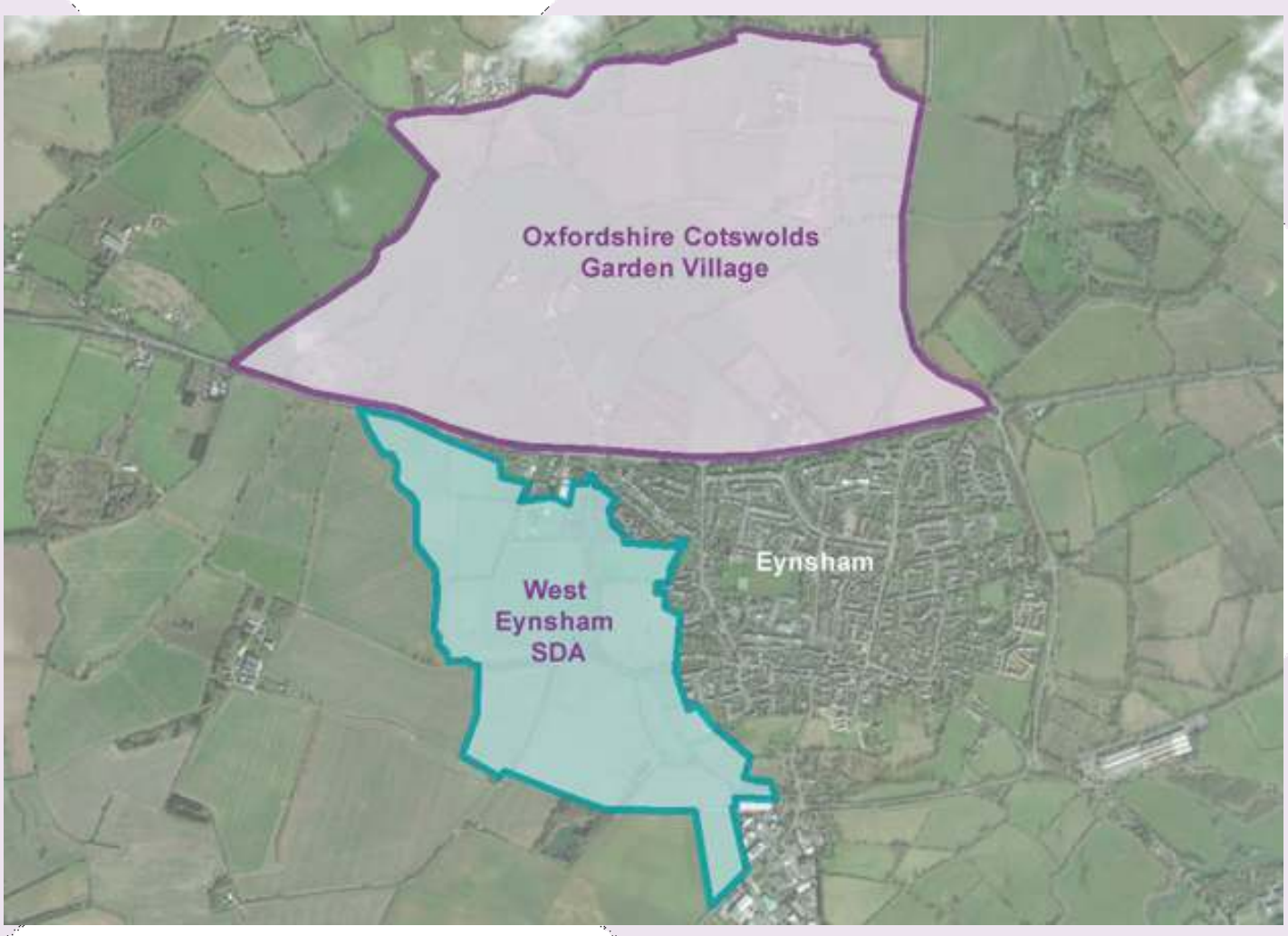
Oxfordshire County Council

Oxfordshire Cotswolds Garden Village AAP

Transport Strategy

Report



Wood Environment & Infrastructure Solutions UK Limited – July 2020

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Document revisions

No.	Details	Date
1	Draft Report	17/01/20
2	Final Draft Report	09/07/20
3	Final Report	13/07/20

Contents

1. Introduction

1.1 Background

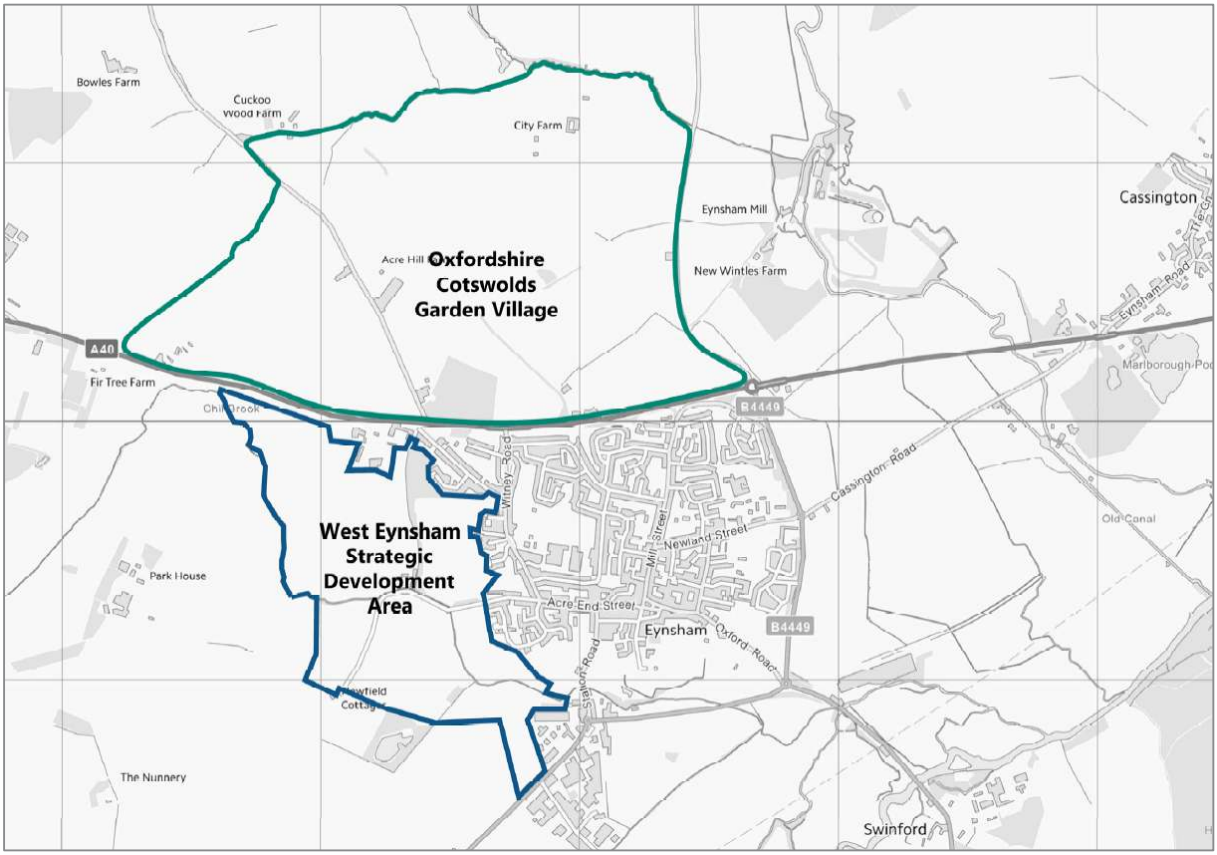
The Oxfordshire Cotswolds Garden Village Strategic Location for Growth (OCGV) is located in Eynsham Parish in West Oxfordshire and is identified as an Allocated Site within the West Oxfordshire Local Plan 2031, which was formally adopted in September 2018. The Garden Village has government backing and is one of the 14 sites announced in January 2017 as part of an expansion of the garden towns programme[1].

The development of an Area Action Plan (AAP) for the Garden Village by West Oxfordshire District Council (WODC) will provide a planning framework to guide the development proposal and its delivery.

The Transport Strategy for OCGV has taken into consideration the West Eynsham Strategic Development Area (SDA) which is located to the south and will be developed within similar timescales. The combined sites will provide around 3,200 new homes, a Science Park generating a significant number of new jobs, primary and secondary education provision and additional service facilities.

The location of the site allocations is shown in **Figure 1.1**.

Figure 1.1 Oxfordshire Cotswolds Garden Village SLG and West Eynsham SDA



[1]The Expression of Interest submitted to the Government is available here: https://www.westoxon.gov.uk/media/vrcivylm/west-oxon-garden-village-expression-of-interest.pdf

A separate study of the West Eynsham SDA is being undertaken by West Oxfordshire District Council/ Oxfordshire County Council and this report therefore focuses on the Transport Strategy for the Garden Village. There are inter-relationships between the two sites which include transport and access arrangements, education and other supporting infrastructure and therefore a comprehensive approach has been taken to ensure the most effective outcomes.

OCGV and West Eynsham SDA are served by the A40, a key gateway into Oxford and part of the road network artery for the "knowledge spine". The A40 carries high volumes of traffic each day which exceed the existing road capacity levels, and congestion and queuing on the A40 is typical throughout the day, particularly in the morning and evening peak hours.

In acknowledgement of the constraints to economic growth caused by the congestion, and increased pressure due to future growth, OCC has identified a long-term A40 Corridor Strategy which comprises a combination of highway and public transport improvements. The sites will benefit from the proposed Park & Ride site providing 850 car parking spaces located to the west of the A40/Cuckoo Lane junction which will be funded largely through the 'Local Growth Fund' administered by Central Government.

Collectively this will create the opportunity for integrated housing, employment and transport hubs, with the Garden Village providing a new rural service centre.

1.2 Transport Strategy Evidence Studies

The following studies have been undertaken to inform the Transport Strategy.

Baseline Report

A Baseline Report entitled: *"Cotswolds Garden Village AAP & West Eynsham SPD: Developing the Transport Evidence Base"* was issued in May 2019, which comprised the following:

- Policy review of the main national and local policy documents that have a bearing on the Transport Strategy for the West Eynsham SDA and OCGV.
- Description of the of the OCGV and West Eynsham SDA Sites based on the *Oxfordshire Cotswolds Garden Village Issues Paper* and Consultation response, and the *West Eynsham SPD Issues Paper* and the Consultation Response.
- Description of the local road network in the vicinity of OCGV, namely the A40, B4449 and A4095 including traffic flows and journey times.
- Description of current sustainable transport infrastructure including pedestrian and cycle connectivity, equine provision, bus and rail services and connectivity to these.
- Existing travel patterns based on the Office for National Statistics (ONS) 2011 Census for travel to work data in the Eynsham and Cassington locality.
- Future transport infrastructure schemes in the locality that will need to be considered as part of the overall Transport Strategy, including a description of the A40 corridor improvements, the A40 Park & Ride (Eynsham), A40 bus lanes and upgraded footway/cycleway, B4044 cycle path and improvements at Hanborough Station.

This Report does not aim to duplicate information included within that document but instead it provides an update where appropriate and sets out the Transport Strategy for OCGV which has been carried through into the Area Action Plan for the Garden Village.

Policy Framework Update

Since publication of the Baseline Report, the key policy update is approval of the Eynsham Neighbourhood Plan (ENP) 2018-2031 which was approved by a Referendum held on 30th January 2020. The following are extracts from the ENP which are pertinent to the Transport Strategy.

Eight objectives are identified as part of the Vision for Eynsham, with those directly related to transport including:

- **ENV 3:** New development shall ensure that new residents have at least the same access to community facilities as existing residents and new developments shall, as far as reasonably practicable, contribute to the facilities of the entire community. Eynsham is successful as a community because it is compact and people can access schools, employment and other facilities without the use of a private car. New developments shall maintain this compact and well-connected feature of the village.
- **ENV5: Transport and parking:** New development shall be planned and constructed to ensure that all residents have ready access to local transport networks by private car, bicycle or public transport and that excellent paths are created for pedestrians, cyclists and mobility vehicles. New developments should not exacerbate existing parking problems within the village centre and shall ensure adequate and appropriate parking for new residents.

Aspirations regarding sustainable transport are set out in **Policy ENP7**, which includes the following points.

- Vehicular access to new developments should be from existing main roads (A40, B4044, B4449) and not through existing village roads except for infill developments where there is no alternative.
- Link roads between main roads should have pedestrian and cycle paths where appropriate and suitable.
- Residential streets should be constructed to 20mph or 'Home Zone' principles to complement other village streets that will also have the same speed limits in force.
- Measures to utilise and improve Eynsham's existing public transport should be included in all masterplans.
- Encouragement should be given to the use of alternatives to private cars and documented in Travel Plans as part of the planning application.
- The ENP specifies that the OCGV and West Eynsham SDA should aim for the following walking distances between new homes and facilities:
    - 800 metres to a convenience store, bus stop and school.
    - 1.2km to a village centre.
    - 2km to a secondary school and employment.
- **Policy REC 16** highlights that Eynsham Parish Council should work with all parties to improve the current traffic problems associated with the A40 and the Swinford Toll Bridge and particularly with the Highway Authority to ensure that all new road access to developments improves or, as a minimum, does not worsen traffic congestion for residents of the parish or those passing through it. This may include the protection of land that might reasonably be required for future road, rail or cycle-path provision.
- **Policy ENP14** considers sustainable growth and identifies the need for mitigation of impacts on highway infrastructure such as the A40, B4449, B4044 and the Swinford Toll Bridge.

Traffic Modelling Report

The transport evidence base produced by Wood includes a transport microsimulation model using VISSIM software to test the impacts of the development proposals. The following models have been developed:

- 2018 Eynsham VISSIM Base Model based on the North Oxford VISSIM Model;
- 2031 Eynsham VISSIM Future Base Model;
- 2031 Eynsham VISSIM 'With Development' Model (OCGV and West Eynsham SDA vehicle trips were added to the 'Future Base Model')

The "*Eynsham Base VISSIM Model - Local Model Validation Report*" (the LMVR) sets out the approach to developing the 2018 Eynsham VISSIM Base Model. The "*Garden Village AAP and West Eynsham SPD Evidence Base – 2031 Forecast Year Modelling Report*" provides the methodology and the results of the testing of the development , referred to as the 2031 Eynsham VISSIM 'With Development' Model. Appendix A of "*Garden Village AAP and West Eynsham SPD Evidence Base – 2031 Forecast Year Modelling Report*" sets out the approach to estimating the traffic generation from the Garden Village and West Eynsham SDA for testing in the traffic model. The traffic generation has been based on person trips and travel by different forms of transport, recognising that both sites are well placed for access to frequent bus services. In addition, as the Garden Village is a mixed use development, and the West Eynsham SDA will coalesce with Eynsham, it is recognised that there will be a strong degree of 'self-containment' as new residents will be less dependent on travelling to other locations for employment, education, leisure and retail.

The modelling has tested two scenarios for the employment based on 40,000 sqm and 80,000 sqm of business space, referred to as 4ha and 8 ha respectively.

Modelling Outputs

The model outputs have comprised a comparison between the 2031 Future Base Model and the 2031 'With Development' Model for the following outputs:

- **Average journey times** - Average journey times for all vehicles were extracted for all routes in each of the three-hour AM peak period (07:00-08:00, 08:00-09:00 and 09:00-10:00) and the three hour PM peak (15:00-16:00, 16:00-17:00 and 17:00-18:00). The journey times were assessed as the weighted average for the entire peak period and for the hourly periods within the peaks. The routes have been broken down into sections (between key junctions) for which modelled vehicle travel times have been recorded.
- **Vehicle flows** at key junctions were extracted for the AM and PM peak hours.
- **Vehicle speeds** - Average vehicle speeds were extracted for the AM and PM peak hours.

Comparing the 'Future Base 2031' (without development) scenario with the Future Year 2031 with **8ha employment flows** scenario across the entire modelled section of the A40 between Wolvercote and Hill Farm (approx. 6.9 miles) shows:

- AM peak journey times along the A40 in the eastbound direction increase by approximately 4 ½ minutes (corresponding to a speed reduction of 4.6mph)
- AM peak journey times along the A40 in the westbound direction increase by approximately 1 ½ minute (corresponding to a speed reduction of 2.9mph)
- PM peak journey times along the A40 in the eastbound direction increase by approximately 1 ½ minutes (corresponding to a speed reduction of 2.6mph)
- PM peak journey times along the A40 in the westbound direction increase by approximately 3 minutes (corresponding to a speed reduction of 3.8mph)

Comparing the 'Future Base 2031' (without development) scenario with the Future year 2031 with **4ha employment flows** scenario across the entire modelled section of the A40 between Wolvercote and Hill Farm (approx. 11 miles) shows:

- AM peak journey times along the A40 in the eastbound direction increase by approximately 2 ½ minutes (corresponding to a speed reduction of 2.8mph)
- AM peak journey times along the A40 in the westbound direction increase by approximately ½ minute (corresponding to a speed reduction of 1.7mph)
- PM peak journey times along the A40 in the eastbound direction increase by approximately 1 minute (corresponding to a speed reduction of 1.9mph)
- PM peak journey times along the A40 in the westbound direction increase by approximately 1 ½ minutes (corresponding to a speed reduction of 2.4mph)

The key congestion hot spots and causes of delay in the future year 2031 with development scenario are summarised below:

- The additional delay in the AM peak in the eastbound direction is generally caused by additional congestion towards Wolvercote Roundabout and to a lesser extent between Witney Road through to Cassington Road signals. The eastbound approach to the Garden Village roundabout also suffers from additional congestion during the peak hour.
- The delay in the westbound direction in the PM peak is caused by an increase in traffic demand causing increased congestion at the Lower Road roundabout and Cassington Road signals.

Comparing the 'Base 2018' (without development) scenario with the Future Year 2031 with **8ha employment flows** scenario across the entire modelled section of the A40 between Wolvercote and Cuckoo Lane (approx. 4.6 miles) shows:

- AM peak journey times along the A40 in the eastbound direction increase by approximately 2 minutes (corresponding to a speed reduction of 1.6mph)
- AM peak journey times along the A40 in the westbound direction increase by approximately 3 minutes (corresponding to a speed reduction of 7.2mph)
- PM peak journey times along the A40 in the eastbound direction increase by approximately 2 minutes (corresponding to a speed reduction of 4.0mph)
- PM peak journey times along the A40 in the westbound direction decrease by approximately 9 minutes (corresponding to a speed increase of 6.4mph)

Comparing the 'Base 2018' (without development) scenario with the Future Year 2031 with **4ha employment flows** scenario across the entire modelled section of the A40 between Wolvercote and Cuckoo Lane (approx. 7.5 miles) shows:

- AM peak journey times along the A40 in the eastbound direction increase by approximately ½ minute (corresponding to a speed reduction of 0.35mph)
- AM peak journey times along the A40 in the westbound direction increase by approximately 2 minutes (corresponding to a speed reduction of 5.6mph)
- PM peak journey times along the A40 in the eastbound direction increase by approximately 1 ½ minutes (corresponding to a speed reduction of 3.4mph)
- PM peak journey times along the A40 in the westbound direction decrease by approximately 10 minutes (corresponding to a speed increase of 7.9mph)

The key differences in journey times between the 'Base 2018' and 'Future Year 2031 with development' scenarios are summarised below:

- Wolvercote traffic signals remain a capacity constraint and with increased traffic demand in the 2031 with development scenarios, queuing for the traffic signals increases and thus journey times also increase. It should be noted that the increase in journey time in the eastbound direction occurs almost entirely on the Eynsham Road to Wolvercote Roundabout section.
- The A40 proposals include a significantly lengthened flare on the eastern approach to the Lower Road roundabout which is leading to a significant improvement in capacity for the PM peak westbound traffic passing through it. This is resulting in reduced queuing and significantly reduced blocking back through Cassington signals. As a result, the journey times between Wolvercote and Lower Road improve significantly.

The results of the traffic modelling of the development proposals also identified a need for signalisation of the A4095 and Lower Road junction which is currently a priority junction with a right turn lane into Lower Road off the A4095. Signalisation at the junction has resulted in a significant improvement in the throughput of traffic with no significant queuing present on any of the approaches in either peak period.

1.3 Planned Transport Network Improvements

Oxfordshire County Council's A40 Corridor Strategy improvements will help support and mitigate the impact of the planned housing and employment growth in West Oxfordshire, including the delivery of OCGV. The scheme comprises a series of corridor improvement schemes that will increase transport capacity along the corridor and encourage greater use of public transport and cycling for trips from West Oxfordshire to Oxford.

In addition, there are planned upgrades to Hanborough Station and rail services. Improved connectivity between OCGV and the station will be needed to maximise accessibility.

Overview of A40 Corridor Improvements

A total of £137m public funding has been allocated by Department for Transport (DfT) and Homes England to enable delivery of the A40 corridor improvements. DfT has allocated £35m from its Local Growth Fund (LGF) and HE has allocated £102m from its Housing Infrastructure Fund (HIF).

S106 obligations will be required to secure financial contributions towards the A40 Corridor infrastructure schemes and the required repayment of the HIF funding secured to facilitate the delivery of these schemes ahead of the receipt of S106 funding. S106 contributions will be required from development sites along the A40 corridor including OCGV and West Eynsham SDA.

DfT's LGF funding will largely support delivery of Phase 1 of the improvements (the A40 Park & Ride and eastbound bus lane). To release the LGF funding an Outline Business Case was submitted in June 2019. The Full Business Case is to be submitted once planning approvals and final implementation costs are known.

Homes England's HIF funding will support delivery of both phases 1 and 2 of the improvements (westbound bus lanes, Duke's Cut Bridge works and the A40 dualling – Witney to Eynsham). Land will be safeguarded along the southern boundary of the Garden Village to support widening of the A40 to accommodate the bus lanes and shared foot/cycle paths.

Further detail about the A40 corridor improvement schemes are outlined below:

A40 Corridor Improvements Phase 1 – Delivery anticipated by Spring 2023

A40 Park and Ride (Eynsham)

The Park & Ride will be located to the north of the A40 and west of the A40/Cuckoo Lane junction at Eynsham. It will include provision of the following.

- 850 car parking spaces including Blue Badge parking spaces and spaces for electric vehicle charging and motorcycles. Whilst the planning application for the Park & Ride includes 850 spaces, the Local Plan Policy allows for 1,000 spaces. Consideration should therefore be given to accommodating means for future expansion of the site.
- An area for short stay parking for drop-off/ pick up.
- Four bus stops and three bus stands, with passengers able to board buses for destinations towards Witney and Carterton in the west, and Oxford in the east.
- Sheltered passenger waiting facilities and an associated public realm area.
- Secure, covered cycle parking dispersed across the site to enable good access to the alternative cycle routes into the site. Space has been allocated for the potential future increase in cycle parking as the Local Plan development sites come forward.

Two access points are proposed at the Park & Ride site:

- **A40 Park & Ride Access Junction:** The proposed primary access junction will be to the west of Cuckoo Lane. On egress, buses heading west will use this junction, while those heading east will be provided with a dedicated lane which ties directly into the eastbound bus lane proposed along the A40, thereby minimising delay.
- **Cuckoo Lane:** In order to provide enhanced access from the villages to the north of the site, such as Freeland and Long Hanborough, a secondary access (entry only) will be provided from Cuckoo Lane in the form of a priority T-junction. This secondary access will also function as an emergency access. It is likely that this access will be needed for vehicular traffic only until the Garden Village spine road is implemented.

Future provision for a bus only connection to be incorporated from the Park and Ride site into OCGV has been made in the site designs.

A40 Bus Lanes and Footway/ Cycleway Improvements (Eynsham to Duke's Cut Bridges)

New eastbound and westbound bus lane and footway/cycleway improvements are proposed, extending along the A40 from the Park and Ride site to Duke's Cut bridges near Wolvercote. There will be periodical gaps in the bus lanes on junction approaches. It is proposed that the carriageway is widened (generally within the highway boundary) in order to allow the segregation of the bus lane from general traffic. The bus lanes will necessitate adjustments to the junctions and the provision of bus gates to give priority to buses joining the general traffic lane.

Upgraded shared-use footways and cycleways will run over the same extents as the bus lanes thereby ensuring that a continuous 3 metre wide shared-use route is retained between Witney, Eynsham Park & Ride and Oxford.

Improved A40 bus stop provision:

Two new sets of bus stops will be provided on the A40 at Eynsham for local people to access the improved bus services. These will be supported by the provision of improved pedestrian crossings. The bus stops are

located (a) East of Witney Road and west of the Esso Petrol Station (b) West of Eynsham Roundabout. The existing bus stop on the A40 (south) by The Evenlode will be retained. However, the bus stop on the A40 (north) will not be retained at this location given the proximity of the Park & Ride site.

Improved A40 pedestrian and cycle crossings:

New and upgraded pedestrian and cycle crossings are proposed along the A40 corridor to provide safe and good quality routes to the Park and Ride site, to bus stops, and to services and facilities within Eynsham Village, OCGV and West Eynsham SDA. Crossings are proposed at the following locations:

- **A40/ Cuckoo Lane:** An underpass will be provided (to be funded by OCGV and West Eynsham SDA developers) to provide a safe, segregated crossing between Eynsham Village and the OCGV/Park and Ride site. Integration of the underpass into the HIF proposals is currently being investigated as part of the ongoing HIF work.
- **A40/ Witney Road** signalised junction
- **Crossing near Spareacre Lane:** A new signalised crossing
- **Crossing near Hanborough Road**: A new signalised crossing

A40 Junction reconfiguration / improvements:

To accommodate these highway scheme proposals and to ensure safety and to improve provision for pedestrians and cyclists, some junction reconfiguration and improvements will be required at the following locations:

- A40/Cuckoo Lane:
- A40/Witney Road
- Esso petrol station entry/egress
- Eynsham Roundabout
- A40/Cassington Signals
- Horsemere Lane: closure to traffic with access maintained for equestrians, pedestrians and cyclists.

A40 Improvements (Oxford North):

To include a further section of eastbound bus lane from Duke's Cut Bridges; a new signalised junction; and a new signalised at-grade crossing facility linked with the new junction. These improvements are being funded/ delivered by the developers of the Oxford North site.

A40 Corridor Improvements Phase 2 – Delivery anticipated by Spring 2024

A40 Duke's Cut Bridge Works - Eastbound Bus Lane and Footway/Cycleway Improvements:

Widening and strengthening of the existing A40 bridge structures over the railway and canals and the provision of a new footway/cycleway bridge adjacent to the existing structures are proposed. There are four existing bridge and culvert structures in the Duke's Cut area:

- Duke's Cut Canal Bridge
- Earl's Culvert

- Wolvercote Railway Bridge
- Wolvercote Canal Bridge

The scheme will widen and/or strengthen these structures to create space for a new eastbound bus lane along this section of the A40. Resolution of this pinch point would provide a continuous eastbound bus route from Eynsham Park & Ride into Wolvercote roundabout. It will also allow improved walking and cycling connectivity over these structures. In addition, a new foot/cycle path from the A40 to the canal tow path is also proposed in the vicinity of the structures. The scheme will also deliver a new foot/cycle path from the A40 to the canal tow path in the vicinity of the structures.

A40 Dual Carriageway Extension (Witney to Eynsham):

Widening of the existing single carriageway to dual carriageway along the A40 from just east of Witney to Eynsham, including an improved footway/cycleway. This scheme will increase highway capacity for all modes of transport and provide improved journey times and reliability along the A40 between Witney and the Eynsham Park & Ride site. The existing junction at Barnard's Gate will be reconfigured to provide local access to improve safety. Upgraded shared-use footways and cycleways will run along the northern side of the new carriageway ensuring that a continuous 3 metre wide shared-use route is retained between Witney, Eynsham Park & Ride and Oxford.

A40: Laybys and speed limit

There are two existing laybys located just to the west of Eynsham on this stretch of the A40; one on the north side and one on the south side of the carriageway. The A40 corridor improvement schemes will result in the need for some re-configuration, re-provision and/or potentially the removal of these laybys. In developing the A40 scheme proposals the existing usage and function of these laybys will be reviewed and potential future options developed and assessed.

The speed limit along the A40, in the vicinity of Eynsham, will be reduced from the National Speed Limit to a maximum of 50 mph.

B4044 Cycle Path

A cycle path along the B4044 would support cycling and walking between Eynsham, OCGV and Oxford. The cycle path originally comprised an element of the A40 Smart Corridor HIF bid but in the final stages of preparing the business case OCC took the difficult decision to remove the cycle path from the business case. The B4044 cycle path is still a part of the Strategy for the A40 and OCC continues to progress the cycle path to ensure that a scheme is ready to submit to future funding opportunities as they arise, where the scheme meets the criteria. By having a 'shovel ready' scheme, funding opportunities that have short time frames can be applied for, which is often the case with external funding sources.

Improvements at Hanborough Station

Hanborough Station lies approximately 3km to the north of the Garden Village and is currently served by hourly train services between London Paddington, Reading, Oxford and Worcester, with some trains continuing to Great Malvern (13 services per day) or Hereford (five services per day). There are additional trains during the morning and afternoon peak hours for commuters. The journey time to London takes approximately one hour.

Facilities at Hanborough Station have recently been upgraded and have included a new ticket office, information point, waiting room and toilet. Land has also been set aside for a 400-space car park, a new station building, a pedestrian bridge, ticket machine and shop, plus taxi and bus drop-off points. Consultants

were commissioned to prepare an Infrastructure Study for Hanborough Station[2] which identified a series of potential short and longer-term improvements to station facilities and surrounding infrastructure. The study established a Vision for Hanborough Station which is that by the end of the Local Plan period in 2031, it will be a modern and efficient transport and mobility hub for West Oxfordshire that is safe and accessible for all with early delivery of dedicated walking and cycling connections and frequent, integrated and reliable bus services making make walking, cycling and local bus services the natural choice for existing residents and tourists accessing the station.

The North Cotswold Line Task Force, supported by Network Rail, are proposing a significant increase in the train service at Hanborough to meet the anticipated increase in demand for travel from developments such as OCGV and the West Eynsham Strategic Development Area. With direct links to other employment sites in Oxfordshire, such as Culham and Science Vale, the extra train services will give people another viable alternative to using their cars.

The proposal being developed includes up to four trains per hour, including a train every 30 minutes to London and Worcester, as well as the introduction of two trains per hour between Hanborough, Oxford and Didcot, and will be supported by infrastructure improvements including reinstatement of double track, a second platform at Hanborough and associated station enhancements to be defined in a Station Masterplan.

Improved connectivity between Salt Cross and the station by walking, cycling and public transport is essential to support this opportunity, and consideration must be given as to how a self-sustaining commercial bus service can serve Hanborough Station from the Garden Village and from West Eynsham, in future years, potentially as part of a wider route connection linking other destinations.

The cycling and walking provision along Lower Road is however poor, comprising an unlit, single carriageway at the national speed limit and with pinch points including the narrow railway bridge on the A4095 immediately west of the station. Cycling to the station is therefore unattractive and most journeys are taken by car, despite it being within a 20-minute cycle ride of Eynsham. Improvements to this route will be required to create connectivity between the OCGV and Hanborough Station.

1.4 Structure of the Transport Strategy

The Transport Strategy is set out as follows:

- Description of the Oxfordshire Cotswolds Garden Village SLG
- Approach to the Transport Strategy
- Strategy for Active and Healthy Travel
- Strategy for Public Transport
- Strategy for Reducing the Need to Travel
- Strategy for Road Connectivity and Access

[2] Reports available under 'Preferred Options Consultation' here: https://www.westoxon.gov.uk/planning-and-building/planning-policy/oxfordshire-cotswolds-garden-village/

2. Oxfordshire Cotswolds Garden Village SLG

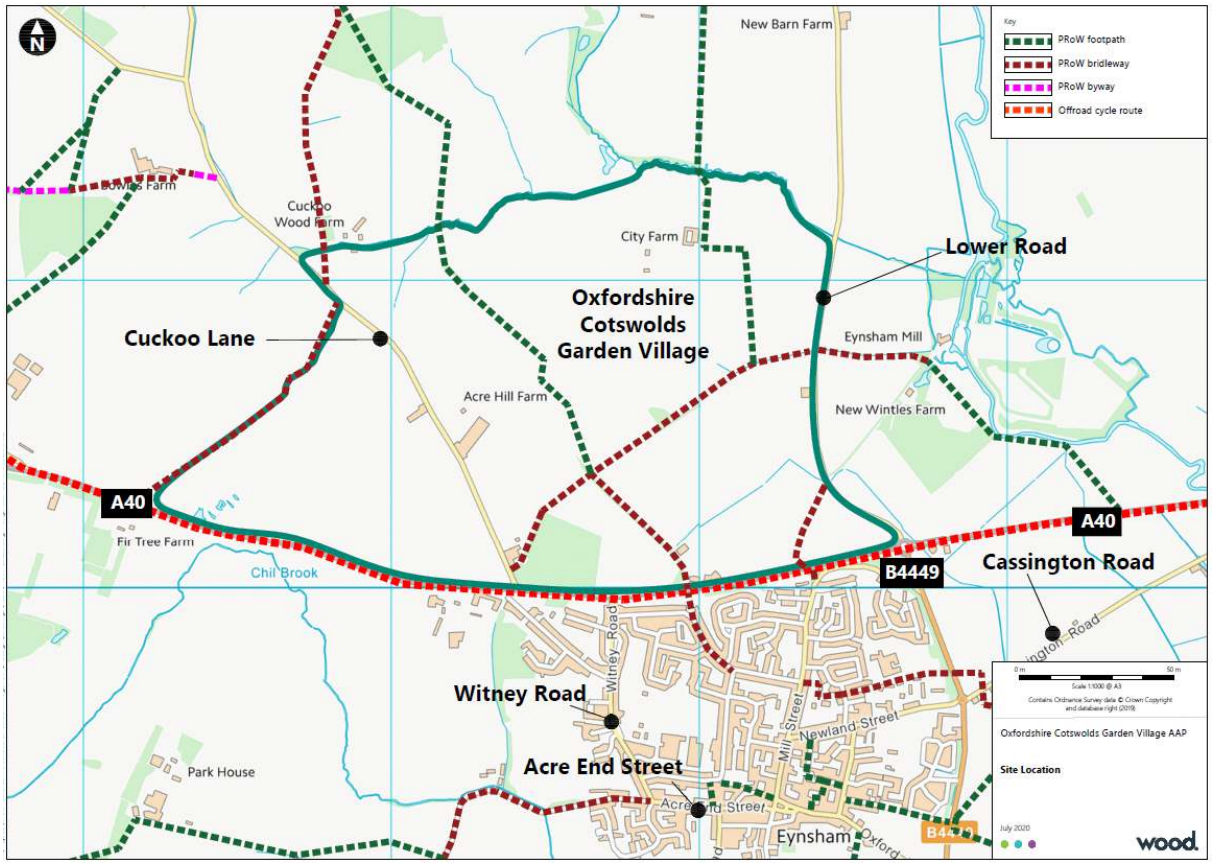
2.1 Introduction

OCGV has been allocated by Policy EW1 of the West Oxfordshire Local Plan 2031 to deliver a free-standing exemplar garden village. New development at this location is to be provided in line with the 'garden city' principles set out by the Town and Country Planning Association (TCPA).

2.2 Site Location

OCGV is located immediately north of the A40 near Eynsham. Nearby settlements include Cassington, Church Hanborough, Long Hanborough, Freeland, North Leigh and South Leigh. The site location is shown in **Figure 2.1.**

Figure 2.1 Oxfordshire Cotswolds Garden Village SLG Location



In total, the site area is around 215 hectares (531 acres). The site boundaries are as follows:

- the southern boundary comprises the A40 from a point west of the layby on the northern side of the A40 (west of Cuckoo Lane) to the Lower Road roundabout;
- the eastern boundary comprises Lower Road (also the edge of the Oxford Green Belt);
- the northern boundary generally follows a watercourse to the north of City Farm; and

- the western boundary comprises a public right of way (PRoW) between the A40 and Cuckoo Lane in addition to a section of Cuckoo Lane itself.

2.3 Development Mix

OCGV will comprise a comprehensive, mixed use development with a 'working assumption' in the Local Plan that the site will deliver the following.

- around 2,200 dwellings by 2031 (Local Plan Policy EW1).
- new business space (a new campus-style science park of around 40 hectares; Local Plan policy E1). For the purpose of assessment, 40,000 sqm and 80,000 sqm of business space has been assumed.
- education provision (primary and secondary).
- community facilities including open space and leisure.

The mix of different uses will help to promote a strong degree of 'self containment' ensuring that residents of the new Garden Village are less dependent on travelling to other locations to fulfil their needs.

The preferred location emerging in the AAP for the new primary school and secondary school is to the east of Cuckoo Lane (north of the A40). The secondary facilities will mean that there will be a split school site: Years 7 and 8 or 6th form will be provided at OCGV whilst other year groups will be served by the existing secondary school site in Eynsham. A key pedestrian/cycle desire line will therefore exist for staff and pupils between the schools.

The proposed Park & Ride facility west of Cuckoo Lane will provide the focus for a Sustainable Transport Hub, well located to serve the Garden Village and West Eynsham SDA.

Vehicular Access

The vehicular access to OCGV will comprise:

- A new roundabout (the 'Western Development Roundabout') located on the A40 to the west of the proposed Park & Ride access junction which potentially will provide access to both the Garden Village and West Eynsham SDA. Additional junctions on the A40 will not be permitted as this would impact on traffic flow and congestion, and would undermine the benefits of the A40 corridor improvements.
- A new junction with Lower Road will form the eastern access point for the spine road through the Garden Village.

2.4 Public Consultation

Garden Village AAP Issues Paper Consultation

The 'Oxfordshire Cotswolds Garden Village Area Action Issues Paper' was published in June 2018 and a public consultation on the Paper was undertaken in June/ July 2018. Key aspects identified that related to transport and movement included:

- Concerns regarding the capacity of the A40 and its ability to support new development unless effective improvements and funding for these are identified.

- The need for interventions at Swinford Toll Bridge and Wolvercote junction which are both seen as major bottlenecks;
- The need for significant improvement at Lower Road, including safe pedestrian and cycling infrastructure;
- Improved public transport linkages, transfers and services to reduce car dependency and congestion on the road network; and
- The need for integrated multi modal travel choice which is accessible, affordable, reliable, safe and aligned with people's travel needs.

A more detailed insight into key responses received to the Issues Paper consultation was provided in the Wood Report entitled: *"Cotswolds Garden Village AAP & West Eynsham SPD: Developing the Transport Evidence Base",* May 2019.

Garden Village AAP Preferred Options Consultation

The 'Oxfordshire Cotswolds Garden Village Area Action Preferred Options Paper' consultation took place between August and October 2019. Many respondents to the consultation expressed concern about the added pressure the Garden Village would place on the A40 whilst Highways England requested further detailed assessment of the capacity of the Wolvercote junction to accommodate growth and the impact of this junction on the surrounding highway network, including the A34. There was a view that the A40 needed to be improved before the Garden Village development commences, with the success of the Garden Village dependent on a functioning A40 There is substantial support for the creation of environments that prioritise walking and cycling, including a 'green bridge' connecting to Eynsham Village. Many respondents, however, called for an extended transport strategy with greater emphasis on links to surrounding parishes and the role of routes, such as the B4044 cycle path and national cycle network, in establishing connectivity. The proposed cycle route between the Garden Village and Hanborough Station was deemed to be unsafe, with a segregated route with access from the southern point on Lower Road considered significantly safer. The British Horse Society considered that more pedestrian routes should accommodate equestrians too.

Additional points raised included a need to ensure that developments were future proofed to support changing travel patterns, for example the Park & Ride signalised staggered crossing was not considered to follow future pedestrian desire lines. The Park & Ride site itself was deemed by some to be unsafe and in the wrong location, instead being required at Witney. There was also an expressed need for greater scheme integration, including seamless connectivity between the Garden Village and West Eynsham SDA by bus.

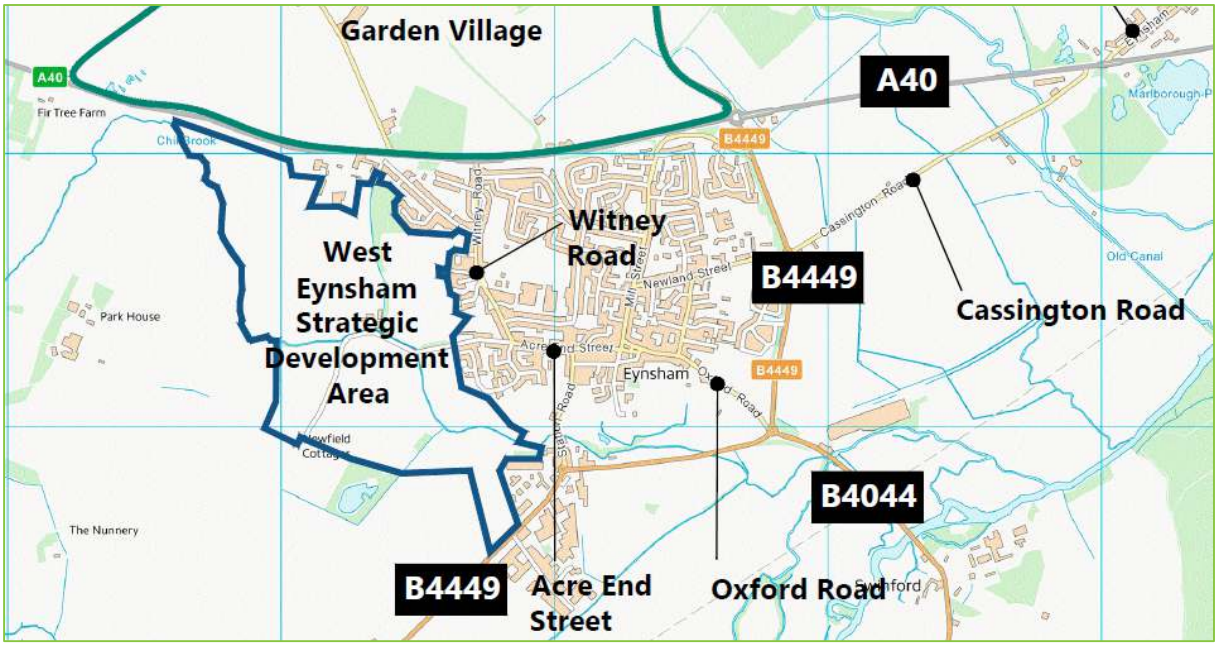
2.5 Neighbouring Development: West Eynsham SDA Site

A separate study is being undertaken by West Oxfordshire District Council/ Oxfordshire County Council and therefore this report focuses on the Transport Strategy for the Garden Village. Nonetheless it is also important to consider the inter-relationships between the two sites. These include transport and access arrangements, education and other supporting infrastructure. The two sites have not therefore been considered in isolation but instead a comprehensive approach has been taken to ensure the most effective outcomes.

Site Description

The West Eynsham SDA site is located to the south of the A40 to the west of Eynsham and has a total site area of around 88 hectares (217 acres). The site location is shown in **Figure 2.2**.

Figure 2.2 West Eynsham SDA Location



The SDA is intended to accommodate a new sustainable and integrated community that will coalesce with Eynsham. The allocation envisages the provision of around 1,000 homes together with supporting infrastructure including a new primary school and a new western spine road which will connect the A40 with the B4449, providing additional route choice for traffic that might otherwise route through Eynsham. The new spine road would provide the main point of vehicular access into the SDA, acting as a primary route from which a series of secondary routes would allow vehicular access to the wider site, thus minimising the potential impact of the development on the existing road network in Eynsham.

Arrangements for a connection with the A40 to the north are being explored through the West Eynsham SDA Access Options Study. At the southern end of the spine road, further work is being undertaken to determine the most appropriate arrangements for connecting onto the B4449 Stanton Harcourt Road, which will consider the proximity of an adjoining scheduled monument. Land has, however, been identified as part of the permitted expansion of Polar Technology to potentially allow a connection to be made.

In August 2015, planning permission was granted for residential development of up to 160 dwellings on land west of Thornbury Road Eynsham (application ref. 15/03148/OUT). The site (some 6.94 hectares) is situated adjacent to the western edge of the existing settlement, within the eastern boundary of the SDA. In addition, in June 2016 full planning permission (application ref. 15/00761/FUL) was granted on appeal for 77 dwellings on land at Eynsham Nursery and Garden Centre (WODC reference 15/00761/FUL; Appeal. The site (some 2.6 hectares) is situated immediately to the south of the A40, within the northern boundary of the SDA.

West Eynsham SDA SPD Issues Paper Consultation

The '*West Eynsham Strategic Development Area: Supplementary Planning Document Issues Paper*' was published in July 2018. A summary of the key responses received to the Issues Paper consultation was provided in the Wood Report entitled: *"Cotswolds Garden Village AAP & West Eynsham SPD: Developing the Transport Evidence Base"*, May 2019.

3. Transport Strategy Approach

3.1 Introduction

As set out in the Wood Report entitled: *"Cotswolds Garden Village AAP & West Eynsham SPD: Developing the Transport Evidence Base"*, May 2019, the A40 suffers from severe congestion, with high volumes of traffic which exceed existing road capacity levels and congestion resulting in queuing throughout the day, particularly in the morning and evening peak hours. In response to the 'Oxfordshire Cotswolds Garden Village Area Action Preferred Options Paper' consultation, there was a general concern that the OCGV will exacerbate the situation, not only on the A40 itself but also on the surrounding roads through local villages.

The results from the modelling indicate that based on the 'traditional' approach to estimating traffic growth and traffic generation, there will be additional congestion and delay on the A40 corridor as a result of general background traffic growth as well as trips generated by OCGV and the West Eynsham SDA.

It is therefore vital that the use and impact of the private car is kept to a minimum and that a genuine 'modal shift' towards active travel (walking, cycling, riding) and public transport is achieved, particularly for short journeys and to key destinations including Eynsham, Hanborough Station, Witney and Oxford. Safe and convenient crossing of the A40 is critical to the successful integration of the Garden Village with Eynsham. There is also the need to recognise that people will move around in very different ways in the future and that the Garden Village should be 'future proofed' as far as possible.

3.2 Changing Trends in Travel Behaviour and Transport Technology

In recent years there has been significant change in technological advances and social, economic and environmental conditions which influence travel behaviour. There is a growing body of evidence that the traditional approach to transport planning using the "predict and provide" process of basing future transport needs on past trends is flawed as travel trends are changing. The problem with this approach is that providing infrastructure that meets previous predicted needs rather than the transport needs of the future can lead to the over provision of highway capacity which in turn 'induces' travel demand. Providing for vehicles is often at the expense of walking and cycling infrastructure or public transport services. The following sections provide a summary of the evidence presented in three recent reports.

ALL CHANGE? The First Report of the Commission on Travel Demand -The future of travel demand and the implications for policy and planning, Commission on Travel Demand, May 2018[3]

The All Change report was based on 12 months of research, and evidence gathering from across the UK and Europe found that assumptions developed during decades of planning for growing car ownership which underpins the traditional understanding of travel demand growth have become limited and sometimes incorrect. Key findings include:

- Since the mid 1990s there has been a 20% reduction in commute trips per week;
- 18-30 year-old males travel 50% fewer miles than they did in 1995;
- In the 1990s 80% of people were driving by the age of 30, this is now by the age of 45;
- In the 1980s traffic grew by 50% whereas in the decade to 2016 it grew by 2%; and

[3] http://www.demand.ac.uk/wp-content/uploads/2018/04/FutureTravel_report_final.pdf

- There are 16% fewer trips than 1996, due to societal shifts in work and shopping; changing demographics; increased urbanisation; and the opportunities provided by communication technologies and the digital age.

The report remarks that future demand policies should be led by asking "what sort of places do we want to live in, what kind of activities do we need to travel for and what actions need to be taken"? By planning differently, lower and more sustainable levels of travel demand than have previously been observed are being created. These questions need to be asked in the planning of any new development.

The report also sets out the key transportation technologies that have the potential to transform the way we travel which have been described as the Three Revolutions.

- Electric vehicles – the number of hybrids and electric vehicles in the UK has grown. The provision of EV charging infrastructure is a key concern for local highway authorities, ensuring that there are sufficient charge points in public places to meet growing demand and that the design of new residential developments includes allowance for EV charging within the home. However, with much faster charging possible in the future, the number and location of charging points will need careful consideration, with provision linked to future emerging technology.
- Automated vehicles (AV) – Oxfordshire is the first place to have UK derived AV regularly testing on the public highway (Oxbotica) and is also home to Oxford Robotics Institute and three UK AV companies that cover software, manufacturing, skills and education. However, the date from when this technology will need to become integral to the design of new developments and infrastructure is to be determined.
- Shared mobility – sharing of vehicles can help reduce peak hour congestion. The main types of shared mobility include:
  - Car share – when two or more people travel together by car for all or part of a trip. Online car sharing apps and programmes are readily available where car drivers or car passengers can be matched to a lift sharer or can request a lift for specific journeys.
  - Car clubs - short-term car rental services that allow members access to locally parked cars and pay by the minute, hour or day. Car clubs offer an alternative model to private car ownership
  - Shared taxi – this offers the convenience of a taxi, i.e. a door-to-door journey, although will take longer due to multiple passenger drop-offs/pick-ups, but would enable fares to be shared and thus users incur a significantly lower price
  - Mobility as a Service (MaaS) - the integration of various forms of transport services into a single mobility service accessible on demand.

TRICS Guidance Note on Changes in Travel Behaviour, July 2019[4]

The TRICS report makes reference to the All Change report and provides the following summary on changes in trends which impact on travel and vehicular trips on the road network.

- **Retail:** Online shopping is growing at around 10-12% per annum and there has been a 25% decrease in physical shopping trips over the past 20 years and a 16% decline in distance travelled.
- **Travelling less:** 16% fewer trips are made now than in 1996. The number of motorised trips undertaken per year is 14% less than in 2002. Person miles are 10% less than in 2002 and

[4] http://www.trics.org/img/change-in-travel-behaviour-published-version.pdf

people are spending 22 hours less time travelling per annum than in 2005, and less than at the start of the 1990s.

- **Travel to work:** The DfT's review of travel to work trends in 2017 revealed that there was a substantial decrease in commuting trips between 1988/92 and 2013/2014, from 7.1 journeys per worker per week down to 5.7 journeys. Work patterns are changing and this needs to be reflected in the planning process, for example, working from home is growing.
- **Age differences:** Over 65s are using their cars more than previous older cohorts but have different trip patterns from those who work which will affect peak hour trip rates. Younger people are far less likely to have a driving license and subsequently drive less than previous generations. Over a 20 year period the proportion of 17 -20 year olds holding a driving license has dropped from nearly one half to less than a third. Younger generations are travelling 20% less (17-34 years) and 35-64 year olds are travelling 10% less.
- **Socio-economic conditions affecting travel choices:** A decline in home ownership, a rise in lower paid, less secure jobs and a decline in disposable income all affect travel and housing choices. Economic and social circumstances have changed and expectations of transport and patterns of living have evolved.
- **Geographical differences:** Shire towns, resorts and rural areas still show the highest mileage and more limited reductions than urban areas, where densities are higher and travel choices are more prevalent.
- **Changing transport technologies:** Electric vehicles, connected and autonomous vehicles and shared mobility will all influence travel patterns, although the extent of this is currently unknown. There are no 'right' answers and historic evidence will provide only limited insight.
- **Cycling and walking:** The number of miles cycled in 2016, 3.5 billion, is around 23% above the figure ten years before, and 6.3% more than the miles cycled in 2015. The figure for 2016 is about the same as in 2014, which was the highest since 1987. According to National Travel Survey data, walking trips under 1 mile have gone up 23% between 2005 and 2017.
- **Rail travel:** There has been an increase in rail trips by 56% and a 23% increase in the distance travelled by rail which continued through the recession period. London Underground saw the first decline in passenger numbers in 2017 of 2%. Rail patronage is also showing signs of slowing in other parts of the country. Area or corridor specific understanding of the changing role of rail is required.

The TRICS report includes historical analysis of the TRICS Database to see how vehicular (car) trip rates have changed from 1999 - 2003 to 2014 - 2018, with a focus on food superstore, offices and residential private dwellings due to the availability of survey data. The findings were as follows:

- **Shopping:** The survey data shows a significant decline in total person trip rates and total vehicle trip rates on a Friday AM and PM peak. There has been a 50% decrease in 12 hour vehicle trip rates on a Friday and 20% decrease on a Saturday between 1999 – 2003 and 2014 – 2018.
- **Office:** The weekday peak decline in trip rates is 32% and across the whole day the decline is 39%. There is little change in vehicle trips rates between 1999 – 2003 and 2014 – 2018 over a 12 hour period but a marked decrease between 2009 – 2013 and 2014 – 2018 of nearly 25%.
- **Private residential:** Total vehicle trips have reduced in both the AM and PM peak hours since 1999, with nearly a 10% reduction over a 12 hour period.

The report concludes that the changes in travel trends will enable a move away from "predict and provide" appraisal techniques to "decide and provide" and that decision makers developers need to ensure that the

right type of infrastructure is designed into the proposed development and assessed thoroughly so that any transport schemes support access and mobility needs.

The Future of Mobility: Urban Strategy, DfT, 2019[5]

The Government has launched a Future of Mobility programme, starting with an urban strategy which sets out the Principles that will guide the approach to emerging mobility technologies and services. The future of rural mobility will be launched in due course.

The document sets out how the following changes in transport technology are transforming transport and creating new opportunities.

- **Data and internet connectivity:** Information on congestion, parking availability, bus times are allowing travellers to plan multi-stage journeys with confidence and on the go.
- **Transport is becoming increasingly automated:** UK companies are at the forefront of research and development into connected automated vehicles (CAV) and several projects will deploy self-driving vehicles on road or public spaces in the UK by 2021.
- **Cleaner transport:** Increases in electric vehicles and low emission vehicles supported by the Government's Road to Zero Strategy which aims to see at least half of new cars to be ultra low emission by 2030.
- **Emerging new modes:** Technology such as drones, and availability of micro-mobility (electric scooters, electrically assisted pedal cycles (e-bikes) and e-cargo bikes) is enabling new ways of transporting people and goods.

The document also sets out changes in demand for transport and how significant changes in demographic, economic and behavioural trends are changing how and why we travel.

- **Falling travel demand at an individual level:** Between 1995 and 2014, while England's population grew by 11% and employment grew by 18%, commuting journeys fell by 16%. Reasons for this include increases in flexible working, working from home, and part-time and self-employment.
- **Shopping trips have decreased** by 30% over the past decade, coinciding with a rise in online shopping.
- **Travel choices show clear generational differences:** Younger people are less likely to own cars than previous generations and are driving less, due to factors such as staying in education for longer, moving into long-term employment and starting families later, as well as the cost of driving. Older people are driving more.
- **Shared mobility** such as ride-sharing and dynamic demand responsive transport is becoming more prevalent.

The document sets out nine key principles to shape the future of urban mobility and to guide Government decision-making, industry and local authorities:

- Safety - new modes and services must be safe;
- Inclusivity - benefits of innovation must be available to all;
- Active Travel - must remain the best options for short urban journeys;

[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/846593/future-of-mobility-strategy.pdf

- Mass Transit - must remain fundamental to an efficient transport system;
- Environment - new services must lead the transition to zero emissions;
- Innovation - must help to reduce congestion;
- Market Value - must be open to stimulate innovation and give the best deal to consumers;
- Integration - new services must be part of an integrated transport system combining multiple modes;
- Data - must be shared.

The Urban Strategy emphasises the need to respond to opportunities and embrace innovative technologies, but also to understand the potential risks and the fact that there will be unknown and unpredictable changes ahead.

3.3 Objectives for OCGV

It is recognised that people will move around in very different ways in the future - changes in the nature of working and shopping, new technologies and behaviours are already having an impact on how transport is planned and used. It has been established that travel behaviours of young adults are changing, with lower numbers of driving licences and car ownership compared to the 1990s and greater openness to vehicle sharing which new technology will increasingly facilitate.

The current COVID-19 pandemic has disrupted travel patterns in a significant way and any future planning will need to take account of the potential for permanent habit changes and commuting trends. It is not possible to predict any outcomes of this effect at this early stage, there is a need to remain flexible and responsive to the changing external environment, and the danger of assuming that the post-pandemic reality will be a 'back to normal' scenario.

The objectives for OCGV recognise the need to challenge the assumption that current patterns of travel and car use will continue. What needs to be avoided is a car dependent settlement that is based around the needs of car users, that undermines the benefits of the A40 Corridor schemes and results in rat running through the Garden Village and surrounding villages to avoid traffic congestion.

In order to minimise the use and impact of the private car, opportunities to achieve a genuine 'modal shift' towards active travel (walking, cycling) and public transport need to be created. This will be accomplished through creating movement and connectivity that achieves the following:

- A sustainable community where walking, cycling and the use of public transport are the prime modes of choice;
- A digitally connected development that enables work from home or work from local hub;
- A development which, by its best practice design principles, facilitates and encourages active and healthy travel, within inter-generational communities;
- A development that supports the A40 Corridor improvements; and
- A future-proofed settlement that can respond to technological and societal change.

3.4 Key Design Principles

To achieve this, a set of key principles have been identified which need to be embedded in the design of the development so that travel by foot, cycle and public transport become the ethos of the new community.

Movement and Connectivity within the Garden Village:

Movement within the site must be prioritised for sustainable modes:

- Walking, cycling and bus must be the modes of choice for travel around the Garden Village – in preference to using a car. The needs of the mobility impaired must also be at the forefront of site and street design.
- The design of the Garden Village must ensure permeability of walking and cycling routes to link key destinations, providing the best balance between short, safe and attractive routes.

Connectivity with Eynsham Village

The provision of safe and effective connections for pedestrians, cyclists and other non-motorised movements across the A40 at Eynsham will be essential to accommodate the increased movement between OCGV, existing Eynsham Village and the proposed West Eynsham SDA.

Given the volume of traffic travelling along the A40, the proportion of HGVs, and the demand from school children to access secondary education facilities to be split between the Garden Village and existing Eynsham, a grade-separated crossing (underpass) between Old Witney Road and Cuckoo Lane shall be provided. The grade-separated crossing will be supported by additional appropriately-sited, at-grade crossings along the A40 in the vicinity of the Garden Village.

Connectivity with the wider area

Good walking, cycling and public transport connections must be provided to the wider area including Hanborough Station, Oxford, Witney and beyond.

Vehicle Connectivity

It is important that the access arrangements for the Garden Village do not themselves undermine the benefits arising from the A40 Corridor improvements. Junctions providing access to development sites along the A40, additional to the Western Development Roundabout and the Park & Ride access, must therefore be avoided, and any local vehicle trips taking place within the Garden Village should be deterred from using the external road network and instead should be contained within the Garden Village.

4. Strategy for Active and Healthy Travel

4.1 Introduction

A key consideration for the design of the OCGV is that prioritisation should be given to active travel modes - walking and cycling.

- Walking as a mode of travel predominates for journeys of one mile and less than two miles. The 2017 National Travel Survey[6] statistics reports 24% of trips were under one mile and 81% of these were undertaken by foot.
- Cycling is more convenient than walking for longer journeys, typically of up to five miles for regular journeys, and work destinations in Oxford and Witney are achievable; electric bikes extend the distance that people may be willing to travel.

As set out in the Wood Report entitled: *"Cotswolds Garden Village AAP & West Eynsham SPD: Developing the Transport Evidence Base"*, May 2019, the 2011 Census data indicates that 7% of journeys to work from the Eynsham area were by cycle and 7% were on foot. Creating a coherent internal network for pedestrians and cyclists that is direct, convenient, legible and safe and connected to the wider network and public transport, will be critical to achieving an increase in active travel and modal shift away from private car use.

Walking and cycling journeys also bring a range of benefits including improved physical and mental health, a better quality of life, an improved environment and increased productivity.

4.2 Design Requirements

Walking and cycling as forms of transport have many similarities, both delivering health benefits for users and the environment and sharing barriers to take up, such as fast traffic speeds, poor infrastructure and safety concerns. Routes should be easily accessible for all including wheelchair, pushchair and adapted bike users, to ensure that the aspirations of the Garden Village to be an active, inter-generational development are realised. The requirements of people with sensory-needs e.g. visual and hearing impairments must also be considered. The needs of horse riders and ensuring that bridleways in the area are accessible and well-connected will also be important.

Good network and infrastructure design should adhere to the following good practice principles, but should also recognise the different speeds and differing needs of pedestrians and cyclists, ensuring that both groups can travel at their own speed and without concerns over conflict.

- **Be coherent** – routeing within the developments needs to provide a comprehensive, permeable and logical network enabling easy access to the key destinations – schools, shops, community facilities and employment, as well as transport interchanges and bus stops. This includes connectivity to existing services and facilities in Eynsham. Good accessibility to public transport is likely to encourage its use and decrease reliance on the private car for longer journeys.
- **Be direct** – routes and networks need to be direct and follow natural desire lines, enabling permeability within the development.
- **Be safe** - research indicates that for many people, the biggest barrier to walking and cycling is concern for their safety. Good design can address this through separating routes from fast vehicle routes and/or by reducing vehicle speeds and flows, and by ensuring that routes are overlooked by

[6] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729521/national-travel-survey-2017.pdf

housing, well-lit at times they are likely to be well-used, and should have clear exit and entrance points.

- **Be attractive** - routes that are attractive encourage more people to walk and cycle and contribute to the sense of place and overall quality of an area. Good design offers more than basic provision and should include a network of attractive streets with landscaping and public realm and connectivity to public open space and parks and recreation.
- **Be comfortable** – comfort for users is influenced by the design of the route, including width, gradient, quality of surfacing, street furniture, lighting and crossing points.

The design of the active travel network should adhere to local policy and design standards set out in the following Oxfordshire County Council publications:

- *Active & Healthy Travel Strategy*, 2016;
- *Oxfordshire Cycling Design Standards* – A guide for Developers, Planners and Engineers, Summer 2017; and
- *Oxfordshire Walking Design Standards* – A guide for Developers, Planners and Engineers, Summer 2017.

4.3 Connectivity: Supporting active travel

The strategy for supporting active travel is illustrated in **Figure 4.1** and summarised in the following sections.

Preservation and enhancement of existing network

There are a number of public rights of way (PRoW) within and around the Garden Village which must be preserved and improved with easy access assured for those living within and beyond the Garden Village. These include the following:

- A bridleway and footpath route heading north-west from Spareacre Lane towards Freeland (the 'Salt Way');
- A bridleway from Cuckoo Lane to Lower Road, converging north of the Millennium Woods;
- A bridleway and footpath from Hanborough Road that feeds into the wider network.

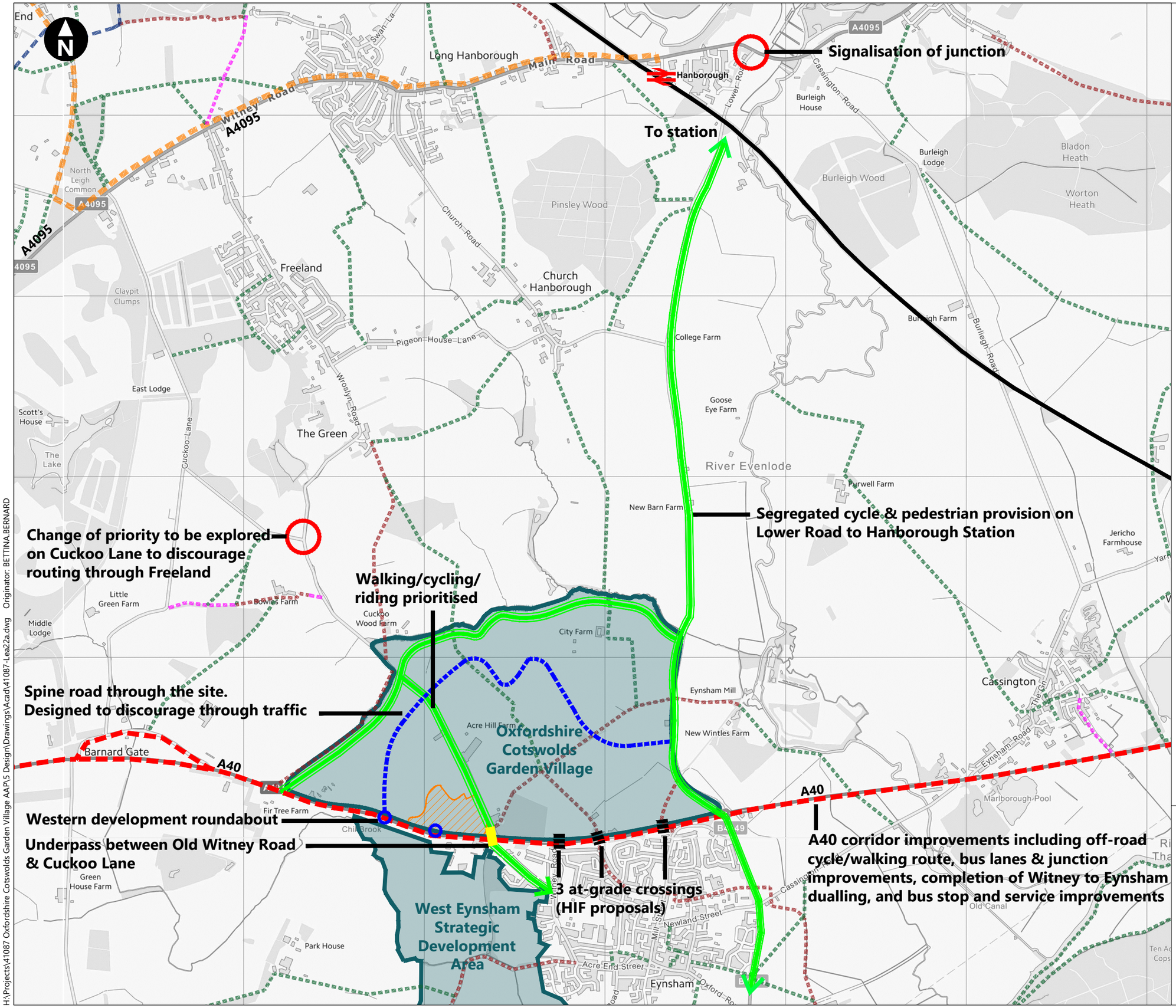
The need for new road connections to cross existing PRoW must be minimised. Where this is necessary, suitable crossings must be provided with priority given to the PRoW users rather than to road users, where appropriate.

Connectivity across the A40

The A40 causes an issue with severance which the A40 corridor improvements will address through the provision of at-grade crossings, and improvements to junctions, as set out in in **Section 1.3**.

Grade Separated Crossing

Given the traffic speed, volume and composition along the A40, and the increased demand for crossing, particularly by school children, a grade separated crossing, either as a bridge or an underpass, has been identified as a key requirement to provide connectivity between the OCGV and Eynsham.



Key

- Site
- Active travel corridor
- Underpass
- Spine Road
- A40 corridor improvements
- At-grade crossing
- Junction treatment
- Park & ride site
- PRoW footpath
- PRoW bridleway
- PRoW byway
- National trail/long distance route
- National Cycle Network 442
- Local rail routes
- Rail station

0 m 1000 m

Scale 1:20,000 @ A3

Oxfordshire Cotswolds Garden Village AAP
Transport Strategy

Figure 4.1
Movement and connectivity improvements

June 2020

wood.

An options' assessment study has been undertaken by Mott Macdonald to inform the AAP[7]. This has demonstrated the challenge of providing an iconic bridge across the A40 in the Eynsham area that also meets future pedestrian/cycle desire lines. The study identified a number of wide-ranging constraints and it was concluded that the Old Witney Road/ Cuckoo Lane junction is the most appropriate location for a grade-separated crossing. A bridge was not considered feasible at this location due to overlooking and land ownership issues, but an underpass could potentially be delivered.

The underpass must be designed to ensure that it is safe and attractive for users with clear sight lines into and through the underpass. It will need to be integrated with the design and delivery of the A40 Corridor improvements to minimise disruption to traffic during construction and must be completed before the secondary school on the OCGV opens to pupils

It will be a requirement of developers to fund the design and construction of the underpass elements.

Active Travel on Cuckoo Lane

To support pedestrian and cycle movements via the underpass, Cuckoo Lane should be prioritised for active and healthy travel. This will involve restricting access at the southern end of Cuckoo Lane to vehicles whilst ensuring properties here are still accessible.

For the schools located along Cuckoo Lane, this initiative will support the concept of 'School Streets' (as described in **Section 4.4**) where motorised traffic is restricted at pick-up and drop-off times.

Access to the Sustainable Transport Hub (incorporating the Park & Ride) by pedestrians and cyclists will also be possible from Cuckoo Lane.

Through-access on Cuckoo Lane should be restricted to pedestrians and cyclists once the internal road network of the Garden Village is in place as vehicles from Freeland and beyond will be able to reach the Park & Ride from the Western Development Roundabout.

Connectivity to the wider area

As set out in **Section 1.3**, the provision of upgraded shared-use footways and cycleways along the A40 as part of the A40 Corridor improvements will ensure that a continuous route is provided between Witney, Eynsham Park & Ride and Oxford. This will include widening and/or strengthening of the Dukes Cut Bridge structures to enable the delivery of improved footway/cycleway provision. A new foot/cycle path connection from the A40 to the National Cycle Network (Route 5) along the canal towpath will also be delivered in the vicinity of the structures.

The speed limit along the A40 in the vicinity of Eynsham will be reduced from the National Speed Limit to a maximum of 50 mph which will provide some improvement to pedestrian and cyclists amenity along the A40.

Connectivity to Hanborough Station/ Hanborough

Improving active and healthy travel connections to Hanborough Station, in particular a cycle and pedestrian link, presents an opportunity to optimise the outcome from proposed investment in the station and extra rail services whilst encouraging a modal shift from cars, thereby reducing pressure on the surrounding road network. The current cycle route via Lower Road prioritises cars and is thus unsafe and unattractive for cyclists and pedestrians. Improvements to this route should be delivered by the Garden Village developers through the provision of a segregated cycle route and footway on the western side of Lower Road, designed to encourage greater use.

[7] *"Non-motorised crossings of the A40 at Eynsham"*, Mott Macdonald, April 2020

Other improvements should include upgrading the existing bridleway along the western boundary of the Garden Village and improvements to the public rights of way through Church Hanborough. The proximity of the Garden Village to the B4044 cycle route, which will connect Eynsham to Oxford, also presents an excellent opportunity to extend the cycling corridor from Long Hanborough. Contributions will also be sought towards the B4044 cycle route.

4.4 School Connectivity

Cycling and walking must be the key means of travel to and from the primary and secondary schools located within the Garden Village. However, there is still a need to consider drop-off and pick-up by car, which must not take place within the school grounds, whilst ensuring safety is not compromised for children travelling by bike and on foot.

Based on National Travel Survey data, the 'school run' accounts for a quarter of cars on the road during the morning peak period. During school drop off and pick up times, roads around a school are often congested with traffic and there is unlawful parking, which has a detrimental impact on people on foot and cycling and comprises road safety. Statistics from the DfT reveal that 14% of children killed on Great Britain's roads in 2018 were between the morning school run hours and 23% after school between 3pm and5pm. A report from insurer Admiral shows a 43% fall of road collisions during the holidays at school run time[8].

In order to avoid these issues and to encourage and facilitate active travel to schools, there will be a need to implement measures such as 'School Streets' around the schools on the site and Safe Routes to School on the approaches to the school.

School Streets

'School Streets'[9] is an initiative first introduced in Scotland in 2015 and Camden in London in 2017. A School Street is a road outside a school with a temporary restriction on motorised traffic during school drop-off and pick-up times. The restriction applies to school traffic and through traffic and is implemented by the local highway authority using its powers under the Road Traffic Regulation Act 1984 (S1 and S6 to S9) to regulate traffic and restrict access:

- to avoid danger to persons or other traffic using the road;
- to facilitate the passage on the road of any class of traffic (including pedestrians); and
- to prevent the use of a road by vehicular traffic where such use is inappropriate given the street context.

The School Streets initiative involves the application of a traffic management order to a street around a school, temporarily restricting access to motorised vehicles so that the street becomes effectively a pedestrian and cycle only zone during that time period. Times for the restrictions are determined in agreement with the school. These can be for between 30-45 minutes and only on weekdays and term times.

Dependent on the type of traffic management order and the local arrangements, residents who live and work on a school street are able to register free of charge for an exemption and blue badge holders are automatically exempt.

Enforcement of the temporary restriction can be done through use of bollards or automatic number plate recognition (ANPR) cameras.

[8] https://www.admiral.com/pdf-control?file=sites/admiral-drupal-site/files/press-office/2019-07/Admiral%20-%20School%20Crawl%20-%20FINAL
[9] http://schoolstreets.org.uk/

Safe Routes to School

Walking and cycling routes to the schools will need to comply with the design requirements set out in **Section 4.2**.

The design of schools will need to complement the permeable route through the provision of site entrances at various points around the school sites in order to maximise routes for pupils from the surrounding area; to facilitate access for emergency services; to enable staff parking; to facilitate servicing, deliveries and future maintenance; and to provide long-term flexibility for any future extension or changes to the school over time, whilst minimising disruption and management/safeguarding issues in the operation of the school.

Safeguarding is particularly important in a school setting; routes around schools need to be designed to facilitate safe access, especially in the layout of the school frontage and other entrances. The site layout will need to support an open aspect to all accesses, including vehicular access points, to ensure clear routes and crossing places with no corners or obstructions where pupils can be hidden from view.

4.5 Cycle Parking

Ample cycle parking must be provided at appropriate points around the development, including provision for electric bikes and bike/ electric bike hire. Cycle parking must be provided in accordance with the minimum standards set out in **Table 5.1**.

Table 4.1 Cycle Parking Requirements

Land Use	Cycle parking requirement	Notes
Residential	1 bed – at least 2 spaces per dwelling 2 bed – at least 3 spaces per dwelling 3+ bed – at least 4 spaces per dwelling	If a garage is suitably sized then it can be considered as secure cycle storage. Where no garage is available then secure, enclosed cycle parking must be provided. This is likely to be in a rear garden in the form of a specific cycle store or garden shed. Convenient access will be required to the cycle storage area without the need to go through the house. Alternatively, cycle storage could be provided to the front of the house, designed as part of the house facade design. Residential areas should include provision of at least a 13A power supply for charging electric bikes although consideration will be needed for the provision of a higher power supply where necessary e.g. for charging cargo bikes. Apartments: Communal cycle storage must be in close proximity to the entrance of the apartment block for convenience and security. This could comprise: • Communal ground floor storage within the building, with secure external access and positioned in a well-overlooked area. • Communal separate secure covered cycle store which should be suitably lit.
Employment cycle parking (covered)	1 space per 50m^2	Facilities must be provided to support sustainable travel including appropriate provision of lockers, showers and changing facilities. The preferred method of securing cycles is through provision of 'Sheffield' stands with sufficient space provided to ensure convenient access to cycles (see Oxfordshire Cycling Design Standards)
Retail cycle parking	1 space per 75m^2 (gross internal area)	The preferred method of securing cycles is through provision of 'Sheffield' stands with sufficient space provided to ensure convenient access to cycles (see Oxfordshire Cycling Design Standards)
Primary School	1 space per 5 pupils plus 1 space per 3 staff	Covered cycle parking must be provided, which is future proofed for expansion

Land Use	Cycle parking requirement	Notes
Secondary School	1 space per pupil plus 1 space per 3 staff	Entrances must be provided at various points around the school sites with excellent and safe access for all users including deliveries and school buses. Access for vehicles must be possible via a continuous circular route. The design of the school site shall accord with OCC requirements and standards for schools

Source: OCC

5. Strategy for Public Transport

5.1 Introduction

As set out in the Wood Report entitled: *"Cotswolds Garden Village AAP & West Eynsham SPD: Developing the Transport Evidence Base"*, May 2019, the 2011 Census data indicates that 12% of journeys to work from the Eynsham area were by bus and 1% by rail. There is opportunity to increase this modal share based on enhancements to bus provision, the A40 Corridor Schemes and the new Park & Ride site.

5.2 Bus Strategy

Bus Service Provision

The West Oxfordshire Local Plan 2031 contains a number of significant allocations for residential development on the A40 corridor with 6,732 new dwellings across the seven sites, together with other residential and commercial-led developments spread across the District as a whole. The seven sites are as follows:

- Oxfordshire Cotswolds Garden Village (OCGV), Eynsham;
- Land West of Eynsham;
- East Witney;
- North Witney;
- North Curbridge/West Witney;
- Land East of Carterton; and
- REEMA North & Central, Carterton.

In recognition of the increased travel demand that will arise, an overarching, comprehensive strategy has been identified by OCC to secure developer contributions for public transport rather than individual arrangements being made for each site. In this way, it can be ensured that sufficient income can be received for the required level of service to all the emerging developments on the corridor.

A 2031 Bus Network Strategy for West Oxfordshire network has been developed by OCC, based on assumptions included within the business case for the A40 Corridor improvements, and on operator's assessment of future likely demand. It is assumed that OCGV and West Eynsham SDA developments will commence initial phases closest to the A40, which will minimise the need for specific services to be delivered early in the period. It is anticipated that sufficient funds from strategic sites will not be available until 2025 at the earliest for a significant increase in service provision.

Table 5.1 sets out the current (as at March 2020) and future provision at the end of the Local Plan period (2031). The future provision is also shown in the map in **Appendix A**.

Table 5.1 Current and Proposed Bus Provision – daytime buses per hour (bph)

Service	Route	Current Provision (2020)	Future Provision (2031)
SO	Oxford > Eynsham Garden Village > Eynsham P&R > West Eynsham	-	3
S1	Oxford > Botley > Eynsham > Witney > Thorney Leys	4	
	Extension to Curbridge > Brize Norton > Carterton	2	
	Oxford > Botley > Eynsham > Eynsham P&R > Witney		4
S2	Oxford > Witney > Carterton	2	
	(a) Oxford > Eynsham P&R > Witney > West Witney > Carterton (some peak extras bypass Witney)		3
	(b) Oxford > Eynsham P&R > North Witney > Witney		3
S7	Eastern Arc > Witney	<1	
	Eastern Arc > Eynsham P&R		4
	Extension to Witney > Curbridge > Brize Norton > Carterton		2

Source: OCC

Table 5.2 sets outs the total bus frequencies at the key locations and indicates that there will be a significant increase in bus frequencies between Eynsham Park & Ride and Oxford city centre, and between Witney and Oxford city centre. There is also a significant increase in bus frequencies to/from the Eastern Arc.

Table 5.2 Current and Proposed Bus Provision – daytime buses per hour (bph)

Location	Destination	2031 service(s)	Current frequency	2031 frequency
Eynsham P&R	Oxford	S0, S1, S2	6	13
	Eastern Arc	S7	<1	4
Witney	Oxford	S1, S2	6	10
	Eastern Arc	S7	<1	2
Carterton	Witney	S2, S7	4	5
	Oxford	S2	4	3
	Eastern Arc	S7	0	2

Source: OCC

Phasing

The anticipated timeline for implementation of these services is shown in **Table 5.3** which represents a 'big bang' approach to services when the funding allows; phasing a more gradual introduction does not reduce the overall cost as the funds are still spread over the same period of time per additional bus. There will be flexibility surrounding the introduction of services, for example they could be phased for more gradual introduction if the circumstances are more appropriate to this at the time.

Table 5.3 Assumed timeline of service changes

Year	Service changes
2024/25	Service S2 improved from 2 to 3 buses per hour between Carterton and Oxford Service S1 curtailed at Witney Service S7 introduced at 2 buses per hour between Carterton and Eastern Arc
2026/27	Service S2(b) introduced at 3 buses per hour between Witney and Oxford Service S2 renamed S2(a)
2027/28	Service S0 introduced at 3 buses per hour between West Eynsham, OCGV and Oxford
2035/36	All services envisaged to be fully commercial

Source: OCC

Funding Requirements

The intention is for each of the seven strategic developments to, as far as possible, contribute relatively equitably to the overall bus strategy for the A40 corridor whilst ensuring that each site's individual needs are met at the appropriate time. Funds will be directed towards the A40 corridor public transport strategy and "*for the improvement of bus services between Carterton, Witney, Oxford and the Eastern Arc*".

Sustainable Transport Hub

A new Sustainable Transport Hub incorporating the new Park & Ride to the west of Cuckoo Lane is well-located for those accessing residential, employment and education opportunities within the Garden Village. The proposed Sustainable Transport Hub will have 850 car parking spaces for Park & Ride users, cycle parking spaces and electric vehicle charging points, and will be supported by infrastructure improvements including eastbound and westbound bus lanes which will bring significant journey time savings and enhanced services.

The planning application for the Park & Ride includes an 850 space car park, whilst the Local Plan Policy allows for 1,000 spaces. Consideration should therefore be given to accommodating means for future expansion of the site.

It is essential that the Sustainable Transport Hub is integrated into the Garden Village design, ensuring that it is easily accessible for pedestrians and cyclists to discourage use of the car for the short trip between the Garden Village and the Park & Ride site.

There therefore needs to be good pedestrian links to the Park & Ride to enable residents in the western part of the site to access the high frequency services, similarly for residents in the southern part of the site to access bus stops along the A40.

Bus Service Provision with OCGV

Consideration must be given to the routing of buses between the Park & Ride site and OCGV without adversely affecting the journey times of Park & Ride users. The design of the proposed Park & Ride site has been future-proofed to allow for buses to access and egress via a point to the north of the site, without the need for major works.

The spine road through the OCGV will need to be designed to accommodate bus services. The eventual detailed masterplan will have a bearing on the proportion of the site which will feed into bus stops on the spine road, rather than to stops along the A40, including the Park & Ride site itself. OCC would want to

prioritise the journey time of Park & Ride users and therefore would seek to minimise/exclude any routing that would require Park & Ride users to have to route through the site.

Bus Stops

Bus stops serving OCGV (within the Garden Village, at the Sustainable Transport Hub and along the A40) must be safe, easily accessible and clearly signposted.

The 'catchment area' of a bus stop is typically 400m walking distance, about a 5 minute walk. This can be extended to 800m provided that they offer a high frequency ('turn-up-and-go') and reliable service, which is more akin to the walking distance for a train station. Safe and direct walking access to bus stops should be provided, along with clear signage.

Cyclists can travel longer distances to bus stops and secure cycle parking is an essential component of cycle/bus travel. Cycle parking will be provided at the Sustainable Transport Hub site within the Park & Ride.

Bus stop locations and design within OCGV will need to include the following:

- Strategic placement to maximise their accessibility, with excellent connections to the stops provided for pedestrians;
- Real time passenger information display, printed timetable and service information, a local map and wayfinding guidance;
- High visibility bus stop, flag and pole, where appropriate, and consistent branding. Seating and shelters where appropriate;
- Fibre connection where appropriate;
- An enhanced maintenance regime to maintain the quality feel of infrastructure investment;
- A higher kerb to reduce the step height between the bus and the footway, minimum 125mm;
- Higher quality footway and carriageway paving materials;
- A stop cage marking of sufficient length to enable bus access close to the kerb. Minimum of 15m per bus if unobstructed (to cater for maximum likely vehicle lengths and
- Secure cycle parking at key locations.

Development Phasing

The phasing of the Garden Village must take into account ease of access to bus stops on the A40 Corridor, to ensure that early development can be adequately and viably served by public transport.

5.3 Rail Strategy

As described in **Section 1.3**, the North Cotswold Line Task Force, supported by Network Rail, are proposing a significant increase in the train service at Hanborough to meet the anticipated increase in demand for travel from developments such as OCGV and the West Eynsham SDA. With direct links to other employment sites in Oxfordshire, such as Culham and Science Vale, the extra train services will give people another viable alternative to using their cars. The proposal being developed includes up to four trains per hour, including a train every 30 minutes to London and Worcester, as well as the introduction of two trains per hour between Hanborough, Oxford and Didcot, and will be supported by infrastructure improvements including reinstatement of double track, a second platform at Hanborough and associated station enhancements to be defined in a Station Masterplan.

Connectivity

Improved connectivity between OCGV and Hanborough Station by walking, cycling and public transport is essential to support the station and service enhancements.

This should include:

- A safe walking and cycling route alongside Lower Road;
- Consideration of a self-sustaining commercial bus service between OCGV, the west Eynsham SDA and Eynsham and Hanborough Station in future years, potentially as part of a wider route connection linking other destinations; and
- Consideration for demand responsive transport or taxi-bus style service.

6. Reducing the Overall Need to Travel

6.1 Introduction

Best practice place-making principles must be embedded within the planning and design of OCGV to ensure that opportunities to reduce the overall need to travel and to discourage local and off-site travel by car are maximised, thus ensuring alignment with the sustainable development principles of the National Planning Policy Framework. The OCGV will deliver a mixed-use development including creation of diverse employment opportunities which will reduce the need for out-commuting. Phasing of the development should ensure that delivery of the employment areas do not lag behind the delivery of housing to enable containment of trips through the course of build-out of the development.

6.2 Site Design to Reduce the Need to Travel

It is important that compatible uses are located together, for example, through clustering of schools, housing and recreation areas, creating a sense of community and awareness of on-site services and facilities. This will maximise the opportunity for linked trips to be made by cycling and walking, and limit the need to travel elsewhere. This also supports the vision set out in the Eynsham Neighbourhood Plan (2018-2031) which specifies that any new development should maintain a well-connected village feel.

In support of this principle, the development should comprise distinct local centres with the majority of housing within a 10 to 15 minute walk of these facilities. These services and facilities must be brought forward together in a timely manner and must be easily accessible by sustainable modes from all areas of the Garden Village.

Shared facilities whereby buildings are available for different uses at different times of the day are also favoured throughout the development from a transport perspective as they encourage linked trips which again reduces the overall need to travel.

Ensuring that future-proofed digital infrastructure including high-quality broadband, provision of 5G and flexible working spaces are provided within residential and employment areas in the Garden Village, will also limit the need for people to travel for work purposes.

6.3 Car Parking

The level of car parking within the Garden Village will be a significant factor in influencing future travel behaviour and the take-up of more sustainable travel choices. In addition, car parking has a significant land requirement and by limiting car parking this land can be put to better use - particularly when it is considered that a car is parked at home for 80% of the time on average and is only in use for around 4% of the time.

Developments with more car parking have residents who are more likely to own cars. Research conducted with London residents in 2013[10] found a clear relationship between the availability of car parking at new development and the levels of car ownership of its residents. The research into residential car parking as part of the London Plan evidence base, found that for all groups, and in all areas, people living in developments with more parking available had higher levels of car ownership than people living in developments with less parking. It was found that in developments with provision of up to 1 space per unit, car ownership varies with the level of public transport connectivity – the greater the travel choice, the lower the car ownership.

[10] Residential Car Parking Part of the London Plan evidence base, Transport for London (TfL), December 2017 - https://www.london.gov.uk/sites/default/files/london_plan_evidence_base_-_residential_car_parking.pdf

This was not the case for developments with more than 1 parking space per unit as access to public transport relatively little difference to how many households choose to own at least one car.

Income was a key indicator of car ownership, but the effect of parking provision was found to be greater: in developments with 0.5 spaces per unit or less, only 56 per cent of people with a high income owned a car, whereas developments with more parking available, 83 per cent of people with a high income owned a car.

The study also found that as well as higher parking provision being associated with higher car ownership, higher levels of car ownership were associated with higher levels of car use with a clear linear relationship between the rate at which residents make car trips and the proportion of households that have access to a car.

Parking Standards

The West Oxfordshire Local Plan sets out the 'optimal' parking levels across the District as a whole, to be further considered in detail by individual developments rather than seeking to impose a 'maximum' standard. Given that OCGV will be in a sustainably connected location, along with the need to minimise vehicles on the already congested local road network, it will be essential to include reduced private car parking standards as part of a wider package of demand management measures. In addition, car free housing will be a requirement of the development (minimum of 15%) and car free zones will be identified.

Proposed parking provision for residential and employment uses is set out in **Table 6.1**. Parking provision for education and retail uses will need to be reviewed.

Table 6.1 Parking Provision

Land Use	West Oxfordshire Car Parking Standard	Proposed Provision
Residential	1 bed dwelling - 1 space; 2-3 bed dwellings - 2 spaces; 4+ beds - 2+ spaces on merit	1 bed dwelling – 0.75 unallocated space 2 - 3 bed dwellings – 1 off-street space 4+ bed dwellings - 1 off-street space + 1 unallocated space Visitor bays - 0.2 visitor unallocated spaces per property
Employment (B1 & A2)	1 space per 30m^2 (500m^2 threshold)	1 space per 60m^2 (500m^2 threshold)

Source: OCC

In order to control on-street parking and ensure that there is no overspill parking from within the development, Controlled Parking Zones (CPZ) will be required. A CPZ is an area where the kerbside is marked out with parking spaces indicating where it is safe to park. Yellow line restrictions show where parking is not allowed. Only vehicles with valid permits are allowed to park in controlled roads during the operating hours. This will need to include any restrictions that may be required to discourage displaced parking to the Park & Ride.

In order to maximise efficiency of car park provision and monitor usage, it is expected that the Park & Ride and business areas will provide parking sensors to check vehicle entries and departures.

Electric Vehicle Charging

All new homes should have access to at least one parking space with an Electric Vehicle (EV) charging point, with 50% of non-allocated spaces and 25% of all non-residential car spaces having access to an EV charging point. Charging points in non-allocated spaces must be located conveniently for residents with no longer than a 5 minute walk (approximately 500 metres) from any property with non-allocated parking and their nearest EV charging point.

Spaces must be future-proofed to facilitate an increase in the numbers of spaces with charging, with potential increased proportions as the Garden Village is built out and technologies evolve. Off-plot parking solutions must also be provided e.g. metered charging cables.

To support efficient servicing of EV charging spaces, careful consideration should be given from the early design stages to the location of street lights so that they can be conveniently located for charging purposes whilst reducing street clutter and minimising future maintenance costs. To ensure that energy supply to the lighting and earthing requirements are not compromised by future demand for EV charging, these should also be considered from the outset. More generally, the likely increase in energy demand as a result of future increases in EV charging must be anticipated as part of the development, and measures delivered to ensure sufficient electrical capacity within Salt Cross to meet future demand. This may include providing additional capacity in the grid network and/or using solar car ports or other on-site generation initiatives combined with battery storage. EV charging units should be 'smart units' including capability for load balancing and demand management to reduce the impact on the local grid network.

Car Parking Management Plans

A Spatial Car Parking Management Plan will need to be provided as part of the outline planning application for the whole site which sets out:

- The areas of the site that will be car free development (minimum 15% of total dwellings).
- Site-wide demand management measures including Car Free Zones.
- Details of how future technological development will be included and provided for e.g. parking sensors in business areas to monitor car parking occupancy/ usage; digital mapping of all parking spaces to facilitate repurposing.
- An indication as to how land used for car parking could cost effectively be converted to other uses (such as open space) as demand reduces.
- Parking restrictions – including any Controlled Parking Zones (CPZs) required within the Garden Village and the wider Eynsham area. This will include any restrictions that may be required to discourage displaced parking to the Park & Ride.
- On and off site principles of car parking for local centre land uses and schools including kerbside management and provision of drop-off zones.
- Measures for discouraging driving to the Park & Ride from OCGV.

Each subsequent Phase/Parcel of the development shall provide a Detailed Car Parking Management Plan which will:

- Take all reasonable opportunities to provide private car parking at the lowest reasonable levels.
- Make use of current, and where appropriate anticipated, technological developments.
- Account for both current and anticipated travel behaviours in the design proposals, as well as enabling adaptation for emergency planning.
- So far as is possible, integrate car parking into the street design and allow for cost effective conversion, particularly for private areas.
- Provide for appropriate levels of EV charging within each parking area.

6.4 Travel Demand Management

Travel Demand Management (TDM) refers to strategies and initiatives that complement the provision of sustainable transport infrastructure to ensure that people are aware of the transport options available to them and to proactively support their travel choices.

TDM initiatives that should be provided within OCGV include:

- **Car Clubs** which reduce the need for private car ownership, providing flexibility without the need to maintain and service a vehicle. Oxford has a large number of car club vehicles around the city which are operated by Zipcar, Co-Wheels and E-care. A car club must be set up at the Garden Village, with an appropriate number of cars and spaces made available across the site. The fleet should comprise low carbon vehicles including electric vehicles, with supporting EV infrastructure provided.
- **A bike hire scheme including electric bikes** to be set up for trips within and beyond the Garden Village.
- **Car sharing schemes** for both the residential and employment areas.
- **Personalised journey planning** to include the provision and promotion of evolving smart technologies to enable real-time journey planning and car park management.
- **Incentivised travel initiatives** including bus discounts and bike vouchers.
- **Campaigns, marketing and associated initiatives.**
- **Appointment of a Travel Plan Co-ordinator** to oversee implementation of the Framework Travel Plan, and subsidiary Travel Plans.

6.5 Travel Planning

A Travel Plan is a strategy that includes a package of actions and measures that seek to:

- Reduce reliance on the car through the reduction in the length and number of motorised journeys, in particular those carried out in single occupancy vehicles (SOV).
- Promote the use of alternative means of travel which are more sustainable, healthy and environmentally friendly.
- Reduce emissions.

A Framework (i.e. site-wide) Travel Plan will be required to act as an overarching document under which each land use will have a specific Travel Plan i.e. Residential, Workplace and School Travel Plan. Under each specific land use Travel Plan, each site or occupier will have a Travel Plan which incorporates the objectives, targets and indicators of the Framework Travel Plan.

The Framework Travel Plan will need to set aims, objectives and targets to monitor the success of meeting the objectives. Targets should be **SMART** - **S**pecific, **M**easurable, **A**chievable, **R**ealistic and **T**ime-bound. Targets need to be presented in terms of mode split and absolute trip generation numbers for peak and off-peak hours and linked to phasing of build-out and land use type e.g. residential, employment and school.

A Transport Assessment will be required to accompany any outline planning application. A Transport Assessment is a way of assessing the transport impacts of new development, identifying appropriate improvements to mitigate the impact, and to promote sustainable development. They are required for all developments which generate significant amounts of traffic movements.

All Travel Plans for the Garden Village must be intrinsically linked to the Transport Assessment to which they relate, for example, the mode split and trip generation assumptions within the Transport Assessment must follow through into the Travel Plan. Initiatives and sustainable trip forecasts (mode split and vehicle numbers) within the Transport Assessment and Travel Plan will be secured through legal mechanisms; this is essential to ensure that there is not an unacceptable number of car trips generated on roads external or internal to the site, and to ensure that delivery of the site is based on a realistic Transport Assessment. The Travel Plan must set out additional initiatives that will be provided if monitoring shows that trip and mode split targets are not being achieved; these will also be secured through planning conditions.

As development progresses, each detailed planning application/reserved matters application will need to demonstrate how the development will contribute to sustainable travel and the mitigation of any significant traffic impacts. Subsidiary Travel Plans will therefore be required for individual land uses, to be submitted as part of the full planning application.

Monitoring

Robust monitoring will be key to ensuring that the sustainable travel requirements of the Garden Village are delivered, and the targets achieved. There will be a need to demonstrate at each phase of build-out that sustainable trip patterns are embedded.

The use of smart technologies to ensure accurate, real-time monitoring is available both during construction and post build-out will be a requirement. In addition, it must be clear from the Travel Plan how this information will enable further interventions to be delivered to influence travel behaviour if monitoring shows that this is required. Monitoring will need to consider the capture of data to include mode split; vehicle/pedestrian/cycle numbers; speed; journey time; and air quality. Monitoring should support flexibility within the Travel Plan to respond to the changes in the uptake of modes due to changing travel behaviours.

7. Road Connectivity and Access Strategy

7.1 Introduction

It is important that the vehicular access to the Garden Village and internal connectivity does not undermine the benefits arising from the A40 Corridor improvements. Additional junctions to that identified must be avoided, and local vehicle trips should be contained within the Garden Village.

The road connectivity and access strategy to support this is set out in the following sections.

7.2 Access Strategy

The principal vehicular access points for the Garden Village will comprise:

- A new roundabout (the 'Western Development Roundabout') located on the A40 to the west of the proposed Park & Ride access junction which will potentially provide access to both the Garden Village and West Eynsham SDA. Additional junctions on the A40 will not be permitted as this would impact on traffic flow and congestion, and would undermine the benefits of the A40 corridor improvements.
- A new junction with Lower Road will form the eastern access point for the spine road through the Garden Village.

Additional highway infrastructure to be provided will include:

- A spine road through the site, accessed from the 'Western Development Roundabout' on the A40, west of the Park & Ride access junction. This should be a through road in at least the early phases of development although the route should be future-proofed to enable it to be bisected (allowing for walk, cycle and bus access only) in future years if traffic conditions on the external road network enable this. The mechanism (triggers and a long stop) for the contribution beyond build-out of the site will be needed, as will innovative infrastructure to enable monitoring of those triggers. An Innovation Plan will be needed for the site, which will include details of how monitoring will be undertaken using smarter technologies, how innovations within the development site will be future-proofed and what innovations will be integrated into the design and build, to be funded by the development.
- Signalisation of the A4095/ Lower Road junction to cater for pedestrians and cyclists and to manage the traffic flows through the junction to optimise queuing and delay.
- Measures to deter through traffic travelling between the A40 and A4095 via Cuckoo Lane and Freeland village. A change in priority on Cuckoo Lane to discourage traffic routing through Freeland village must be provided and technologies to support monitoring of the effectiveness of this will be required.

All new infrastructure should be connected in real-time to traffic management.

7.3 Management of Heavy Goods Vehicles

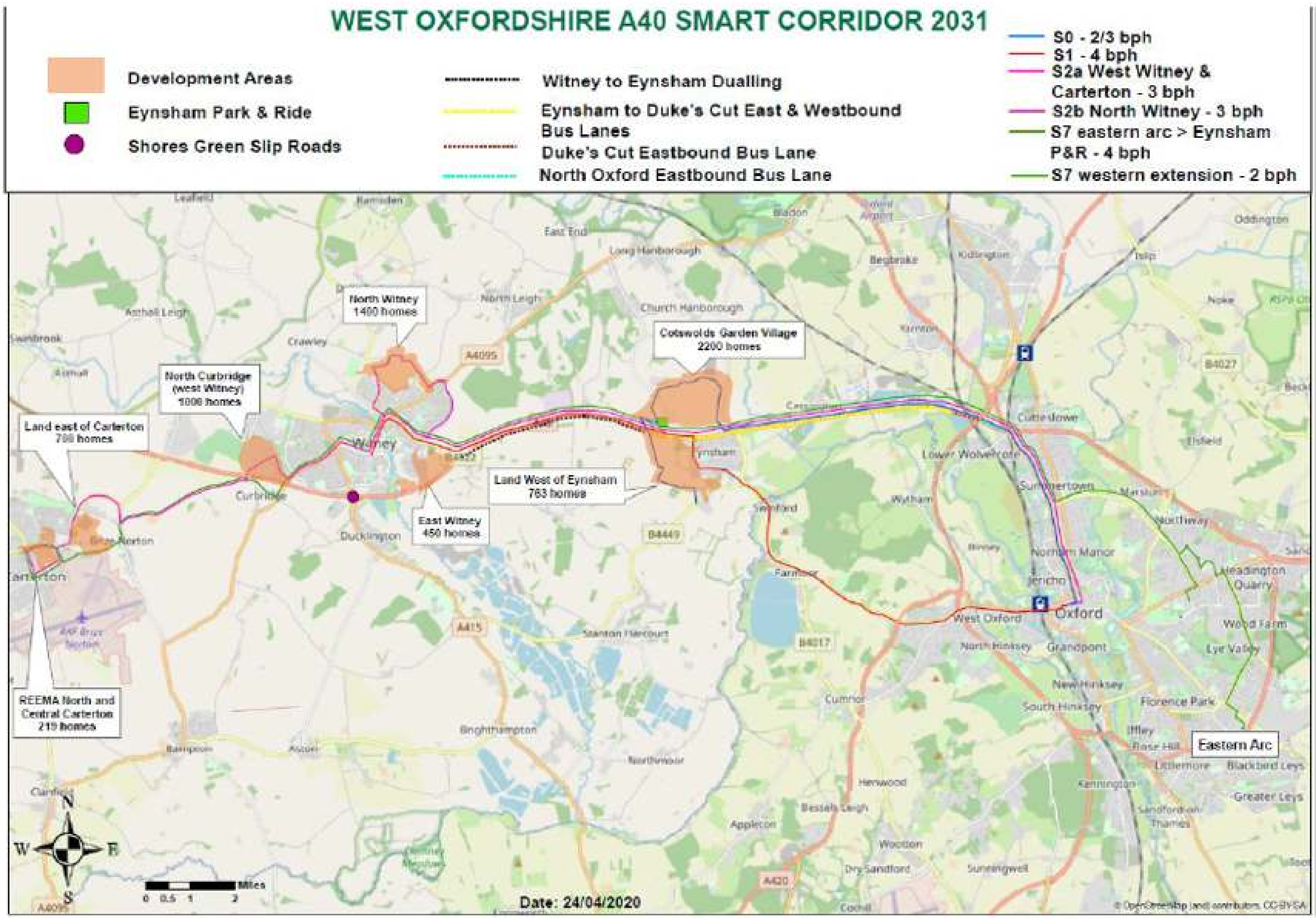
Construction Logistics Plans must be developed to limit the impact of additional traffic from Garden Village construction vehicles on the road network. Construction works for the Garden Village must be co-ordinated with delivery of the A40 Corridor improvements and other major development sites, to minimise disruption on the A40 and other routes.

Commercial and delivery vehicles serving the Garden Village must also be effectively managed. Delivery and Servicing Plans will be required for all land uses in order to consolidate and reduce the number of delivery trips, and to influence the routeing and timing of deliveries to avoid peak hours. To support this, business space should be situated in an easily accessible location of the Garden Village and all dwellings should ensure that they are designed to support effective servicing including the provision of drop-box facilities to minimise the need for repeat delivery visits due to 'failed' deliveries. Innovative solutions such as the provision of drop-boxes at the Sustainable Transport Hub should also be considered.

7.4 Infrastructure Contributions

S106 planning obligations will be required to secure financial contributions towards the A40 Corridor infrastructure schemes and the required repayment of the HIF funding secured to facilitate the delivery of these schemes ahead of the receipt of S106 funding. S106 contributions will be required from developers at Salt Cross and other development sites proposed along the A40 corridor.

Appendix A
Future Bus Provision


WEST OXFORDSHIRE A40 SMART CORRIDOR 2031
Development Areas
Eynsham Park & Ride
Shores Green Slip Roads
Witney to Eynsham Dualling
Eynsham to Duke's Cut East & Westbound Bus Lanes
Duke's Cut Eastbound Bus Lane
North Oxford Eastbound Bus Lane
S0 - 2/3 bph
S1 - 4 bph
S2a West Witney & Carterton - 3 bph
S2b North Witney - 3 bph
S7 eastern arc > Eynsham P&R - 4 bph
S7 western extension - 2 bph
North Witney 1400 homes
Cotswolds Garden Village 2200 homes
North Curbridge (west Witney) 1000 homes
Land east of Carterton 700 homes
Land West of Eynsham 763 homes
East Witney 450 homes
REEMA North and Central Carterton 219 homes
Eastern Arc
Witney
Oxford
Miles
0 0.5 1 2
Date: 24/04/2020
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