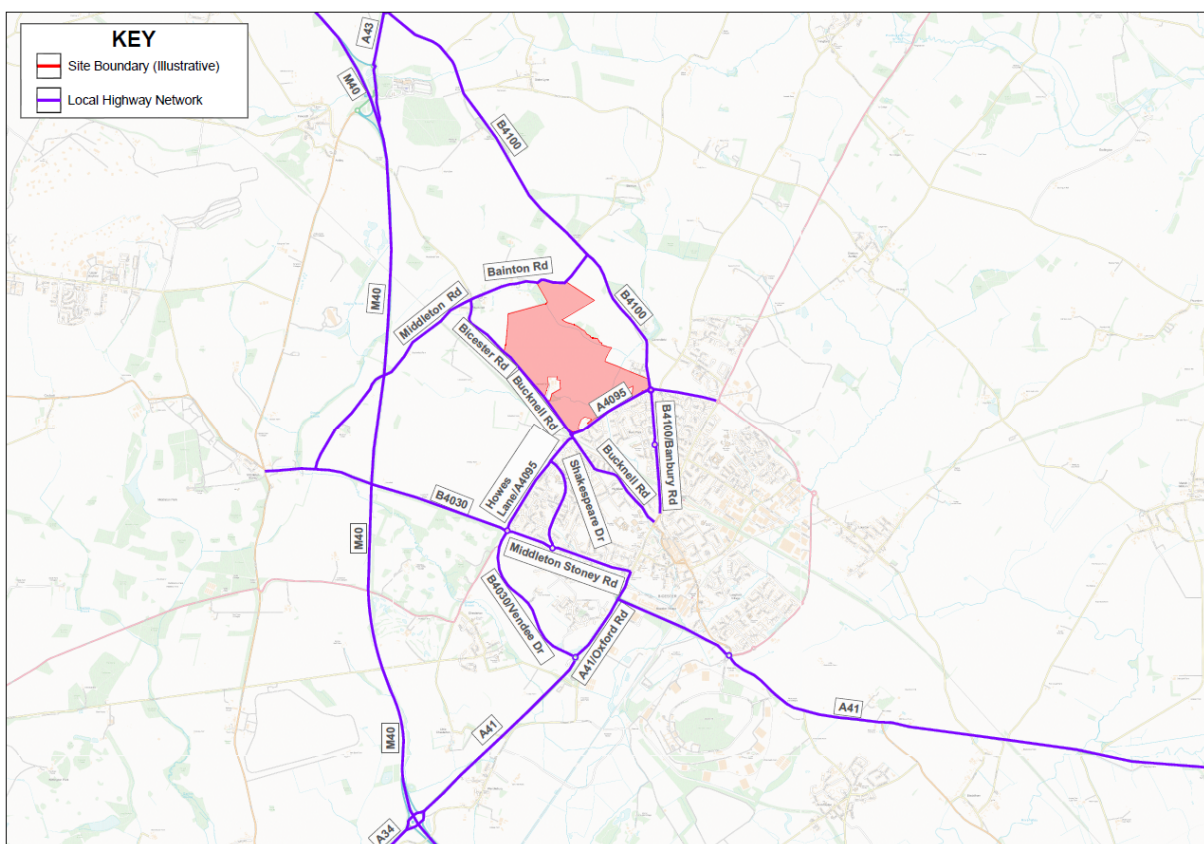


## 6 Highway Existing Conditions

### 6.1 Highway Network

#### Introduction

- 6.1.1 The road network within the proximity of the development site constitutes a mixture of local access, urban distributor, and strategic highway. In order to fully understand the constraints as well as opportunities along the existing highway and thus assess the associated development traffic implications, a study network has been developed from a previous TA carried out in 2014 by Hyder Consulting Limited.
- 6.1.2 **Figure 6.1** on the next page shows the relevant highway network surrounding the site that will be described in more detail through this section.



*Figure 6.1 – Local Highway Network*

#### A4095

- 6.1.3 The main points of vehicular access will be via the A4095 to the south of the site. The A4095 forms part of a ring road around Bicester and runs from the A4421/Buckingham Road/A4095 Roundabout in the east to the Howes Lane/B4030/Middleton Stoney Road Roundabout to the southwest. Importantly, this road will allow future residents of NWB to drive around Bicester when travelling outside of the town.
- 6.1.4 This is a single lane carriageway with a 50mph speed limit, however there are sections of the road that reduce to 30-40mph where it is in close proximity to more residential areas where pedestrians are likely to be present. The road varies in width from approximately 7.2m to 9.5m; the wider sections of the road are there to

accommodate right turn lanes into minor roads. The road is generally well lit along the length that it spans and has footway/cycleways along various sections of the carriageway.

- 6.1.5 This road provides connection to a number of roads leading into and out of Bicester, these include: Buckingham Road, Skimmingdish Lane, A4421, B4100, Banbury Road, Bucknell Road, B4030, Shakespeare Drive Middleton Stoney Road and Vendee Drive.

#### **Bucknell Road**

- 6.1.6 This road runs from near Bicester Town Centre in the south and eventually turns into Bicester Road in the north and runs adjacent to the western side of the site boundary.
- 6.1.7 Within the ring road, Bucknell Road is a single carriageway road with 30mph speed limit and varies in width. The road runs through Highfield residential area and is well lit with footways running along its length within the built-up area. To the south this road forms a priority junction with B4100 and to the north forms a priority junction with Howes Lane/A4095 and then a roundabout with the A4095.
- 6.1.8 North of the roundabout, the road exits Bicester and there is a speed increase to 60mph. The road continues for approximately 730m until it turns into Bicester Road which can be used for onward travel to Bucknell and Junction 10 of the M40.

#### **B4100**

- 6.1.9 This road runs from near Bicester Town Centre in the South to Adderbury in the northwest. A small section of this road to the southeast of the site abuts the site boundary. This road also forms one of the main routes into Bicester from the north.
- 6.1.10 To the south, within the ring road, the B4100 is also known as the Banbury Road, it forms a roundabout with Queens Avenue and St John's Street near Bicester Town centre, this can be followed into the town centre or toward the A41. The majority of the B4100 within the ring road has a speed limit of 30mph and is well lit.
- 6.1.11 Approximately 1.2km north of the B4100/Queens Avenue/St John's Street roundabout there is a speed limit change from 30mph to 40mph. A further 0.5km north of this point, the B4100 forms a roundabout with the A4095 ring road and continues to the north.
- 6.1.12 North of the B4100/A4095 roundabout, the road leads towards rural Oxfordshire and continue to be a 40mph road for approximately 1.6km. The road eventually reaches the A43 to form a roundabout and the A43 provides onward Access to Junction 10 of the M40.

#### **Bainton Road**

- 6.1.13 Bainton road is situated just north of the proposed site and is on an east to west alignment. It is a connecting road between the B4100, and a crossroads junction formed by Bicester Road/Middleton Road/Bainton Road/Ardley road. and is approximately 1.7km long. The road is a country lane with a width of approximately 5m. To the east, the speed limit is 60mph and to the west the road reduces speed to 30mph as it approaches Bucknell.

### **Shakespeare Drive**

- 6.1.14 Shakespeare Drive is a 30mph single carriageway road situated to the southwest of the site and is approximately 1.2km long; the road connects A4095 and Middleton Stoney Road. The road is approximately 6.5m in width with footways on either side and is well lit.
- 6.1.15 To the north it forms a signalised junction with the A4095/Howes Lane and to the south it forms the northern arm of the Shakespeare Drive/Middleton Stoney Road/Whitelands Way Roundabout.

### **Middleton Stoney Road**

- 6.1.16 Middleton Stoney Road runs on an east to west alignment and is approximately 1.6km long. The road is a single carriageway with a 30mph speed limit and is approximately 5.5m wide with on-road cycle lanes in both directions and a footway along the northern side of the carriageway.
- 6.1.17 To the east the road connects with Kings End and Oxford Road to form a three-arm roundabout and in the west the road connects with the B4030 and A4095 to form a four-arm roundabout.

### **B4030**

- 6.1.18 The B4030 forms the southwestern section of ring road which is also known as Vendee Drive. The road runs from the A41/B4030 Roundabout in the south to Enstone, outside of Bicester to the west.
- 6.1.19 Vendee Drive is approximately 1.9km long with a speed limit of 50mph and is approximately 7.2m in width. There is a footway/cycleway on the eastern side of the carriageway.
- 6.1.20 At the Vendee Drive/Middleton Stoney Road/Howes Lane/B4030 roundabout, the B4030 exits Bicester towards the west. The road follows similar characteristics as the Vendee Drive section, and approximately 3.1km west the road meets the B430 to form a priority junction.

### **A41**

- 6.1.21 The A41 has two alignments coming into Bicester, one from the southwest to northeast and one from the southeast to northwest.
- 6.1.22 To the southwest the A41 provides access to Junction 9 of the M40 and the A34. Travelling from the M40 toward Bicester, the road is a segregated dual carriageway and is subject to a 70mph speed limit that reduces to 50mph and then 40mph on approach to Bicester.
- 6.1.23 Continuing towards Bicester, the A41 eventually turns into the Oxford Road and forms a roundabout with Esso garage/Oxford Road and A41.
- 6.1.24 The eastern arm of the roundabout is where the A41 changes course and continues in a south-eastern direction and eventually reaching Aylesbury.

### **M40**

- 6.1.25 The M40 is on a north to south alignment and passes by Bicester to the west. From the proposed site there are two points of access, these include; Junction 9 and Junction 10. Junction 9 is approximately 6km southwest of

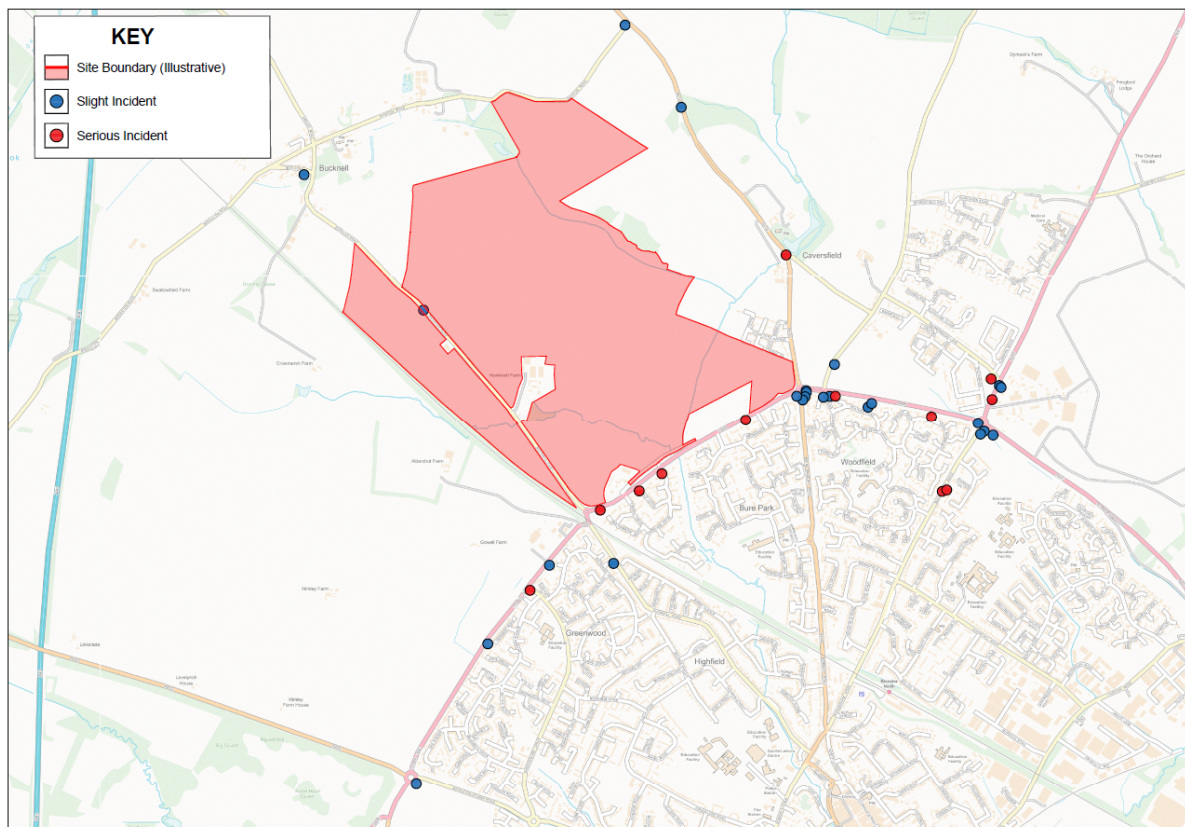
the site and is accessed by using the Bicester ring road and A41, whereas junction 10 is situated approximately 7.5km north of the site and is accessed by utilising the B4100 and A43.

6.1.26 The M40 runs from Birmingham to London and more locally provides access to Banbury and High Wycombe.

## 6.2 Highway Safety

6.2.1 To assess the safety level of the adjoining highway network and thus identify any potential conflict points and highway safety issues, Personal Injury Collision (PIC) data has been obtained from Oxfordshire County Council along the neighbouring highway network in the vicinity of the proposed site for the most recently available five-year period, between 11<sup>th</sup> January 2016 and 30<sup>th</sup> January 2021. The full report is included within **Appendix B**.

6.2.2 A large area surrounding Bicester has been selected to provide a robust accident data analysis, the network includes several junctions on the ring road to the north and northeast of the Bicester. The study area is shown below in **Figure 6.2** below, as well as the severity and location of the reported incidents:



*Figure 6.2 Accident Analysis*

6.2.3 A total of 38 incidents were recorded along study network for the last 5-year period within the vicinity of the site giving rise to 14 serious and 24 slight injuries. This equates to, on average, less than eight collisions per year. No fatal collisions were recorded.

6.2.4 A yearly breakdown of the reported incidents is summarised in **Table 6.1** below:

Year	Serious	Slight	Total
2016	7	6	13
2017	1	5	6
2018	1	3	4
2019	1	3	4
2020	2	7	9
2021	2	0	2
<b>Total</b>	<b>14</b>	<b>24</b>	<b>38</b>

*Table 4.1 Collision Summary*

6.2.5 The location and classification of the collisions within the proposed study area are illustrated in **Figure 6.2** above with details summarised in **Table 6.2** on the next page.

Location	Serious	Slight	Total
A4095 / A4421 / Skimmingdish Lane / Buckingham Road (Roundabout)		4	4
A4095 / B4100 / Banbury Road (Roundabout)		5	5
Bucknell Road / A4095 (Roundabout)	1		1
Howes Lane / B4030 / Vendee Drive / Middleton Stoney Road (Roundabout)		1	1
Howes Lane / Shakespeare Drive	1		1
Howes Lane	1	2	3
Bucknell Road / Kingsley Road		1	1
A4095 / Purslane Drive	1		1
A4095 / Trefoil Drive	1		1
A4095 (Near A4095 / Germander Way)	1		1
A4095 / Fringford Road	1	2	3
Fringford Road		1	1
A4095 / Heather Road		2	2
A4095 / Hornbeam Road	1		1
A4221	1		1
A4221 / Skimmingdish Lane	1	2	3
Buckingham Road	2		2
B4100	2	1	3
B4100 / Bainton Road		1	1
Bicester Road / New Road		1	1
Bucknell Road		1	1
<b>Total</b>	<b>14</b>	<b>24</b>	<b>38</b>

*Table 4.2 Location and Severity of the Incidents*

6.2.6 A review of the location of collisions indicates that there are no significant clusters observed within the study area with incidents scattered across the network. Whilst 5 slight collisions are shown at A4095 / B4100 /

Banbury Road Roundabout and 4 slight collisions at A4095 / B4100 / Banbury Road Roundabout the collision rate at these junctions would still only equate to, on average, to 1 or just under 1 incident every year. Thus, it is evident that there is not a significant pattern of collisions at these junctions.

- 6.2.7 Given the dispersed nature of these accidents, both in terms of geographical location and timescale, the proposed development site does not include any geometric features that can be specifically linked to recorded collisions.
- 6.2.8 Additionally, the realignment of the A4095 and the signalisation of the Banbury Road / A4095 junction will alter the network alignment and junctions upgrading the existing network to high quality standards for all users of the network.



## 7 Development Proposals

7.1.1 The detailed description of the development proposals is set out below:

*“Mixed Use Development of up to 3,100 dwellings (including extra care); residential and care accommodation(C2); mixed use local centre (comprising Commercial, Business and Service Uses, residential uses, C2 uses, Local Community Uses (F2(a) and F2(b)), hot food takeaways, public house, wine bar); employment area (B2, B8, E(g)); Learning and Non-residential institutions (Class F1) including primary school (plus land to allow extension of existing Gagle Brook primary school); Green Infrastructure including formal (including playing fields) and informal open space, allotments, landscape, biodiversity and amenity space; burial ground; play space (including Neaps/Leaps/MUGA); changing facilities; ground mounted photovoltaic arrays; sustainable drainage systems; movement network comprising new highway, cycle and pedestrian routes and access from highway network; car parking; infrastructure (including utilities); engineering works (including ground modelling); demolition”.*

7.1.2 The Development Framework Plan is attached at **Appendix C** and an extract is provided in **Figure 7.1**.

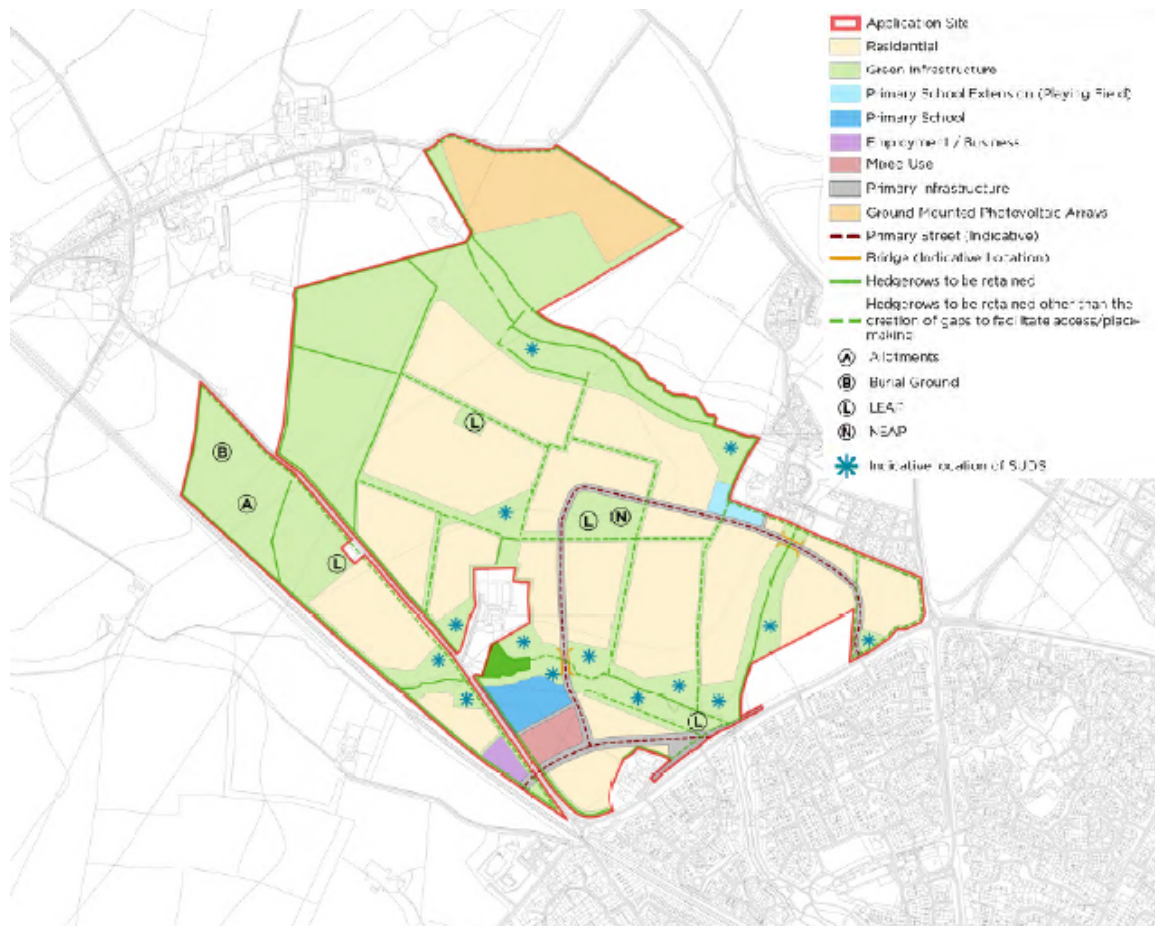


Figure 7.1 Development Framework Plan

7.2 Access and Movement Strategy

7.2.1 As part of the NWB a masterplan was prepared for the scheme in March 2014 and included Figure 11 of the NWB SPD which was adopted in February 2016. The document set out the overarching access and movement strategy for the whole allocation in order to guide the delivery of the internal circulation as well the associated transport investment and movements priorities for the eco-community.

7.2.2 The aspiration for NWB is to encourage non-car use by the delivery of suitable and appropriate walking, cycling and public transport infrastructure which enables journeys to be undertaken sustainably and through the promotion of sustainable transport initiatives, ensuring also that the highway network and access arrangements are fit for purpose.

7.2.3 **Figure 7.2** provides a visual representation of the overarching NWB masterplan movement and access framework.



Figure 7.2 NW Bicester Masterplan Movement and Access Framework



### Vehicle Access Strategy

7.2.4 In order to adequately serve the proposed NWB allocation, increase the network capacity and remove any barriers and constraints, a new NW Strategic Link Road, through the realignment of the A4095, was proposed as part of the Vehicle Access Strategy. This scheme is being delivered by Oxfordshire County Council with completion due in 2023 and is illustrated in **Figure 7.3**.

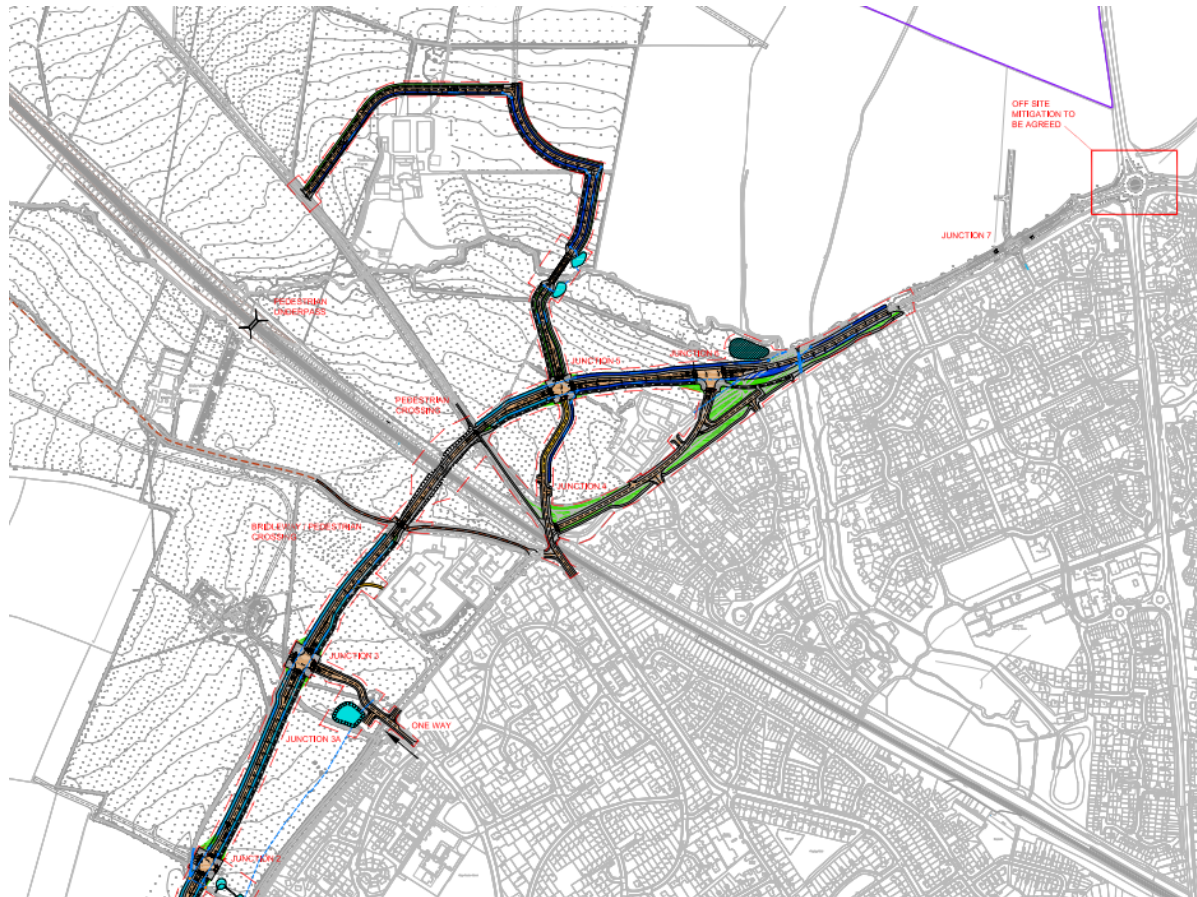
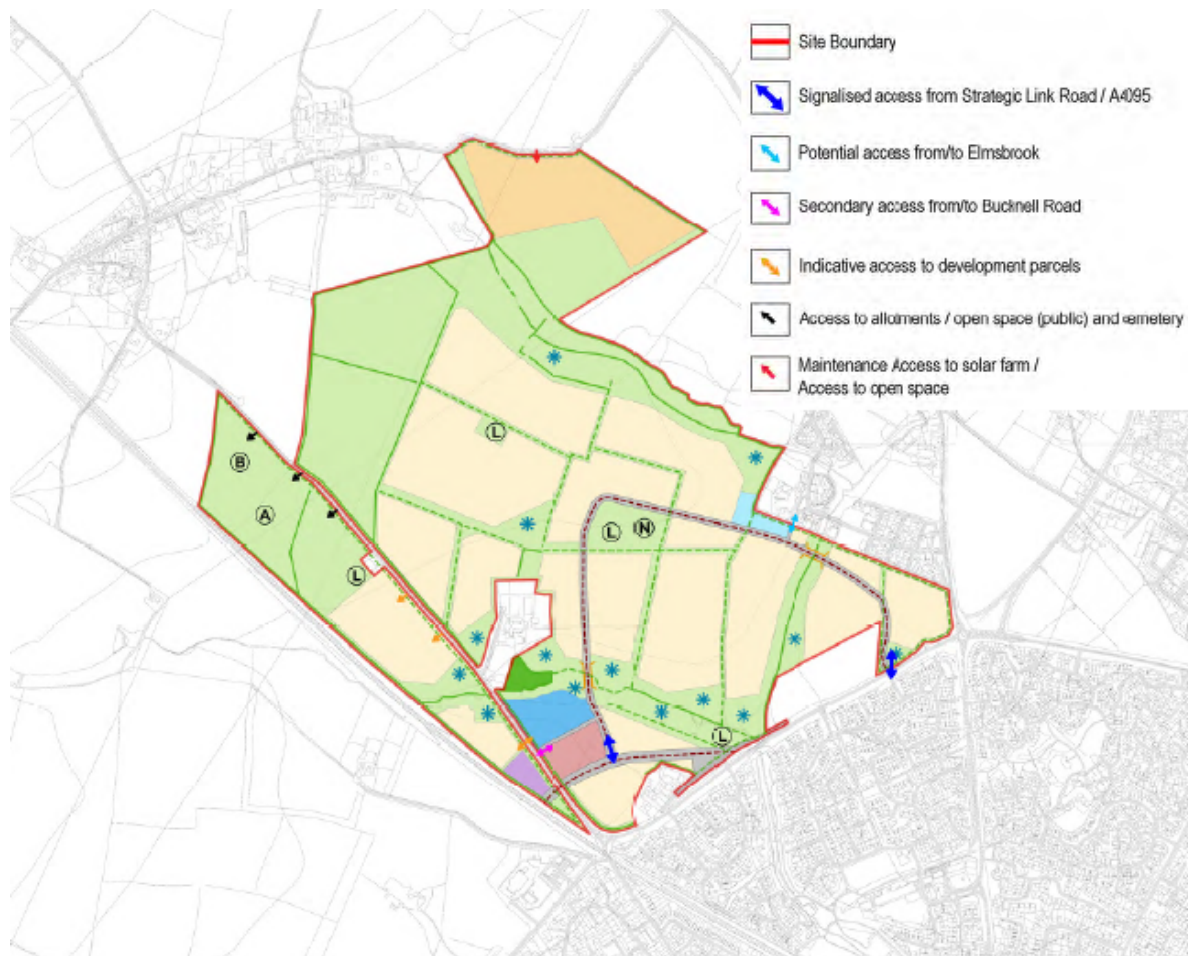


Figure 7.3 NW Bicester Strategic Link Road

7.2.5 The design includes:

- Introduction of a new road to replace Howes Lane and Lord's Lane from the Middleton Stoney Road roundabout to join Lord's Lane east of Purslane Drive;
- Provision of a new underpass of the railway north of the existing Avonbury Business Park, passing to the north of Lord's Farm on the east side of the railway;
- Keeping part of the old Howes Lane and Lord's Lane to provide access to and from the existing residential areas and Bucknell Road to the south;
- Closure of Bucknell Road to the north of Lord Lane with traffic travelling from the town centre diverted to remaining section of Lord's Lane (eastern end), then north through the Masterplan, thus aiming to reduce the attractiveness of the route for through traffic. Bucknell Road will be downgraded, and traffic calming introduced to reduce the attractiveness of the route reducing vehicle use and speed;
- A single point of direct access onto the new link road from the Shakespeare Drive area to avoid as much through traffic as possible.

7.2.6 In order to ensure suitable and safe access can be attained, a strategy for vehicular access for the Proposed Development has been progressed. **Figure 7.4** sets out the points of access and the text below undertakes a description.



*Figure 7.4 Vehicular Access to the Proposed Development*

7.2.7 The access strategy provides a robust and effective interface with the existing public highway as follows:

- Access via a junction on the NW Bicester SLR – this would take the form of a four-arm signalled junction providing access to the principal area of the development to the north of the SLR but also to the small area of proposed housing to the south of the SLR (see Drawing 20300\_SK\_T\_007\_P3 attached at **Appendix D**);
- Access via a junction on the NW Bicester SLR – this would take the form of a three-arm priority junction with a ghost right turn lane serving the existing farm and access to the existing residential development served by Purslane Drive and Trefoil Drive;
- Access via a junction on the NW Bicester SLR – this would take the form of a four-arm signalled junction with Germander Way providing the southern arm – in this scenario the access road would continue north and northwest over the existing watercourse to establish an internal circular route (see Drawing 20300\_SK\_T\_001\_P3 attached at **Appendix E**);
- The closure of Bucknell Road between the existing A4095 and the proposed NW Bicester Strategic Link Road – there would be no access from the proposed SLR to Bucknell Road, a vehicular route would be

established internally via the development (6), (see Drawing 20300\_SK\_T\_011\_P1 attached at **Appendix F**).

- This option also delivers a circular bus route between the two accesses on the SLR
- There will also be a number of minor priority accesses formed on the traffic calmed Bucknell Road to enable access to development parcels; and
- A minor priority access will be formed on Bainton Road to provide maintenance to the proposed solar farm.

7.2.8 In addition there is an option to facilitate a potential additional access through to Elmsbrook. This would take the form of a priority junction and would enable an additional public transport route through the Site and the Exemplar site. Consent is sought for the junction connection arrangements and would be constructed up to the edge of the Elmsbrook site (within the applicant's control) (see Drawing 20300\_SK\_T\_010\_P2 attached at **Appendix G**); and

#### *Walking and Cycling Strategy*

7.2.9 A permeable network of high-quality built cycling and walking routes will be provided across the NWB allocation to maximise the site's accessibility and permeability by active modes of travel. These routes will be delivered in a combination of segregated cycleways, traffic free routes, shared paths and roadside provision. The routes will join with the existing active travel provision in the surrounding area facilitating continuous pedestrian and cycling connections to the local villages and into Bicester.

7.2.10 In order to achieve a high uptake of walking and cycling to/from NWB, the masterplan was developed to ensure a high level of accessibility by walking and cycling within the site as well as strong connections on foot and cycle to off-site destinations. A Walking and Cycling Strategy was formulated with regard to local and national policy as shown in **Figure 4.3**.

7.2.11 From this earlier masterplan strategy the strategy for the Site has been developed to provide the internal circular leisure route which also provides links to the existing PRoW to the north alongside the more direct commuter routes providing links to the wider Bicester network including a link to the development southwest of the Marylebone to Birmingham railway line via the new underpass. The proposed framework of active travel routes is shown in **Figure 7.5**.



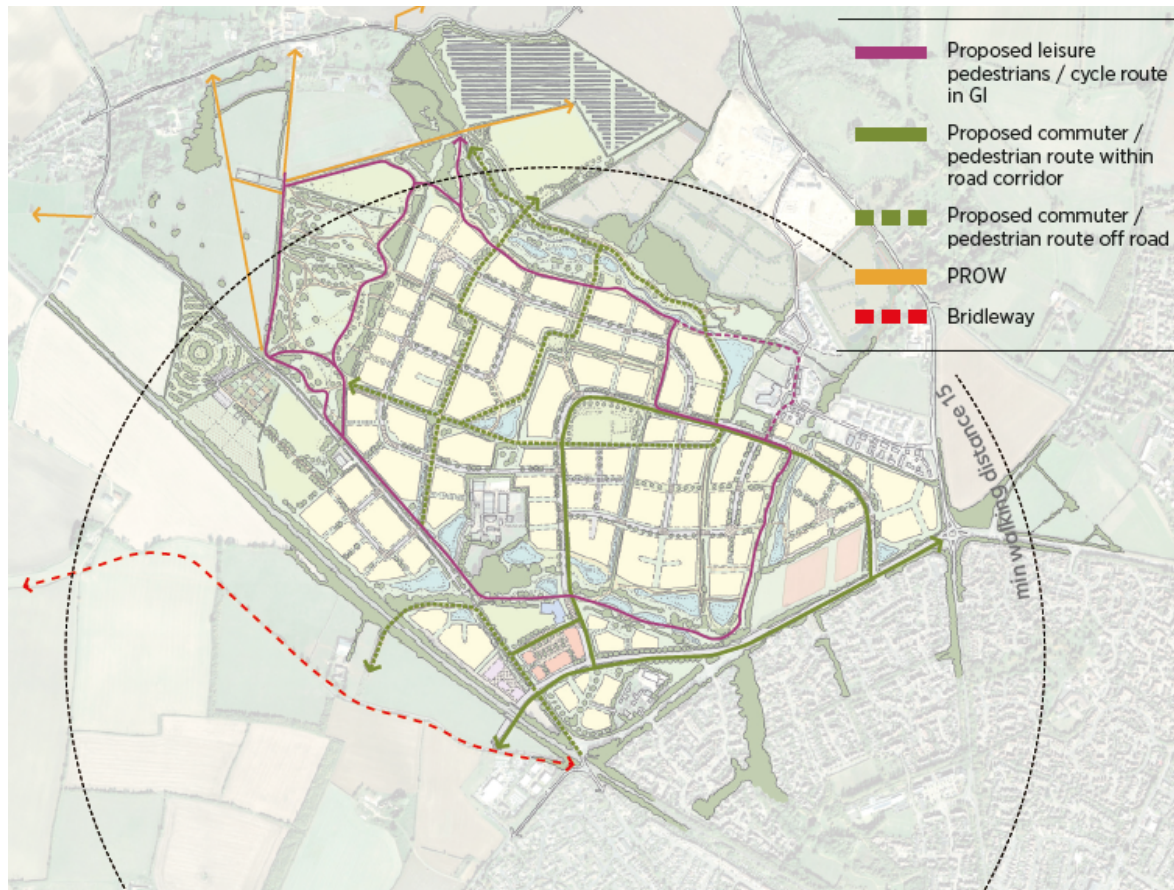


Figure 7.5 Proposed Active Travel Routes

7.2.12 Externally, the signalised site accesses, the signalisation of the Banbury Road / A4095 and a controlled crossing linking the severed Bucknell Road will provide safe and convenient crossing facilities for pedestrians and cyclists.

### 7.3 Public Transport Strategy

7.3.1 High quality bus routes will be provided as part of the wider NWB scheme facilitating frequent and direct bus connection to key destinations, including local centres, employment sites and the main public transport hub in Bicester. The masterplan sought to establish a circular bus route for the development areas either side of the Marylebone to Birmingham railway line with buses to the north of the railway line arriving and returning to Bicester and the railway station via Banbury Road.

7.3.2 The proposed bus route(s) for the internal highway network and 400m walking isochrones to bus stops are shown in **Figure 7.6**.

7.3.3 As can be seen, the majority of the dwellings will be within the recommended 400 metres of a bus stop with all dwellings within 600 metres of a bus stop.

7.3.4 Engagement with OCC regarding bus provision has been undertaken and discussions are continuing.

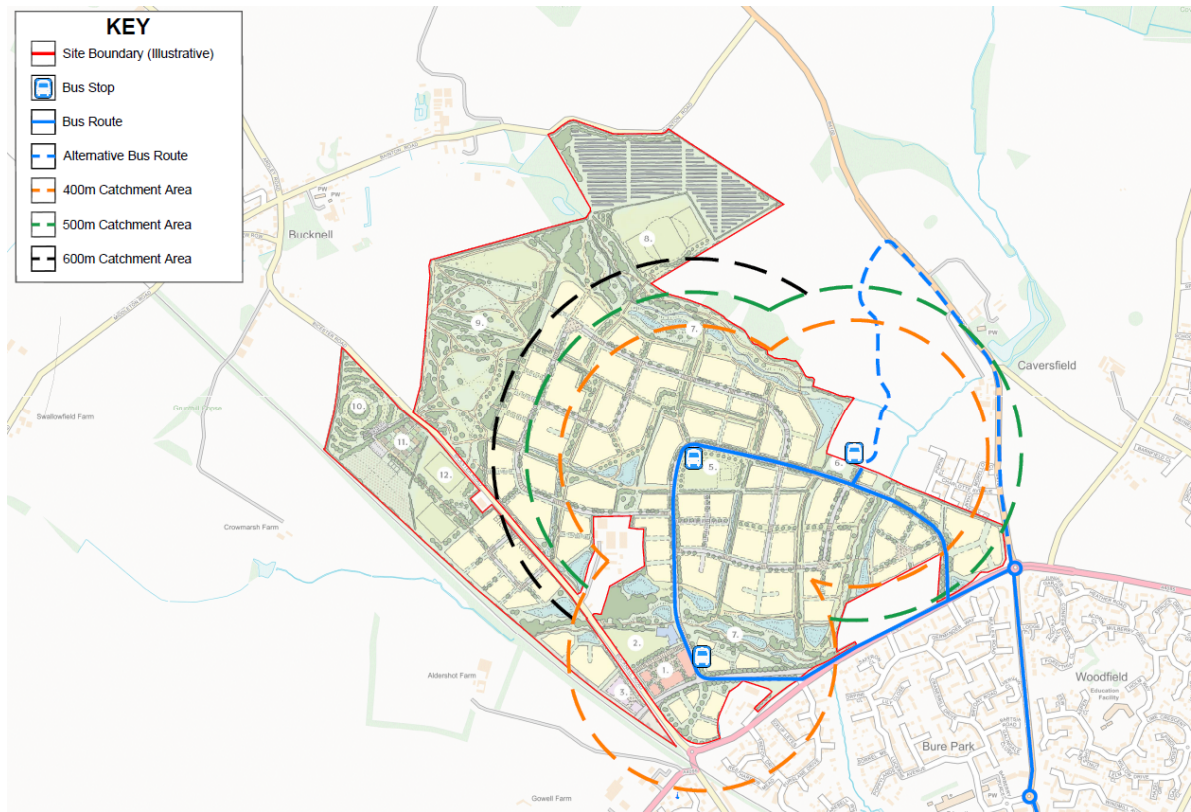


Figure 7.6 Public Transport Route and Bus Stop Isochrones

7.3.5 ‘Buses in Urban Developments’ (CIHT, 2018) states:

*“In planning new developments, a balance must be struck between providing very short walks to stops and providing fast, direct services. The time involved in reaching a bus stop (and hence the catchment size) is not a stand-alone consideration. For example, closer spacing of bus stops along a route will result in shorter walk times to bus stops but will lengthen the time taken by the bus to complete the route.”*

*As Bus Services and New Residential Developments (Stagecoach, 2017) advises, there will be circumstances where achieving a 400-metre walking catchment ‘results in an inefficient and contrived layout, greatly undermining the potential effectiveness of the proposed bus route. Stagecoach will always prefer an efficient bus routing strategy, serving the great majority of dwellings well, than one that serves all homes poorly with a low-frequency or indirect service. Thus we support policy approaches offering some degree of flexibility on walking distances to bus stops where this is appropriate’.”*

7.3.6 Given the desire to deliver a fast, efficient and effective bus service and the delivery of a network of well-designed and direct walking routes it is considered that the proposed route and bus stops is suitable to serve the proposed development.

7.3.7 In response to the 2014 application OCC stated in their response dated 13<sup>th</sup> January 2015:

*“The eventual service level for this development site of 2600 dwellings (which would also incorporate the Exemplar site of 397 dwellings) has been assessed as requiring 4 buses to fulfil the stated eventual service level. This is based on the delivery of a 10-minute frequency (6 buses per hour) with a round-trip journey time from Bicester Town station, around the development and back to Bicester Town, of between 30 and 40 minutes.”*



*The initial bus service from the first completion would commence with a single vehicle and then the frequency of the service would be increased at agreed trigger-points, to a two-bus service, a three-bus service and eventually a four-bus service. There would also be specified levels of service for evenings, Sundays, public holidays.*

*The cost of each additional bus inserted into the service level for NW Bicester is calculated as requiring £720k of financial support over a period of 8 years from the start of service for each of these buses.*

*This amount is calculated from a declining financial support profile of £160,000 in the first year, £140,000 in the second year, £120,000 in the third year, £100,000 in the fourth year, £80,000 in the fifth year, £60,000 in the sixth year, £40,000 in the seventh year and £20,000 in the eighth year. In this calculation, each bus is assumed to reach commercial viable from the ninth year onwards.*

*The trigger points for service enhancement would approximately be:*

- *1 bus service from first occupation*
- *2 bus service from 401st occupation*
- *3 bus service from 1000th occupation*
- *4 bus service from 2000th occupation*

*This level of service would subsume the Service Level Agreement for the Exemplar site.*

7.3.8 It is proposed that the development will contribute, on a proportionate basis with the Exemplar/Elmsbrook and Firethorn developments, towards an appropriate section 106 contribution.

#### 7.4 Mobility Hubs

7.4.1 A mobility hub will be incorporated into the proposed Local Centre in the vicinity of the proposed bus stops. It could provide electric bike/scooter hire facilities, car club vehicle(s), electric vehicle charging points, storage lockers for home deliveries, a co-working area and sustainable travel information.

#### 7.5 Travel Plan

7.5.1 The Government aims to promote smarter travel choices as a strategic management tool to achieve traffic reduction and accelerate the development of more sustainable travel trends within both the strategic and local highway networks.

7.5.2 A Framework Travel Plan (FTP), with consideration to the guidance within Planning Practice Guidance and the OCC document 'Transport for New Developments - Transport Assessments and Travel Plans', has been prepared in support of the proposed development. The objectives of the FTP are:

- *Raise awareness of transport issues and reduce the level of traffic on the local environment;*
- *Reduce car dependency and in particular the number of single occupancy vehicle journeys with a long-term strategy of modal shift away from car use;*
- *Increase travel choice for residents, employees and visitors;*
- *Provide all necessary on-site facilities to encourage the usage of walking, cycling and public transport as appropriate;*

- *Cooperate with neighbouring communities, the Local Highway Authority, and other relevant organisations in achieving the greatest modal shift away from solo car journeys;*
- *Develop an on-going management and co-ordination process that will monitor and review changes towards achieving agreed modal shift targets;*
- *Minimise the impact of the social exclusion caused by poor health and mobility issues.*

7.5.3 It is noted that the sustainable transport strategy will assist in meeting the objectives. Furthermore, additional strategies are also presented within the TP to encourage an appropriate modal shift.

7.5.4 The Framework Travel Plan is attached at **Appendix H**.

## 7.6 Internal Road Layout

7.6.1 The internal network of residential streets will be design in accordance with Manual for Streets (MFS) standards and will therefore be designed to encourage movement by sustainable modes such as walking and cycling and ensure a safe environment.

## 7.7 Parking Provision

7.7.1 The quantum of parking provision is viewed in some quarters as a tool in managing vehicle trip generation, and subsequently is keenly managed by planning authorities. CDC Local Plan highlighted that all new development will be expected to achieve the provision of an appropriate level of off-street parking and cycle parking, taking into account the accessibility of the location and proximity to facilities and services.

### Vehicle Parking

#### *Residential*

7.7.2 Parking provision for the proposed residential dwellings will be determined in line with the parking requirements that were previously agreed with OCC for the 2014 outline submission as shown in **Table 7.1**. The level of provision was developed through the application of OCC's "Parking Standards for New Residential Developments" that was adopted in December 2011.

Number of Bedrooms	Allocated Space	Unallocated
1	1	0
2	1	0.22
3	2	0.22
4	2	0.22
5	3	0.22

*Table 7.1 – 2014 Agreed Residential Parking Standards*

7.7.3 Parking would be provided through a combination of private garages, driveways and parking courts that are convenient and well-overlooked. Visitor parking will be counted as unallocated spaces and will be provided within the street design, where appropriate.

**Non-Residential Vehicle Parking**

7.7.4 The relevant maximum parking standards for non-residential uses are subsequently abstracted from the CDC Local Plan and summarised in **Table 7.2** below:

Use Class	Vehicular
B1 and A2 Land Use	1 space per 30sq.m
B2 Generation Industry	1 space per 50sq.m
D2 Assembly and Leisure	1 space per 22sq.m
Food Retail	1 space per 14sq.m
Non-Food Retail	1 space per 20sq.m
Restaurant/Pubs	1 space per 15sq.m public space

*Table 7.2 – CDC's Non-Residential Parking Standards*

**Cycle Parking**

7.7.5 Residential parking standards are set out in 'Oxfordshire Cycling Design Standards' (OCC, 2017) and require a minimum of one space for one-bed units and two spaces for larger units.

7.7.6 Suitable cycle parking storage will be provided for residential dwellings by means of secured and sheltered cycle stores or bike racks in the garage or other space within the residential area designed to accommodate bicycles. It is noted that cycle parking should be safe, secure and convenient, located to be visible and well-overlooked.

7.7.7 For non-residential uses, secured and sheltered cycle parking spaces will be provided at an appropriate level in discussion with OCC.

**7.8 Electric Vehicle Infrastructure**

7.8.1 The draft 'Oxfordshire Electric Vehicle Infrastructure Strategy' was published in 2021. Policy EVI7 states:

*"The Councils will seek to include statements and policies supportive of EV charging infrastructure and, where appropriate, references to the Oxfordshire Electric Vehicle Infrastructure Strategy in their planning standards and guidance."*

7.8.2 The development will comply with the CDC's requirements for EV charging infrastructure throughout the development.

## 8 Vehicle Trip Generation

### 8.1 Introduction

- 8.1.1 The proposal comprises a large mixed-use site and forms part of the wider NWB development.
- 8.1.2 This is important to note, since a significant number of trips will be internalised by the NWB’s provision of retail, employment and educational facilities. The removal of these trips will put less strain on the external highway network compared to ad hoc development growth.
- 8.1.3 NPPF states at paragraph 113 that the likely impacts of development should be assessed.
- 8.1.4 This section of the TA provides a forecast of the likely trip generation, considering trips by journey purpose, the potential for internalisation and reductions due to homeworking, innovations and behavioural change. A comparison to the forecast trip generation from the original TA submitted in the 2014 planning application is made.

### 8.2 2014 Planning Application (14/01384/OUT)

- 8.2.1 The TA was prepared by Hyder Consulting to support a development of 2,600 homes including extra care housing, employment, shopping and community facilities, a primary school and an extension of the Gagle Brook primary school.
- 8.2.2 The north-eastern corner of the original planning application now forms part of the Firethorn planning application.
- 8.2.3 The forecast external vehicle trip generation is shown in **Table 8.1**.

AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
IN	OUT	Total	IN	OUT	Total
303	618	921	596	430	1026

*Table 8.1 – 2014 Planning Application External Vehicle Trip Generation*

### 8.3 Proposed Development

- 8.3.1 The proposed development comprises of 3,100 residential units and 3,750m<sup>2</sup> of employment use supported by a local centre and education facilities (a total, with the employment use, of some 9,000m<sup>2</sup> of commercial and community floorspace).
- 8.3.2 The calculation of external vehicle trip generation has been undertaken in line with the ‘Decide and Provide’ (D&P) approach, set out within the TRICS Guidance Note on the Practical Implementation of the Decide & Provide Approach (February 2021). This approach is vision-led and seeks to provide a preferred future of reduced car dependence through providing a development path best suited to achieving it.
- 8.3.3 In contrast to the previous Predict & Provide (P&P) approach, which often delivered schemes based on unrealistic worst case traffic assumptions, the D&P approach, develops schemes based on more realistic traffic assumptions, taking into account changes in general travel patterns through technological advances and changes in the perception relating to the esteem associated with car ownership and use.
- 8.3.4 The TRICS D&P Guidance Note emphasises that:

*"The D&P approach provides the opportunity for more positive and integrated transport and land use planning. It also provides the opportunity to meaningfully implement the modal hierarchy, giving greater centrality to the up-front consideration of walking and cycling, rather than a more cursory treatment as residual or less considered modes that has sometimes, historically, been the case.*

*It is important that, as transport professionals, we engage fully with this paradigm shift. We need to take decisions and make provisions that respond to the following key drivers including the following:*

The drive towards Net Zero climate change or greenhouse gas (GHG) emissions.

Strategies to decarbonise the transport sector, being progressed in the UK's Transport Decarbonisation Plan.

In terms of health and wellbeing, respond to the UK's obesity crisis (also further compounded by Covid-19) and further promote active travel provision."

- 8.3.5 In order to provide an initial forecast of peak hour (i.e. 08:00-09:00 and 17:00-18:00) traffic generation associated with the employment and residential elements of the development proposal; vehicle trip rates have first been calculated based on surveys of comparative sites within the TRICS database.
- 8.3.6 The mixed-use local centre and primary schools are purposely designed to serve the specific requirements of the residential proposal. Hence, it has been assumed that these uses would not create any impact on the nearby highway network as trips relating to these uses would be internal i.e. retained within the site.
- 8.3.7 This approach was set out in the Transport Scoping Note submitted to OCC.

#### *TRICS Traffic Generation*

- 8.3.8 The CDC Local Plan seeks a 30% affordable housing requirement within the NWB development. On this basis the peak hour vehicle trip rates for the proposed residential element have been calculated separately for private and affordable dwellings.
- 8.3.9 Vehicle trip rates for the land categories of 'Employment - Industrial Units', 'Residential - Privately Owned Houses' and 'Residential - Affordable/Local Authority Houses' have been established based on comparative survey sites collated from the TRICS database 7.7.4.
- 8.3.10 The obtained full TRICS reports are included within **Appendix I**. The correlated vehicle trip rates for the traditional highway AM and PM peaks of 08:00-0900 and 17:00-18:00 are summarised in **Table 8.2** below.

Land Use	Weekday AM Peak			Weekday PM Peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
B2 Industrial Estate (per 100sq.m GFA)	0.186	0.078	0.264	0.057	0.171	0.228
Private Housing (per unit)	0.146	0.349	0.495	0.328	0.164	0.492
Affordable Housing (per unit)	0.162	0.277	0.439	0.275	0.203	0.478

*Table 8.2 – Vehicle Trip Rates – Employment and Housing*

- 8.3.11 The TRICS estimated traffic generation for 3750m2 B2/B8 Industrial Use, 2170 (i.e. 70%) privately owned dwellings and 930 (i.e. 30%) affordable dwellings is summarised in **Table 8.3**.



Land Use	Weekday AM Peak			Weekday PM Peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
B2 Industrial Unit (3,750m <sup>2</sup> )	7	3	10	2	6	9
Private Units (2,170 dwellings)	317	757	1074	712	356	1068
Affordable Units (930 dwellings)	151	258	408	256	189	445
Total Employment Traffic	7	3	10	2	6	9
Total Residential Traffic	467	1015	1482	968	545	1512

*Table 8.3 – TRICS Vehicle Trip Generation – Employment and Housing*

#### *Journey Purpose*

- 8.3.12 The derived vehicle trip rates for residential development contain journeys with various purposes; these trips can be associated with employment but also leisure, shopping and education activities. As discussed earlier in this report, a host of complementary land-uses are proposed alongside the residential element and thus it is likely that a high proportion of these movements will be retained on site (the application site and/or NWB site as a whole) as residents will not need to travel offsite to access these facilities.
- 8.3.13 In light of this, an exercise has been undertaken to calculate the proportion of traffic that will be associated with the proposed mix of uses within the site. In order to disaggregate the forecast vehicle movements by journey purpose, information on journey purpose by trip starting time for England was obtained from the National Travel Survey (NTS).
- 8.3.14 The 2019 NTS is the latest available set of household data that has been released to provide a data source at a national level that sets out personal travel in England. NTS Table 502 provides details of ‘Trip start time by trip purpose (Monday to Friday only)’, with specific sub tables available that split these trips down into specific modes. The data provided for car/van driver is included as **Appendix J** with a peak hour summary provided in **Table 8.4**.

Journey Purpose	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
Commuting/Business	37%	43%
Education	1%	0%
Escort Education	28%	3%
Shopping	5%	13%
Personal business	23%	23%
Visiting Friends / Sport / Entertainment	5%	15%
Holiday / Day Trip	2%	3%

*Table 8.4 – Summary of Peak Hour Journey Purpose – Extracted from NTS Table 0502*

- 8.3.15 The forecast residential traffic generation by different journey purposes is shown in **Table 8.5**.

Journey Purpose	Weekday AM Peak			Weekday PM Peak		
	IN	OUT	Total	IN	OUT	Total
Commuting / Business	172	374	546	418	235	653
Education	4	9	14	3	2	4
Escort Education	131	284	415	30	17	47
Shopping	25	54	79	126	71	196
Personal business	105	229	334	218	123	341
Visiting Friends / Sport / Entertainment	21	47	68	148	83	231
Holiday / Day Trip	9	19	27	25	14	39
Total 3100 dwellings	467	1015	1482	968	545	1512

*Table 8.5 – Traffic Generation by Journey Purposes*

#### *Internalisation Calculations*

- 8.3.16 Given the size and mixed-use nature of the proposed development (and wider NWB development), there is the potential for a significant number of the forecast residential vehicle movements that are related to employment, primary education, retail and personal business to take place internally between the proposed residential community and the onsite ancillary land-uses.
- 8.3.17 Therefore, the impact of vehicle trips on the external road network would be less than the total vehicle trips shown in **Table 8.3**. Calculations have been carried out to take account of the internalisation effect and further detail is provided below.

#### *Commuting/Business Trips*

- 8.3.18 There will be a proportion of future residents who will live and work onsite giving rise to internal journeys that are retained within the site rather than dispersing onto the wider highway network. To quantify these journeys, 2011 census data on the location of usual residence and place of work for the Middle Super Output Areas (MSOA) in Bicester were assessed.
- 8.3.19 The analysis demonstrated that approximately 34% of the workplace population in Bicester who drive to work also live locally in the same area. Applying this to the forecast employment traffic as shown in **Table 8.3**, the reduction for internal work-related trips between the employment and residential community is set out in **Table 8.6**. The subsequent reciprocal and opposing reduction is applied to the residential trips to take account of this internalisation.

Land Use	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	Total	IN	OUT	Total
Employment	-2	-1	-3	-1	-2	-3
Residential	-1	-2	-3	-2	-1	-3

*Table 8.6 – Vehicle trip reduction due to internal employment trips*

#### *Escort Education Trips*

- 8.3.20 The NTS data demonstrates that 'Escort Education' trips are 28% and 3% of all journeys in the AM and PM peak hours respectively.

- 8.3.21 It is likely that these escorted trips will primarily be primary school pupils who are more likely to require parental escort than older children attending secondary school and higher education. Therefore, it is assumed that all ‘Escort Education’ trips as set out in **Table 8.5** would relate to primary school journeys. These assumptions are in accordance with that put forward in the assessment of Oxfordshire Garden Village to the north of Eynsham (as agreed by OCC) and set out in section 6.8 of the Transport Assessment produced by Stantec (dated June 2020).
- 8.3.22 The proposal will deliver a 2FE primary school onsite, the expansion of the Gagle Brook primary school and nursery provision to serve the primary educational demand of the proposed residential community. This provision will reduce the requirement to travel outside of the site by private car for escorted education journeys with these journeys being contained onsite.
- 8.3.23 The subsequent reduction that would be applied to the residential trips to take account of this internalisation for escorted education trips is shown in **Table 8.7**.
- 8.3.24 Whilst the primary school would also have some staff journeys to and from the site it is considered that these are more likely to be outside of the typical peak hours.

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	Total	IN	OUT	Total
Residential	-131	-284	-415	-30	-17	-47

*Table 8.7 – Vehicle trip reduction for internal education trips*

#### **Local Centre Trips**

- 8.3.25 It can be seen from **Table 8.4** that ‘Personal Business’ provides a high proportion of the main journey purpose, equating to 22% in both the AM and PM peak hours. ‘Personal Business’ is defined within the “Notes and Definitions” July 2018 release relating to the NTS as:

*“Visits to services, e.g. hairdressers, launderettes, dry cleaners, betting shops, solicitors, banks, estate agents, libraries, churches or for medical consultation or treatment; or for eating and drinking, unless the main purpose was entertainment or social.”*

- 8.3.26 The local centre will provide a significant number of these types of services and facilities and whilst not all personal business uses may be covered by the centre it is considered reasonable to apply a 50% reduction in the forecast ‘Personal Business’-related journeys as shown in **Table 8.5** to account for internalisation in relation to this journey purpose. This reduction is summarised in **Table 8.8**.

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	Total	IN	OUT	Total
Residential	-53	-114	-167	-109	-61	-171

*Table 8.8 – Vehicle trip reduction for internal personal business trips*

- 8.3.27 Additionally, the Local Centre will include a convenience shopping component catering for the day-to-day local requirements of the new community.
- 8.3.28 It can be seen from **Table 8.4** that shopping comprises a proportion of the main journey purpose during the reviewed peak hours, equating to 5% in the AM peak hour and 13% within the PM hour.
- 8.3.29 Retail trips in the morning peak are likely to consist of more convenience-based journeys (e.g. to pick up day to day food products) and therefore it is likely that the nearby local centre would account for the majority of the shopping journeys (i.e. the full 5% as outlined within the NTS). However, evening journeys would most likely encompass a broader range of shopping journeys which means that a lower proportion of all shopping journeys would be convenience based in this peak hour (i.e. lower than the 13% as identified with the NTS).

- 8.3.30 On this basis, it is considered reasonable and robust, to assume a 5% reduction be applied to vehicle journeys in both peak hours to take account that journeys for convenience shopping can be undertaken within the site. This reduction is summarised in **Table 8.9** below.

Shopping	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	Total	IN	OUT	Total
Reduction	-23	-51	-74	-48	-27	-76

*Table 8.9 – Vehicle trip reduction for internal retail trips*

### ***Innovation and Homeworking***

- 8.3.31 It is noted that recent control measures introduced nationally as a result of the Covid 19 pandemic appear to have resulted in behavioural changes bringing about a rapid increase in home working that is likely to develop a permanent long-term change even after these measures are lifted. These changes in travel pattern are discussed in the Royal Town Planning Institute document titled “Plan the World We Need”, which was released in June 2020. Section 3.1 states the following:

*“...In the UK during April, 39% of those in employment reported working only from home, while 6% both worked from home and travelled to work. This contrasts with 5% of the workforce who reported working mainly from home during 2019...”*

- 8.3.32 The Department for Transport (DfT), in conjunction with Ipsos MORI, published ‘All change? Travel tracker – Wave 1 summary for the Department for Transport’ in June 2020. This summary document presents analysis and headline figures from a UK-wide survey undertaken during May-June 2020. The survey explored whether participants would use more sustainable travel or return to pre-lockdown travel and made the following statement in this regard:

*“Thinking about the future more generally, the survey suggests that there could be some positive behavioural impacts from a sustainability perspective. There is a high degree of self-reported willingness to change behaviour in response to the long-term threat. Many say they are willing to do a range of things to reduce their contribution to climate change, reflecting a recognition that the long-term posed by climate change is as serious as coronavirus in the long-term (63% agree, 15% disagree)”.*

- 8.3.33 Census 2011 data (QS701EW) indicates that in 2011 approximately 6.4% of the working population worked from home on census day; 2021 data indicates that 15% of the population 'mainly' worked from home. Extracts of the data are provided at **Appendix K** and indicate that in the last 10 years homeworking has risen by almost 150% leading to a decrease in residential traffic generation.
- 8.3.34 It is also evident that there will likely be changes in future years as technology, society and business continues to evolve. This is particularly evident for the Oxfordshire economy which lies within the Oxford-Cambridge Arc and home to a significant number of research & development and technology companies that present more opportunity for home working than traditional industries.
- 8.3.35 Properties within the community would be designed to capitalise on these changes so that home working is possible through the use of enhanced telecommunications and the establishment of appropriate work areas and areas to support recreation. In addition, co working space can be provided within the Local Centre for residents of the development to use, providing working space within a walking distance of home within a social setting providing community cohesion.

1

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/adhocs/13196homeworkingintheukbrokendownbyunitaryandlocalauthoritydistricts2020>

- 8.3.36 To account for the impact of these innovations and the subsequent introduction of properties designed to cater for these future changes it is proposed that a reduction factor of 10% be applied to the employment traffic generation as set out in **Table 8.3** and to the forecast 'Commuting and Business' vehicle trips for residential development as set out in **Table 8.5**.
- 8.3.37 This level of adjustment is in accordance with the 'Innovation and Homeworking' trip adjustment agreed with OCC for the Oxfordshire Garden Village to the north of Eynsham (i.e. as set out in paragraph 6.9.8 of the TA produced by Stantec in relation to these proposals). The subsequent reduction in terms of trip numbers is summarised in **Table 8.10**.

Use Class	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	Total	IN	OUT	Total
Employment Reduction	-1	0	-1	0	-1	-1
Residential Reduction	-17	-37	-55	-42	-24	-65

*Table 8.10 – Vehicle trip reduction for innovation and homeworking*

### **Behavioural Change**

- 8.3.38 A robust site overarching Travel Plan (TP), attached at **Appendix H**, will also be introduced at the development to reduce the reliance on solo-car journeys and thus to accomplish a positive mode shift from car travel to other sustainable modes. The TP will include measures to encourage sustainable travel behaviour from first occupation.
- 8.3.39 Sustainable travel connections linking with the existing pedestrian and cycling network in the local area will be provided across the site. The primary street will also include appropriate walking and cycling links along its length that will feed into the various residential streets that will also include appropriate connections for these modes. The walking and cycle routes will enhance travel via active modes thereby contributing to the wellbeing of the future occupants.
- 8.3.40 A recreational circular pedestrian / cycle route will also be introduced and will provide link to the PRow to the north of the site.
- 8.3.41 High quality public transport connections will also be facilitated (to connect the proposals with the centre of Bicester). The provision of this bus connection within the proposals would ensure that the majority of properties are located within 400m access of a frequent bus service.
- 8.3.42 Various tangible measures will enable significant behavioural change. This is emphasised within the "Essential Guide to Travel Planning" document published by the Department for Transport in March 2008, which states that:
- "Good travel plans have typically succeeded in cutting the number of people driving to work by 15%"*
- 8.3.43 Notwithstanding, these measures are also likely to have a similar impact on other journey purposes.
- 8.3.44 In light of the above, it is reasonable to assume that by delivering appropriately sustainable travel infrastructure as well as targeted travel plan measures, a mode shift of 15% increase in journeys undertaken by sustainable modes of transport can be achieved.
- 8.3.45 Applying the proposed mode shift to the forecast generation as set out in **Table 8.3**, the reduction in vehicle movements is summarised in **Table 8.11**.



Behaviour Change	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	Total	IN	OUT	Total
Employment Reduction	-1	0	-1	0	-1	-1
Residential Reduction	-70	-152	-222	-145	-82	-227

*Table 8.11 – Vehicle trip reduction due to behavioural change as a result of travel plan measures*

### Final Total External Vehicle Trip Generation

8.3.46 The calculated adjustments shown in **Tables 8.6 – 8.11** have been subtracted from the original TRICS vehicle trip generation forecast in **Table 8.3**. The resultant figures, shown in **Table 8.12**, represent the total development trip generation that will be generated onto the external highway network.

External Traffic	AM Peak			PM Peak		
	IN	OUT	Total	IN	OUT	Total
Residential	172	374	546	591	333	924
Employment	3	1	4	1	3	4
Total	175	375	550	592	336	928

*Table 8.12 – Residual External Vehicle Trip Generation*

## 8.4 Comparison Study

8.4.1 The derived external development traffic generation is subsequently compared with the traffic forecast previously considered in the NW Bicester Traffic Model for the site. The assessed traffic volume that would impact on the external highway network is abstracted from the original TA submitted in support for the 2014 scheme.

8.4.2 It is noted that the proposed residential dwellings (3,100 units) on the present Hawkwell village site only account for 85% of the total housing provision (3,630 units) that is envisaged at land to the north of the railway line. And hence an adjustment of 85% is applied to the previously assessed external traffic impact and the consequent comparison study is shown in **Table 8.13** below.

Forecast External Traffic for the Site	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	Total	IN	OUT	Total
NW Bicester Model 2014 TA	303	618	921	596	430	1026
New Predicted External Development Traffic	175	375	550	592	336	928
Difference	-127	-243	-370	-4	-94	-98

*Table 8.13 – Comparison Study on Forecast External Traffic*

8.4.3 As can be seen above, a much higher traffic flow level was previously assessed in the NW Bicester Traffic Model for the site, as part of the cumulative study for the wider Eco-town scheme and which are assessed in the original TA for the 2014 outline consent.

8.4.4 It is clear that a lot has happened in the world of travel since 2014 and it is appropriate to reassess the true impacts of the proposals in traffic terms based on current patterns and trends rather than 2014 data. This is in line with the now accepted philosophy of the D&P methodology.

8.4.5 Due to higher levels of internalisation, greater home working, data on Travel Plan success and other data it is clear that the proposals will result in materially less external traffic than was envisaged in 2014.

## 9 External Person Trip Generation

9.1.1 To provide an indication of the level of external multi modal trip generation the 'Method of Travel to Work' Census data for 2011 for the MSOA Cherwell 012 and Cherwell 014 has been interrogated and the average modal split is shown in **Table 9.1**.

9.1.2 These percentages have then been adjusted to incorporate the 15% modal shift by reducing 'driving a car' by 15% and estimating an increase to on foot by 3% and increasing bus, passenger in a car and cycling by 4%.

Mode	Census 2011 Percentage	Adjusted Percentage
Underground, metro, light rail, tram	0.1%	0.1%
Train	3.2%	3.2%
Bus, minibus or coach	4.5%	8.5%
Taxi	0.3%	0.3%
Motorcycle, scooter or moped	0.8%	0.8%
Driving a car or van	69.6%	54.6%
Passenger in a car or van	7.1%	11.1%
Bicycle	4.3%	8.3%
On foot	9.6%	12.6%
Other method of travel	0.4%	0.4%

*Table 9.1 – External Modal Split*

9.1.3 The percentages in **Table 9.1** have then been applied to the total external vehicle trips in **Table 8.12** to show the anticipated trip generation for all modes in **Table 9.2**. The actual modal split cannot be determined at this stage, but this provides a useful indication.

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Underground, metro, light rail, tram	0	1	1	1	1	2
Train	10	22	32	35	20	54
Bus, minibus or coach	27	58	86	92	52	144
Taxi	1	2	3	3	2	5
Motorcycle, scooter or moped	3	5	8	9	5	14
Driving a car or van	175	375	550	592	336	928
Passenger in a car or van	36	76	112	120	68	189
Bicycle	27	57	84	90	51	141
On foot	40	87	127	137	78	214
Other method of travel	1	3	4	4	2	7
<b>Total Person Trips</b>	<b>320</b>	<b>686</b>	<b>1,007</b>	<b>1,083</b>	<b>615</b>	<b>1,698</b>

*Table 9.1 – External Modal Trips*

## 10 Highway Network Assessment

- 10.1.1 The NW Bicester Traffic Model was purposely developed to underpin the development of the associated infrastructure enhancements required in mitigating the cumulative impact of the wider Eco-Town scheme. The outcome of this traffic model was used in the original TA for the 2014 planning application to establish the associated contribution towards the identified network enhancements.
- 10.1.2 Highways England (HE) and OCC concluded that with the proposed mitigation measures in place, the forecast development traffic associated with the full allocation of the NWB could be accommodated within the mitigated highway network and would not lead to a severe impact as defined in the NPPF.
- 10.1.3 In view of the amended vehicle trip generation being less than the 2014 planning application, it is concluded that the forecast development traffic can be comfortably accommodated within the previously proposed improved highway network. Mitigation measures that were set out as part of the 2014 planning application address the traffic implications associated with the development proposals on the local road network as well as provide support to improve the town's infrastructure.
- 10.1.4 A comprehensive package of junction enhancement schemes and traffic management initiatives were subsequently proposed to mitigate the traffic impact associated with the full NWB development. These then included:
- Signalisation of the Exemplar southern access junction;
  - Replacement of the B4100 Banbury Road / A4095 roundabout with traffic signals (this is now being brought forward as an OCC scheme);
  - Traffic management measures on the B4100 Banbury Road/ Caversfield unnamed road to reduce traffic levels and accident issues;
  - Traffic calming measures on Bucknell Road / Bicester Road and in Bucknell and Caversfield to reduce through traffic; and
  - Measures to further reduce through traffic and assist walkers and cyclists in the Shakespeare Drive area.
- 10.1.5 In addition, a number of strategic improvements to which developments at NWB would anticipate contributing towards (proportionate to its impact) were also identified as part of the 2014 submission. This package of improvements will be reviewed and discussed with OCC and HE but in 2014 included:
- The A4095 NW Strategic Link Road;
  - Town centre access improvements;
  - Modifications to the A4421 Skimmingdish Lane/ A4095 junction;
  - Improvements to the eastern peripheral route; and
  - Improvements to the M40 J9 and J10.
- 10.1.6 A variety of off-site sustainable transport enhancements were also proposed and agreed for the full NWB development scheme to maximise the site accessibility by walking, cycling and public transport and encourage the uptake of sustainable modes of travel. These improvements will be discussed with OCC and encompass:
- Upgrade of the route alongside the railway from Lord's Lane to Banbury Road as a surfaced cycleway and footpath;
  - Improvements along Banbury Road, some of which are being delivered as part of the Exemplar development;
  - Minor improvements to the existing cycleway on the south side of Lord's Lane to remove vegetation that impacts on the sense of personal security of users; and
  - Improvements to the routes through Bure Park to encourage use as leisure walking and cycling routes.

## 11 Additional Developments

- 11.1.1 A response from OCC to the Environmental Statement Scoping requested that the following additional developments should be considered within the Transport and Access chapter:
- Great Wolf Water Park<sup>2</sup> - consented; and
  - Baynards Green<sup>3</sup> - unallocated site; planning application submitted but undecided.
- 11.1.2 As explained in the previous chapters the proposed development will generate less traffic on the external highway network than the previous application and therefore, the mitigation considered suitable at that time is still relevant to mitigate the proposal.
- 11.1.3 However, to attain an insight of the impact that the two additional developments may have on the highway network a link assessment has been undertaken and is attached at **Appendix L**. The assessment identifies links that have an increase of more than 10% compared to the previous assessment (2031 Reference Case + Original Development).
- 11.1.4 The assessment indicates only two links will have an increase of more than 10% in the AM and PM peak hours:
- Banbury Road, North of Lords Lane: AM Peak +11%, PM Peak +10%; and
  - Banbury Road, North of Bainton Road: AM Peak + 12%, PM Peak +13%.
- 11.1.5 As the proposed development generates less traffic than the previous assessment it can be seen from the assessment that the increase in traffic is due to the Baynards Green development which at present is unallocated and not consented and it is for this development to undertake its own assessment to understand its impact at junctions. The proposed development is an allocated site and should be included as committed development in the Baynards Green assessment.

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<sup>2</sup> Planning Ref – 20/00030/REF - Redevelopment of part of golf course to provide new leisure resort (sui generis) incorporating waterpark, family entertainment centre, hotel, conferencing facilities and restaurants with associated access, parking and landscaping

<sup>3</sup> Planning Ref – 21/03267/OUT - Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace and associated infrastructure; construction of new site access from the B4100; creation of internal roads and access routes; and hard and soft landscaping

## 12 Summary & Conclusion

### 12.1 Summary

- 12.1.1 The proposed mixed-use development forms part of the wider North West Bicester (NWB) development that is allocated within the Cherwell Local Plan 2011 - 2031 under 'Policy Bicester 1'.
- 12.1.2 The previous 2014 planning application albeit with a different redline boundary and a different quantum of development, has the benefit of a resolution to grant planning permission; however, no section 106 has been agreed and therefore that application remains to be determined.
- 12.1.3 The Proposed Development has been designed in accordance with the overall NWB access and movement strategy. The aspiration of NWB is to encourage non-car use by the delivery of suitable and appropriate walking, cycling and public transport infrastructure which enables journeys to be undertaken sustainably and through the promotion of sustainable transport initiatives, ensuring also that the highway network and access arrangements are fit for purpose.
- 12.1.4 The development will deliver the majority of the future community's day-to-day requirements minimising its impact on the external highway network.
- 12.1.5 Recreational and commuter active travel corridors through and around the development and external links have been considered at the earliest stage and provide the opportunity for the future community to undertake a large proportion of both internal and external trips by means other than the private car.
- 12.1.6 A circular bus route has been provided enabling the majority of households to be within 400m of a bus stop. The development will contribute to the provision of a high frequency, high quality bus service enabling access to Bicester town centre and rail station.
- 12.1.7 Due to the changes in trip generation brought about by innovation and behaviour changes a new assessment of the expected external vehicle trips has been undertaken using the Decide and Provide approach. The assessment showed that the trip generation will be less than the assessment undertaken to support the 2014 application and therefore, the previously agreed mitigation will be suitable to support the new proposal.

### 12.2 Conclusion

- 12.2.1 The proposed development will deliver a new community that has sustainability at the heart of its design.
- 12.2.2 The development proposals will not have an unacceptable impact on highway safety and will not create a severe residual cumulative impact on both the local and strategic highway network as defined within the National Planning Policy Framework (NPPF). Thus, there are no highway or transport reasons to prevent the site from being granted planning permission for the mixed development proposed in this application.

## **Appendix A: Bus Timetables**



**505****Brackley - Bicester**

Stagecoach in Oxfordshire

Timetable valid from 29/08/2021 until further notice.

Direction of stops: where shown (eg: W-bound) this is the compass direction towards which the bus is pointing when it stops

**Mondays to Fridays**

<b>Brackley, o/s Tesco</b>	0647	0752	0902	—	1202	—	—	1732
§ Brackley, opp Churchill Way	0648	0753	0903	—	1203	—	—	1733
<b>Brackley, opp Market Place</b>	0650	0755	0905	1105	1205	1405	1635	1735
§ Brackley, o/s Winchester House	0650	0755	0905	1105	1205	1405	1635	1735
§ Brackley, opp Church Road	0651	0756	0906	1106	1206	1406	1636	1736
§ Brackley, opp Jarvis Court	0652	0757	0907	1107	1207	1407	1637	1737
§ Brackley, opp Top Station Road	0652	0757	0907	1107	1207	1407	1637	1737
§ Brackley, adj Hawthorn Drive	0653	0758	0908	1108	1208	1408	1638	1738
<b>Brackley, adj Jutland Drive</b>	0655	0800	0910	1110	1210	1410	1640	1740
<b>Elmsbrook, Charlotte Avenue (S-bound)</b>	0713	0818	0928	1128	1228	1428	1658	1758
§ Bicester, Banbury Road Roundabout (S-bound)	0713	0818	0928	1128	1228	1428	1658	1758
§ Bicester, opp Barberry Place Shops	0715	0820	0930	1130	1230	1430	1700	1800
§ Bicester, adj Blake Road	0715	0820	0930	1130	1230	1430	1700	1800
§ Highfield, opp Rowan Road	0716	0821	0931	1131	1231	1431	1701	1801
<b>Bicester Town Centre, Manorsfield Road (Stand 5)</b>	0719	0824	0934	1134	1234	1434	1704	1804
<b>Bicester, Bicester Village Station (main entrance)</b>	0722	0827	0937	1137	1237	1437	1707	1807

**Saturdays**

0647	0752	0902	—	1202	—	—	1732
0648	0753	0903	—	1203	—	—	1733
0650	0755	0905	1105	1205	1405	1635	1735
0650	0755	0905	1105	1205	1405	1635	1735
0651	0756	0906	1106	1206	1406	1636	1736
0652	0757	0907	1107	1207	1407	1637	1737
0652	0757	0907	1107	1207	1407	1637	1737
0653	0758	0908	1108	1208	1408	1638	1738
0655	0800	0910	1110	1210	1410	1640	1740
0713	0818	0928	1128	1228	1428	1658	1758
0713	0818	0928	1128	1228	1428	1658	1758
0715	0820	0930	1130	1230	1430	1700	1800
0715	0820	0930	1130	1230	1430	1700	1800
0716	0821	0931	1131	1231	1431	1701	1801
0719	0824	0934	1134	1234	1434	1704	1804
0722	0827	0937	1137	1237	1437	1707	1807

**Sundays**

no service

**Bank Holidays**

no service

Notes: § - Time at this stop is indicative. You are advised to be at any stop several minutes before the times shown

**505****Brackley - Bicester**

Stagecoach in Oxfordshire

Timetable valid from 29/08/2021 until further notice.

Direction of stops: where shown (eg: W-bound) this is the compass direction towards which the bus is pointing when it stops

**Mondays to Fridays**

<b>Bicester, Bicester Village Station (main entrance)</b>	0730	0840	0940	1140	1240	1445	1710	1815
<b>Bicester Town Centre, Manorsfield Road (Stop 8)</b>	0733	0843	0943	1143	1243	1448	1713	1818
§ Highfield, adj Rowan Road	0734	0844	0944	1144	1244	1449	1714	1819
§ Bicester, opp Blake Road	0735	0845	0945	1145	1245	1450	1715	1820
§ Bicester, o/s Barberry Place Shops	0736	0846	0946	1146	1246	1451	1716	1821
§ Bicester, Banbury Road Roundabout (N-bound)	0737	0847	0947	1147	1247	1452	1717	1822
<b>Elmsbrook, Charlotte Avenue (N-bound)</b>	0738	0848	0948	1148	1248	1453	1718	1823
<b>Brackley, o/s Tesco</b>	0752	0902	1002	1202	1302	1507	1732	1837
§ Brackley, opp Churchill Way	—	—	1003	—	1303	1508	—	1838
<b>Brackley, opp Market Place</b>	—	—	1005	—	1305	1510	—	1840
§ Brackley, o/s Winchester House	—	—	—	—	—	—	—	1840
§ Brackley, opp Church Road	—	—	—	—	—	—	—	1841
§ Brackley, opp Jarvis Court	—	—	—	—	—	—	—	1842
§ Brackley, opp Top Station Road	—	—	—	—	—	—	—	1842
§ Brackley, adj Hawthorn Drive	—	—	—	—	—	—	—	1843
<b>Brackley, adj Jutland Drive</b>	—	—	—	—	—	—	—	1845

**Saturdays**

0730	0840	0940	1140	1240	1445	1710	1815
0733	0843	0943	1143	1243	1448	1713	1818
0734	0844	0944	1144	1244	1449	1714	1819
0735	0845	0945	1145	1245	1450	1715	1820
0736	0846	0946	1146	1246	1451	1716	1821
0737	0847	0947	1147	1247	1452	1717	1822
0738	0848	0948	1148	1248	1453	1718	1823
0752	0902	1002	1202	1302	1507	1732	1837
—	—	1003	—	1303	1508	—	1838
—	—	1005	—	1305	1510	—	1840
—	—	—	—	—	—	—	1840
—	—	—	—	—	—	—	1841
—	—	—	—	—	—	—	1842
—	—	—	—	—	—	—	1842
—	—	—	—	—	—	—	1843
—	—	—	—	—	—	—	1845

**Sundays**

no service

**Bank Holidays**

no service

Notes: § - Time at this stop is indicative. You are advised to be at any stop several minutes before the times shown

**505****Brackley - Bicester**

Stagecoach in Oxfordshire

For times of the next departures from a particular stop you can use **traveline-txt** - by sending the SMS code to **84268**. Add the service number after the code if you just want a specific service - eg: **buctdgt 60**. The return message from **traveline-txt** will show the next three departures, and it currently costs 25p plus any message sending charge. Departure times will be real-time predictions where available, or scheduled departure times if not.

You can also get the same information by using the SMS code at [www.nextbuses.mobi](http://www.nextbuses.mobi) (only normal browsing charges apply) or through several iPhone or Android apps that offer access to **NextBuses**.

**NOTE: SMS codes are different in each direction. Make sure you choose the right direction from these lists.**

SMS Code	Stop Name	Street	ATCO Code
ntheadt	Brackley, o/s Tesco	Oxford Road	300000037T
nthdpdgm	Brackley, opp Churchill Way	Bridge Street	300000037ML
ntheadtm	Brackley, opp Market Place	High Street	300000037G
nthwdpdm	Brackley, o/s Winchester House	High Street	300000037WS
ntheadadj	Brackley, opp Church Road	High Street	300000037HI
nthwdpg	Brackley, opp Jarvis Court	Burwell Hill	300000037JC
ntheadaga	Brackley, opp Top Station Road	Burwell Hill	300000037TS
nthdmpda	Brackley, adj Hawthorn Drive	Radstone Road	300000037RR
nthdwmjm	Brackley, adj Jutland Drive	Poppyfields Way	300000037JD
oxfgwdpd	Elmsbrook, Charlotte Avenue (S-bound)	B4100 Banbury Road	340002358OPP
oxfawtpd	Bicester, Banbury Road Roundabout (S-bound)	Banbury Road	340002357SOU
oxfawtpj	Bicester, opp Barberry Place Shops	Banbury Road	340003256OPP
oxfawtp	Bicester, adj Blake Road	Banbury Road	340003255CNR
oxfawtwa	Highfield, opp Rowan Road	Banbury Road	340003254OPP
oxfawdwm	Bicester Town Centre, Manorsfield Road (Stand 5)	Manorsfield Road	34000093BP5
oxfgmagw	Bicester, Bicester Village Station (main entrance)	Station Approach	340001734APP

**505****Brackley - Bicester**

Stagecoach in Oxfordshire

For times of the next departures from a particular stop you can use **traveline-txt** - by sending the SMS code to **84268**. Add the service number after the code if you just want a specific service - eg: **buctdgttd 60**. The return message from **traveline-txt** will show the next three departures, and it currently costs 25p plus any message sending charge. Departure times will be real-time predictions where available, or scheduled departure times if not.

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**NOTE: SMS codes are different in each direction. Make sure you choose the right direction from these lists.**

SMS Code	Stop Name	Street	ATCO Code
oxfgmagw	Bicester, Bicester Village Station (main entrance)	Station Approach	340001734APP
oxfgtmjp	Bicester Town Centre, Manorsfield Road (Stop 8)	Manorsfield Road	340000093BP8
oxfawtwd	Highfield, adj Rowan Road	Banbury Road	340003254CNR
oxfawtpw	Bicester, opp Blake Road	Banbury Road	340003255OPP
oxfawtpm	Bicester, o/s Barberry Place Shops	Banbury Road	340003256OUT
oxfawtpg	Bicester, Banbury Road Roundabout (N-bound)	Banbury Road	340002357NOR
oxfgtpjd	Elmsbrook, Charlotte Avenue (N-bound)	B4100 Banbury Road	340002358ELM
ntheadadt	Brackley, o/s Tesco	Oxford Road	300000037T
nthdpgdm	Brackley, opp Churchill Way	Bridge Street	300000037ML
ntheadatm	Brackley, opp Market Place	High Street	300000037G
nthdwdpm	Brackley, o/s Winchester House	High Street	300000037WS
ntheadadj	Brackley, opp Church Road	High Street	300000037HI
nthdwdpg	Brackley, opp Jarvis Court	Burwell Hill	300000037JC
ntheadaga	Brackley, opp Top Station Road	Burwell Hill	300000037TS
nthdmpda	Brackley, adj Hawthorn Drive	Radstone Road	300000037RR
nthdwmjm	Brackley, adj Jutland Drive	Poppyfields Way	300000037JD



**505**

**Brackley - Bicester**

Stagecoach in Oxfordshire

**Important information related to service 505 at 15:15:01 on 13th September 2021**

**Face Coverings on Stagecoach services**

*Valid from 1617 on 02 Aug 2021 until 2359 on 30 Nov 2021*

Please keep wearing a face covering throughout your journey

**Timetables**

Select a timetable using the bookmarks (on the left of this page). Choose the direction and day of travel you require. Stop and Street Names and SMS codes are also available.

**E1****Elmsbrook Estate - Bicester Village Station**

Grayline Coaches

Timetable valid from 01/10/2019 until further notice.

Direction of stops: where shown (eg: W-bound) this is the compass direction towards which the bus is pointing when it stops

**Mondays to Fridays**

Elmsbrook, Braeburn Avenue (S-bound)	0638	0710	0750	0825	0900	00	30	1630	1700	1740	1805	1840			
Elmsbrook, opp Gagle Brook School	0640	0712	0752	0827	0902	02	32	1632	1702	1742	1807	1842			
§ Elmsbrook, Tayberry Close (E-bound)		0712	0752	0827	0902	02	32	1632	1702	1742	1807	1842			
§ Elmsbrook, Charlotte Avenue (N-bound)		0712	0752	0828	0903	03	33	1633	1703	1743	1808	1843			
§ Caversfield, o/s Old Vicarage		0714	0754	0831	0904	04	34	1634	1705	1744	1809	1844			
§ Bicester, Banbury Road Roundabout (S-bound)	0641	0716	0756	0836	0907	07	37	1637	1709	1747	1812	1847			
§ Bicester, opp Barbary Place Shops	0642	0717	0757	0838	0908	then	08	38	1638	1710	1748	1813	1848		
§ Bicester, adj Blake Road	0642	0717	0757	0839	0909	at	09	39	1639	1711	1749	1814	1849		
§ Highfield, opp Rowan Road	0643	0718	0758	0840	0910	these	10	40	1640	1712	1750	1815	1850		
Bicester Town Centre, Manorsfield Road (Stand 6)	arr	0645	0720	0800	0844	0912	mins	12	42	until	1642	1715	1752	1817	1852
Bicester Town Centre, Manorsfield Road (Stand 6)	dep	0646	0721	0801	0850	0920	past	20	50		1650	1720	1755	1820	1855
Bicester, Bicester Village Station (main entrance)	arr	0650	0725	0805			each							1824	1859
Bicester, Bicester Village Station (main entrance)	dep	0655	0735	0810			hour							1825	1900
Bicester Town Centre, Manorsfield Road (Stop 8)	arr	0659	0739	0814										1829	1904
Bicester Town Centre, Manorsfield Road (Stop 8)	dep	0700	0740	0815										1830	1905
§ Highfield, adj Rowan Road		0702	0742	0817	0852	0922		22	52		1652	1726	1757	1832	1907
§ Bicester, opp Blake Road		0704	0744	0819	0854	0924		24	54		1654	1729	1759	1834	1908
§ Bicester, Banbury Road Roundabout (N-bound)		0706	0746	0821	0856	0926		26	56		1656	1735	1801	1836	1910
Elmsbrook, Charlotte Avenue (N-bound)		0708	0748	0823	0858	0928		28	58		1658	1738	1803	1838	1912

**Saturdays**

Elmsbrook, Braeburn Avenue (S-bound)	0750	0825	0900			00	30	1630	1700	1740					
Elmsbrook, opp Gagle Brook School	0752	0827	0902			02	32	1632	1702	1742					
§ Elmsbrook, Tayberry Close (E-bound)	0752	0827	0902			02	32	1632	1702	1742					
§ Elmsbrook, Charlotte Avenue (N-bound)	0752	0828	0903			03	33	1633	1703	1743					
§ Caversfield, o/s Old Vicarage	0754	0831	0904			04	34	1634	1705	1744					
§ Bicester, Banbury Road Roundabout (S-bound)	0756	0836	0907			07	37	1637	1709	1747					
§ Bicester, opp Barbary Place Shops	0757	0838	0908	then		08	38	1638	1710	1748					
§ Bicester, adj Blake Road	0757	0839	0909	at		09	39	1639	1711	1749					
§ Highfield, opp Rowan Road	0758	0840	0910	these		10	40	1640	1712	1750					
Bicester Town Centre, Manorsfield Road (Stand 6)	arr	0800	0844	0912			mins	12	42	until	1642	1715	1752		
Bicester Town Centre, Manorsfield Road (Stand 6)	dep	0801	0850	0920			past	20	50		1650	1720	1755		
Bicester, Bicester Village Station (main entrance)	arr	0805					each								
Bicester, Bicester Village Station (main entrance)	dep	0810					hour								
Bicester Town Centre, Manorsfield Road (Stop 8)	arr	0814													
Bicester Town Centre, Manorsfield Road (Stop 8)	dep	0815													
§ Highfield, adj Rowan Road		0817	0852	0922				22	52		1652	1726	1757		
§ Bicester, opp Blake Road		0819	0854	0924				24	54		1654	1729	1759		
§ Bicester, Banbury Road Roundabout (N-bound)		0821	0856	0926				26	56		1656	1735	1801		
Elmsbrook, Charlotte Avenue (N-bound)		0823	0858	0928				28	58		1658	1738	1803		

**Sundays**

no service

**Bank Holidays**

no service

Notes: § - Time at this stop is indicative. You are advised to be at any stop several minutes before the times shown



**E1****Elmsbrook Estate - Bicester Village Station**

Grayline Coaches

For times of the next departures from a particular stop you can use **traveline-txt** - by sending the SMS code to **84268**. Add the service number after the code if you just want a specific service - eg: **buctdgt 60**. The return message from **traveline-txt** will show the next three departures, and it currently costs 25p plus any message sending charge. Departure times will be real-time predictions where available, or scheduled departure times if not.

You can also get the same information by using the SMS code at [www.nextbuses.mobi](http://www.nextbuses.mobi) (only normal browsing charges apply) or through several iPhone or Android apps that offer access to **NextBuses**.

**NOTE: SMS codes are different in each direction. Make sure you choose the right direction from these lists.**

SMS Code	Stop Name	Street	ATCO Code
oxfgwjdg	Elmsbrook, Braeburn Avenue (S-bound)	Braeburn Avenue	340002358SOU
oxfgwdgt	Elmsbrook, opp Gagle Brook School	Cranberry Avenue	340002357SCH
oxfgtmgt	Elmsbrook, Tayberry Close (E-bound)	Charlotte Avenue	340002357ELM
oxfgtpjd	Elmsbrook, Charlotte Avenue (N-bound)	B4100 Banbury Road	340002358ELM
oxfgwdgw	Caversfield, o/s Old Vicarage	unclassified road	340002357VIC
oxfawtpd	Bicester, Banbury Road Roundabout (S-bound)	Banbury Road	340002357SOU
oxfawtpj	Bicester, opp Barberry Place Shops	Banbury Road	340003256OPP
oxfawtpt	Bicester, adj Blake Road	Banbury Road	340003255CNR
oxfawtwa	Highfield, opp Rowan Road	Banbury Road	340003254OPP
oxfgtppg	Bicester Town Centre, Manorsfield Road (Stand 6)	Manorsfield Road	340000093BP6
oxfgmagw	Bicester, Bicester Village Station (main entrance)	Station Approach	340001734APP
oxfgtmjp	Bicester Town Centre, Manorsfield Road (Stop 8)	Manorsfield Road	340000093BP8
oxfawtwd	Highfield, adj Rowan Road	Banbury Road	340003254CNR
oxfawtpw	Bicester, opp Blake Road	Banbury Road	340003255OPP
oxfawtpg	Bicester, Banbury Road Roundabout (N-bound)	Banbury Road	340002357NOR

**E1****Elmsbrook Estate - Bicester Village Station**

Grayline Coaches

**Important information related to service E1 at 15:19:51 on 13th September 2021****Face coverings on this service***Valid from 2024 on 16 Jul 2021 until 2359 on 30 Nov 2021*

You will be expected to wear a face covering to travel on this service

**Timetables**

Select a timetable using the bookmarks (on the left of this page). Choose the direction and day of travel you require. Stop and Street Names and SMS codes are also available.

**Appendix B: PIC Data**