Access to Witney - TAG Options Appraisal Report

Final

Oxfordshire County Council

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Quality information

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Distribution List

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Table of Contents

Figures

Tables

1 Introduction

1.1 Background

1.1.1 Witney is a historic town located approximately 12 miles to the west of Oxford in Oxfordshire with a population of 28,000. It is the largest town and most densely populated area in West Oxfordshire and contains the main services for the district. It has doubled in population over the last 30 years, and much of its growth has taken place in extensions to the north, west and east of the town. There is considerable demand for more housing. The Oxfordshire Strategic Housing Market Assessment predicts around 100,000 new houses will be needed in Oxfordshire by 2031.

1.1.2 Traffic congestion is a serious and recognised concern in Witney, and an Air Quality Management Area (AQMA) has been designated at Bridge Street. This congestion is largely due to there being only one main vehicular crossing point across the River Windrush at Bridge Street, which acts as a bottleneck to traffic travelling east-west across the town. This is likely to deteriorate in future (with the projected growth) if a scheme is not delivered to address the issue.

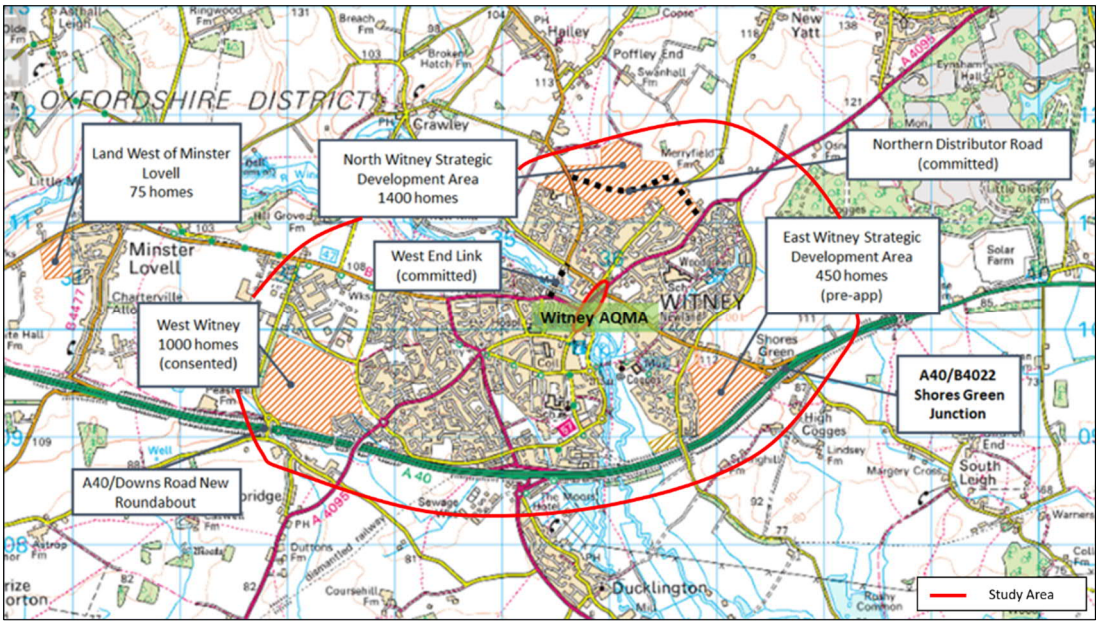
1.1.3 One of the main schemes to address congestion and air quality, the Cogges Link scheme, was rejected by the Planning Inspector in 2012 (Oxfordshire County Council (OCC) were not given permission to compulsorily purchase the land required). The Planning Inspector highlighted the potential merits of implementing west-facing slip roads at the A40 Shores Green. The Inspector's Report was also clear that "*Transport proposals now need to identify the quantum of travel movement that will occur, before the correct solutions for providing for such movement can be ascertained. This must be a 'first principles' exercise. That is, to look at total travel demand by all modes, and then provide policies and infrastructure to minimise travel demand and maximise travel by non-car modes before identifying any highway scheme*".

1.1.4 AECOM was originally commissioned by OCC to undertake a feasibility study and provide further professional services (including planning support and stakeholder engagement and consultation) for the proposed introduction of an additional access point to Witney (Access to Witney scheme), on the A40/B4022 junction. This additional access point was expected to address the congestion and air quality issues.

1.1.5 The remit of this study was expanded to include reviewing available evidence, identified challenges, undertake multimodal optioneering to identify a long list of options to address identified challenges, and help OCC identify a preferred option which could be put forward for public consultation.

1.1.6 Figure 1 shows the study area and context, including proposed and committed developments and schemes. The base year of this study, based on the modelling

available, is 2018 (Witney Highways Model Report, 2018) and the forecast year is 2031 (Witney Highways Model, Future Year Forecasting Report, 2018)



Source: Map provided by Oxfordshire County Council - © Crown copyright and database rights 2020 Ordnance Survey

Figure 1: Study area (including proposed and committed developments)

1.2 Report Purpose

1.2.1 This Option Assessment Report (OAR) describes the option development process of the Access to Witney scheme, setting out the decision-making process that was used to reach the preferred option, including the results from the public consultation of the preferred option.

1.2.2 This report:

- sets out the study context;
- provides details of the adopted approach;
- discusses current and future conditions, and objectives for the study;
- provides details of the long list of options to address issues that may improve accessibility to/ within Witney;
- sets out the criteria for the initial sifting of the long list and summarises the results (shortlisted options) of the initial sifting *(which were updated over time based on workshops, consideration of stakeholder views, and updated modelling);*
- sets out the criteria for the assessment and sifting of the shortlisted options and summarises the results (*which were updated over time based on workshops, consideration of stakeholder views, and updated modelling*); and
- discusses the key results of the public consultation.

1.3 Report Structure

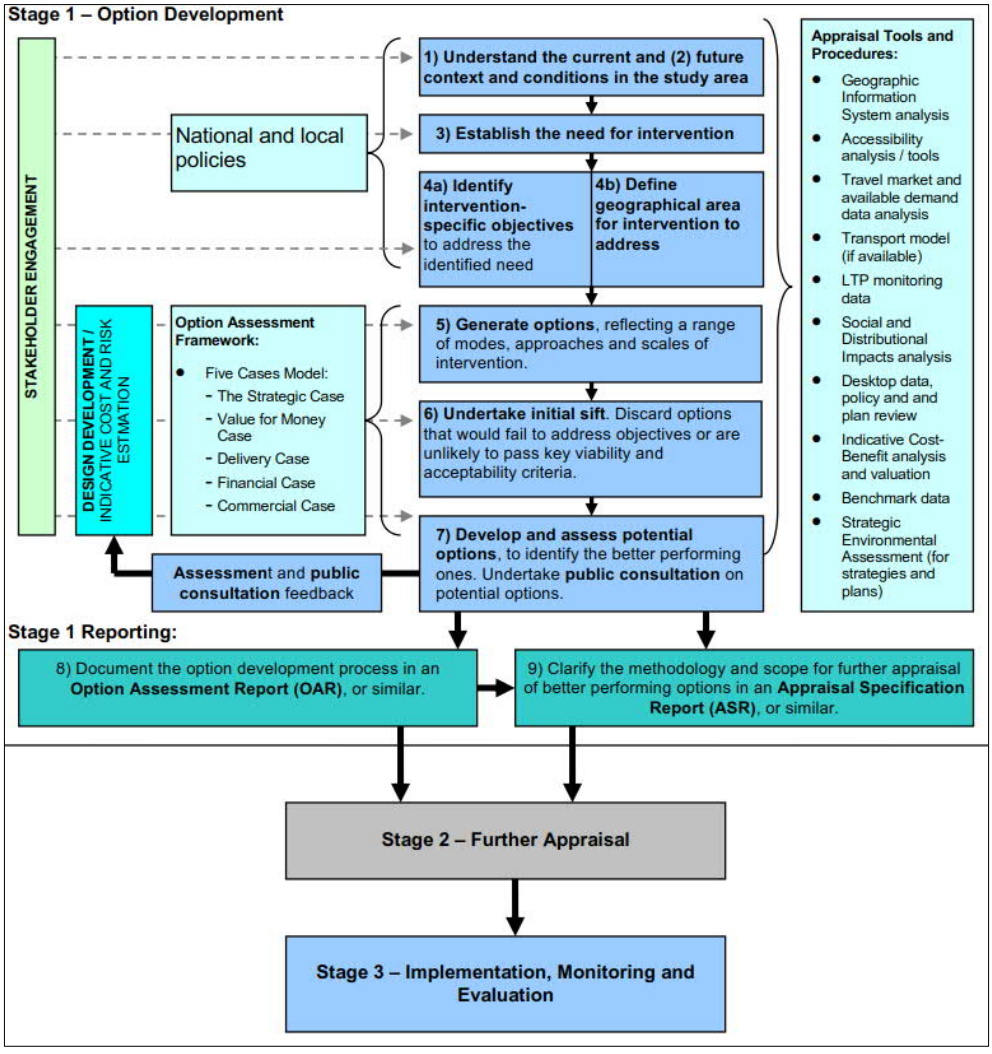
1.3.1 Following this introductory chapter, this report is structured as follows:

- Chapter 2: Current and Future Context
- Chapter 3: Policy Context and Objectives
- Chapter 4: Option Generation
- Chapter 5: Stage 1: Initial Option Sifting
- Chapter 6: Stage 2: Assessment of the Shortlist
- Chapter 7: Stage 3: Preferred Option Identification

2 Current and Future Context

2.1 Introduction

2.1.1 The approach to the Access to Witney study is based on and aligned with the Department for Transport's (DfT) Transport Appraisal Guidance (TAG), as illustrated in DfT's Transport Appraisal Process (TAP)[1] (shown in Figure 2). This chapter summarises the work to date undertaken by or for Oxfordshire County Council (OCC) regarding steps 1 to 7 within the Stage 1 option development process. As part of this exercise existing work was reviewed in order to develop objectives against which to assess proposed interventions to address the identified challenges (see chapter 3). These objectives will be critical in later steps and stages to help assess and sift options, as well as becoming a key component against which the final proposed solution will be appraised and, following implementation, evaluated.



Source: Transport Appraisal Process, DfT (2018)

Figure 2: DfT's Transport Appraisal Process

[1] Department for Transport (2018) Transport Analysis Guidance: The Transport Appraisal Process. *https://www.gov.uk/government/publications/webtag-transport-appraisal-process-may-2018*

2.2 Local Context

2.2.1 Witney is the largest town and most densely populated area in West Oxfordshire and contains the main services for the district. It has doubled in population over the last 30 years, and much of its growth has taken place in extensions to the north, west and east of the town. There is considerable demand for more housing. There are limited opportunities for housing within the built-up area of Witney and as such there is a need to develop on the fringes of the town.

2.2.2 There are over 28,000 residents (33,000 in the wider Witney sub-area), almost 15,000 jobs (approaching a third of the total in West Oxfordshire District) and the town is a key focus for growth under the current West Oxfordshire District Council (WODC) Local Plan. There is wide ranging employment, including jobs in high technology, manufacturing and engineering firms, and the town provides West Oxfordshire's main services and facilities including retail, health care and leisure.

2.2.3 There is a strong manufacturing and engineering presence, and large employment areas on the southern and western edges. The availability of employment sites on the western side of the town has attracted significant investment, including high technology manufacturers linked to the Oxford Bioscience Cluster, and there is land available to facilitate the expansion of existing businesses. Conversely, expansion in the east is focused more on housing.

2.2.4 As part of the West Witney development, a new roundabout on the A40 was required. In order to unlock the land in the west of Witney this new access onto the A40 was a prerequisite for the development. The Downs Road/A40 roundabout opened in 2019 and has not impacted journey times on the A40[2].

2.2.5 Traffic congestion is a serious and recognised concern in Witney, and an Air Quality Management Area (AQMA) has been designated at Bridge Street. One of the main schemes to address congestion and air quality, the Cogges Link scheme, was rejected by the Planning Inspector in 2012.

2.2.6 Other areas suffering from congestion include the Ducklington Lane junction with Station Lane and Thorney Leys and Witan Way, although improvements were made to the former in 2014 to help improve traffic flow.

2.3 Existing strategies and studies

2.3.1 Several existing studies and strategies have been used to understand the local context, including:

- Connecting Oxfordshire: Local Transport Plan 2015-2031 (LTP4), updated 2016.
- Witney Transport Strategy - Bridge Street Option Generation Study (2017).

[2] Junction capacity modelling as part of the planning application showed that the junction would operate within capacity and only very small queues (maximum 3 PCUs) would form. The roundabout does not cause significant disruption to users of the A40, and therefore was acceptable to implement.

- West Oxfordshire District Council Local Plan 2011 - 2031 (adopted September 2018).
- Witney Highways Model: Future Year Forecasting Report (2018) (WYG).
- Identification of Selected Cycling Infrastructure Enhancements in East Witney Draft Report (OCC, 2020).
- A40 Transport Strategy (2018).

2.3.2 Given the significant amount of work already undertaken to understand and assess current and future issues in the area, as well as potential solutions, only a summary of the most pertinent points are presented in this report.

2.4 Context and conditions in Witney

2.4.1 As part of the initial stage of option development, it is important to understand the current and future context and conditions in the study area (the town of Witney and its surroundings), including the main issues and the proposals that have been put forward in recent years to address these and facilitate potential new housing developments.

2.4.2 The local context and where appropriate current and future trends for the following are briefly discussed in this section:

- Socio-economic context;
- Existing transport infrastructure;
- Cycle routes and public rights of way (PRoW);
- Commuting patterns and modal share;
- Collisions;
- Traffic flows;
- Environment; and
- Topography.

Socio-economic context

2.4.3 West Oxfordshire is a relatively affluent district, with weekly pay some 8% above the average for England, a well-educated workforce (47.5% with qualifications at NVQ4 and above) and a high proportion of the workforce in employment (see Table 4-1). The ratio of jobs to population is 0.86, implying the need for some out-commuting, but Oxfordshire as a whole has a job density of 1.0, indicating the potential to find employment opportunities within the County, providing there are jobs that match the underlying skills and qualifications available. There are also relatively high levels of car ownership, and the 2011 census showed that only 11% of households did not have a car or van (compared to 19% in the South East and 26% in England), and 51% of households had 2 or more cars or vans.

2.4.4 There are nevertheless challenges. The relatively high incomes are dwarfed by the cost of housing, with average house prices some 28% higher than the average in England, although lower than the average for Oxfordshire as a whole (see Table 4-1).

There is less information available on rental prices, but the Zoopla Rental Price Index[3] (based on data from Hometrack and ONS Average Weekly Earnings, and for rentals on the open market only) indicated an average monthly rent of £941 in West Oxfordshire, compared to £1,373 for Oxford and £1,015 for the South East[4]. This nevertheless implies that in West Oxfordshire average rental costs are equivalent to about a third of gross average earnings.

2.4.5 Looking at data available at a more detailed level, the Indices of Multiple Deprivation[5] reveal that Witney contains three of the District's four most deprived neighbourhoods (Lower Layer Super Output Areas), falling within the 40% most deprived in the country (see Figure 3). In stark contrast, Witney also contains some of the least deprived neighbourhoods in the country, falling within the 10% least deprived nationally as shown in Figure 3 (in fact, they fall within the 5% least deprived).

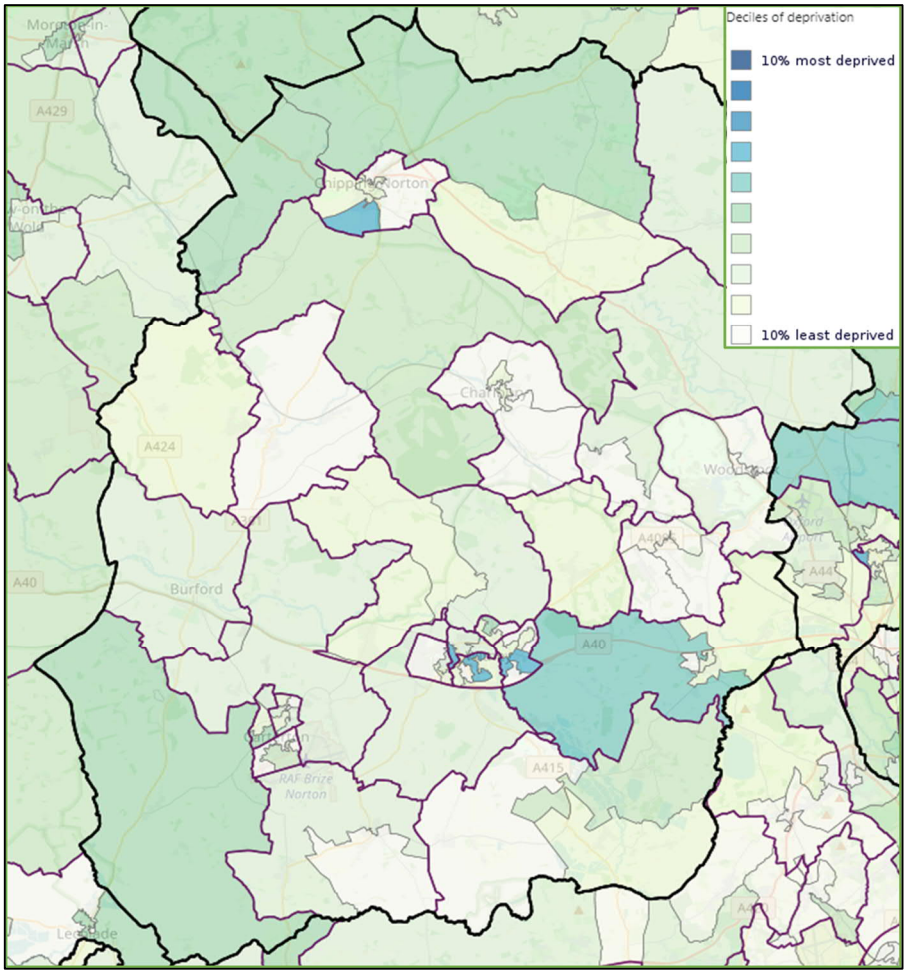
Table 4-1. West Oxfordshire Economic Metrics

Metrics *		West Oxfordshire	Oxfordshire	South East	England
Population (2018)	All people (2018)	108,800	687,500	9,133,600	55,977,200
	Population aged 16 - 64	59.9%	62.8%	61.5%	62.6%
	Qualifications at NVQ4 and above	47.5%	50.5%	42.2%	39%
Employment (Oct 2018 - Sep 2019)	Economically active - in employment	87.6%	84.2%	81.9%	75.9%
	Economically active - unemployed	2.0%	1.6%	3.1%	3.9%
	Economic inactivity **	12.4%	15.8%	18.1%	20.9%
	Part time proportion (2018)	33.3%	33.0%	33.7%	32.1%
Job Density (2018)	Ratio jobs: population	0.86	1.00	0.88	0.87
Employee Jobs (2018)	The 2 largest employment sectors	15.6% *Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles*	15.70% *Education*	16.4% *Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles*	15.4% *Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles*
		11.1% *Manufacturing*	14.6% *Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles*	12.8% *Human Health and Social Work Activities*	12.8% *Human Health and Social Work and*
	Full-Time Workers	£641	£655	£636	£591

[3] https://www.zoopla.co.uk/discover/renting/zoopla-rental-market-report/
[4] Zoopla Rental Market Report (with Hometrack) 2019 Q4
[5] Ministry of Housing, Communities & Local Government (MHCLG). The indices measure relative deprivation, comprised of seven weighted 'domains': Income (22.5%); Employment (22.5%); Health Deprivation and Disability (13.5%); Education, Skills Training (13.5%); Crime (9.3%); Barriers to Housing and Services (9.3%); and Living Environment (9.3%).

Metrics *		West Oxfordshire	Oxfordshire	South East	England
Gross Weekly Pay (by residence) 2019	Ratio compared to England	1.08	1.11	1.08	1.00
House Prices	Average House Price (Jan. 2020) ***	£309,952	£350,470	£320,700	£242,424
	Ratio compared to England	1.28	1.45	1.32	1.00

* Source: NOMIS, unless stated otherwise.
www.nomisweb.co.uk/reports/lmp/la/1946157327/report.aspx?c1=1941962886&c2=2013265928
** Student, looking after family/ home, Sick, Discouraged, Retired, Other.
*** Source: UK House Price Index. England value is for England and Wales.



Source: MHCLG (http://dclgapps.communities.gov.uk/imd/iod_index.html#)
Figure 3. Indices of Multiple Deprivation, West Oxfordshire (2019)

Equalities Context

2.4.6 Equality impact assessments ensure that policies, services and legislation do not discriminate against anyone and that, where possible, they promote equality of opportunity (see section 3.2 for more information). The equality impact assessment is a systematic and evidence-based tool, enabling consideration of the likely impact of work on different groups of people. Completion of equality impact assessments is a legal requirement under race, disability and gender equality legislation. Whilst

this is often undertaken as part of a detailed Business Case, consideration of equalities impacts has been included at an early stage here to help inform the optioneering and appraisal from the outset.

2.4.7 The proportion of residents aged 0 – 15 years old across the study area is 18.5%; this is broadly in line with Oxfordshire (18.9%) but is lower than the average for the South East (19.2%). The study area has a lower proportion of residents aged 16-64 compared to the county and wider South East region. Finally, the proportion of residents over the age of 65 within West Oxfordshire (21.5%) is higher than the average for Oxfordshire (18.2%) and the South East (19.3%).

2.4.8 The proportion of residents within West Oxfordshire who reported that their day-to-day activities were 'limited a lot' (5.9%) is broadly in line with the proportions of residents in Oxfordshire (5.8%) but is higher than the proportion of residents in the South East (6.9%). This may be due to the higher proportion of residents aged over 65 within the district.

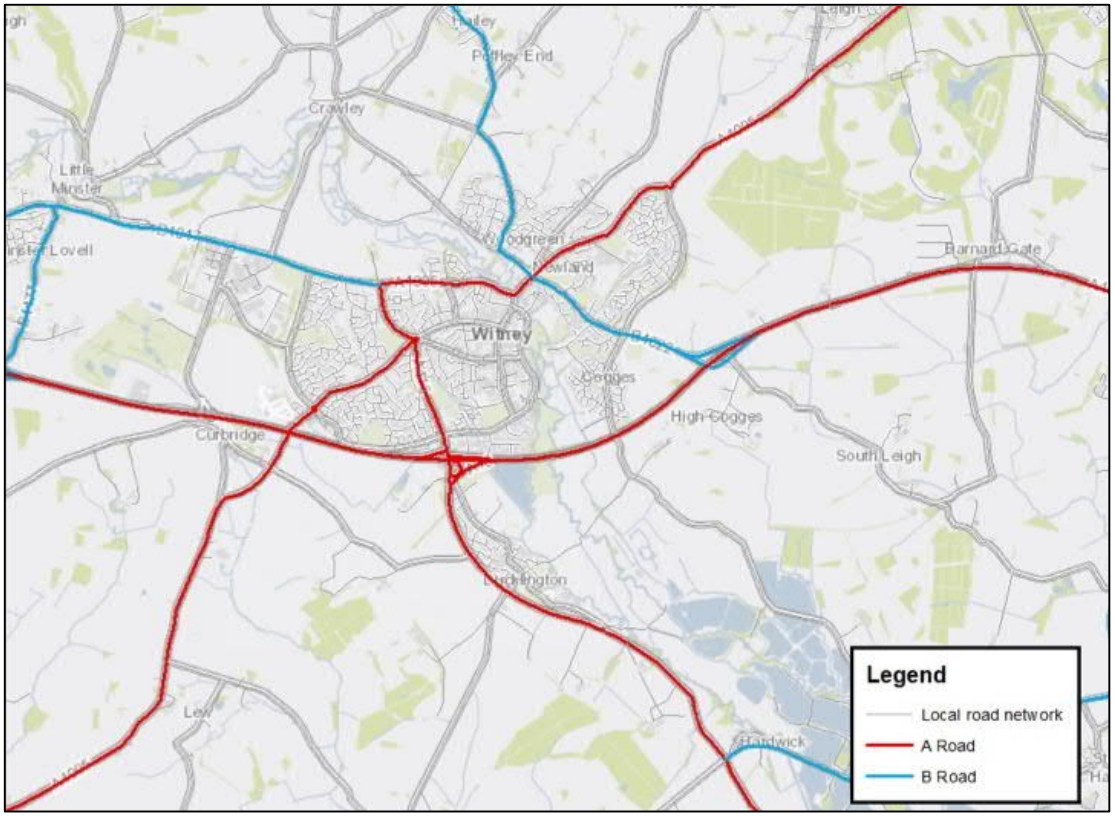
2.4.9 The highest proportion of residents in West Oxfordshire identify as White British residents (92.6%) which is higher than the average for Oxfordshire (90.6%) and for the South East (90.7%).

2.4.10 The district has a relatively low presence of other ethnic groups including Indian, Bangladeshi, Chinese, Black African and Arab residents.

2.4.11 The breakdown of religion is very similar between West Oxfordshire and Oxfordshire. However, a slightly higher proportion of the population identify as Christian (65.4%) in West Oxfordshire compared with Oxfordshire (60.2%).

Existing transport infrastructure

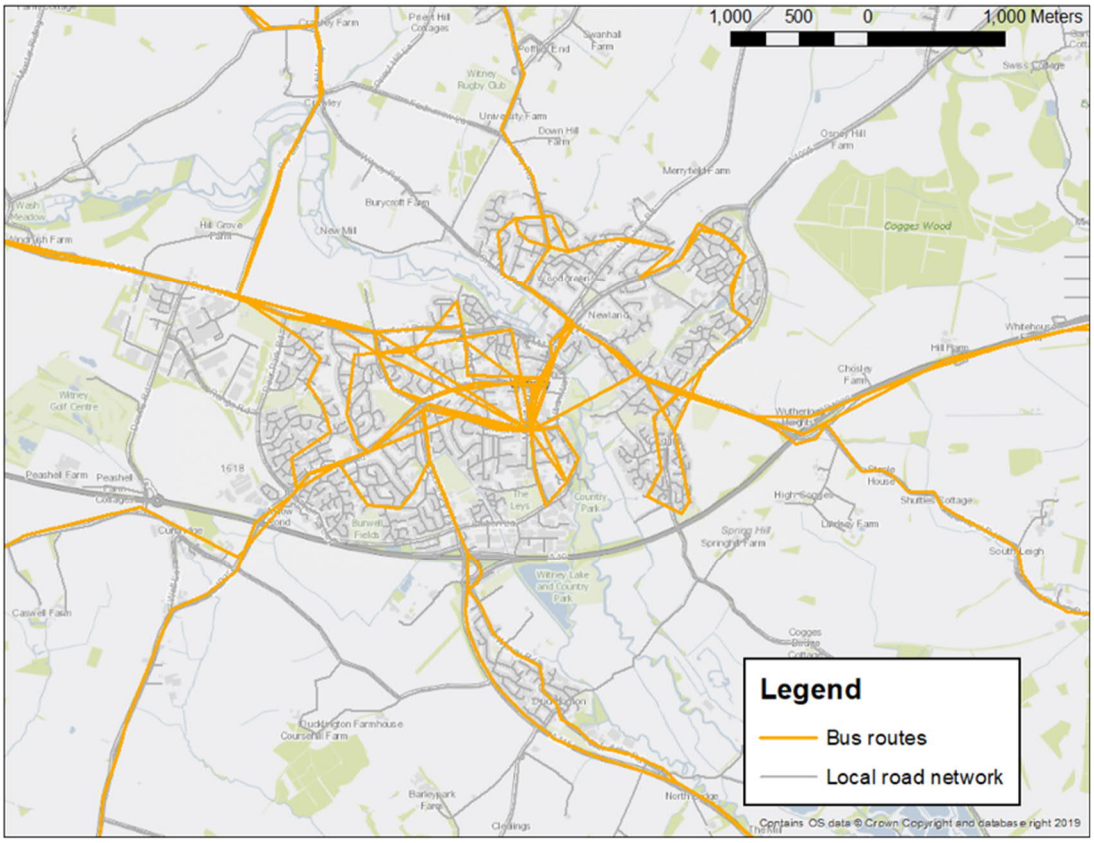
2.4.12 Figure 4 shows the main road links connecting Witney to other parts of the county. There is no railway station in Witney; the nearest railway station is Hanborough, about 6 miles away and one stop from Oxford, offering one train per hour to Oxford/ London Paddington on the single-track Cotswold Line. The nearest major city is Oxford, accessible by highways, including bus routes, via the A40. The Shores Green junction provides east facing slip roads to and from Oxford, allowing traffic from east Witney to access the A40 without going through the town centre to access the A415/A40 junction south of central Witney (Ducklington Lane – A40 Junction). The latter junction provides access to the A40 for westbound traffic, otherwise the nearest access to travel westbound on the A40 and avoid the main town is to the west of Witney at the recently opened (2019) A40 – Downs Road junction or the A40 – B4047 junction at Worsham even further west.



Source: AECOM – contains OS Data © Crown copyright and database right 2019

Figure 4. Existing transport infrastructure

2.4.13 Witney has many bus services running within and through it to nearby towns (see Figure 5), activity centres such as Oxford, and Hanborough railway station. Some of these services only run once a day and once a week, others only on some days of the week and only a few services run on a Sunday. Further details of bus services, frequencies and stops can be found in Appendix A.



Source: Based on https://www.stagecoachbus.com/routes/oxfordshire/15/witney-abingdon/xoao015.o; contains OS Data © Crown copyright and database right 2019

Figure 5. Bus routes

Cycle routes and public rights of way

2.4.14 Witney is a relatively compact town with a developed area spanning less than 5km east to west, and 3km north to south. It has a network of primarily public footpaths, public bridleways, and cycle routes, however these lack good connections to one another (Figure 6). National cycle routes 57 (running from Cogges and through the town centre, connecting Witney to the Cotswold countryside and the market town of Northleach via National Cycle Route 48) and 577 (from the A415/ Witney Road roundabout in the south running to the town centre) are shown more clearly in Figure 7.

2.4.15 The compact nature of the town implies that a wide range of trips can be satisfied within a short distance, thereby offering the potential for residents to walk or cycle for many local requirements (*Identification of Selected Cycling Infrastructure Enhancements in East Witney*, OCC Draft Report, 2020).

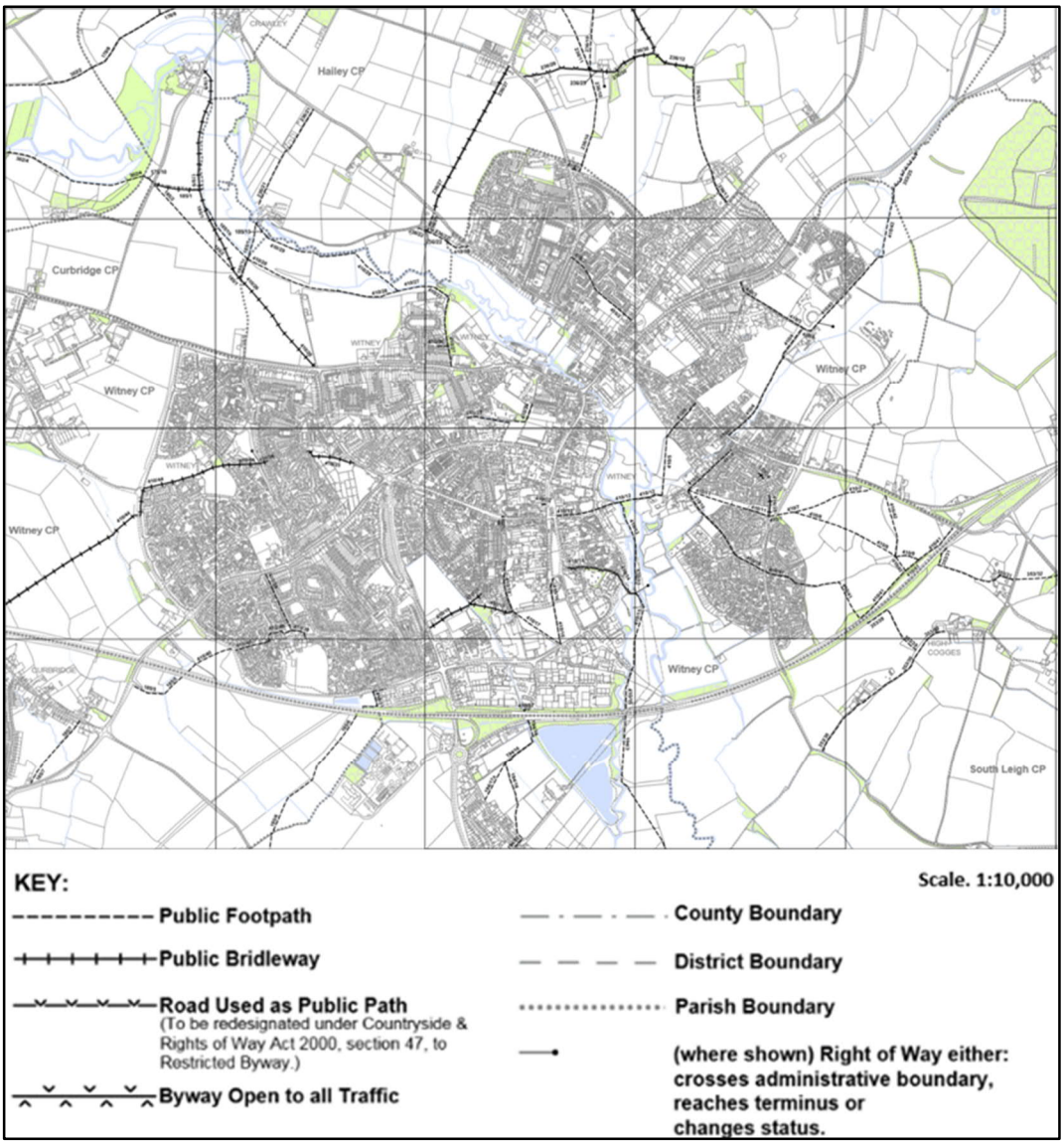


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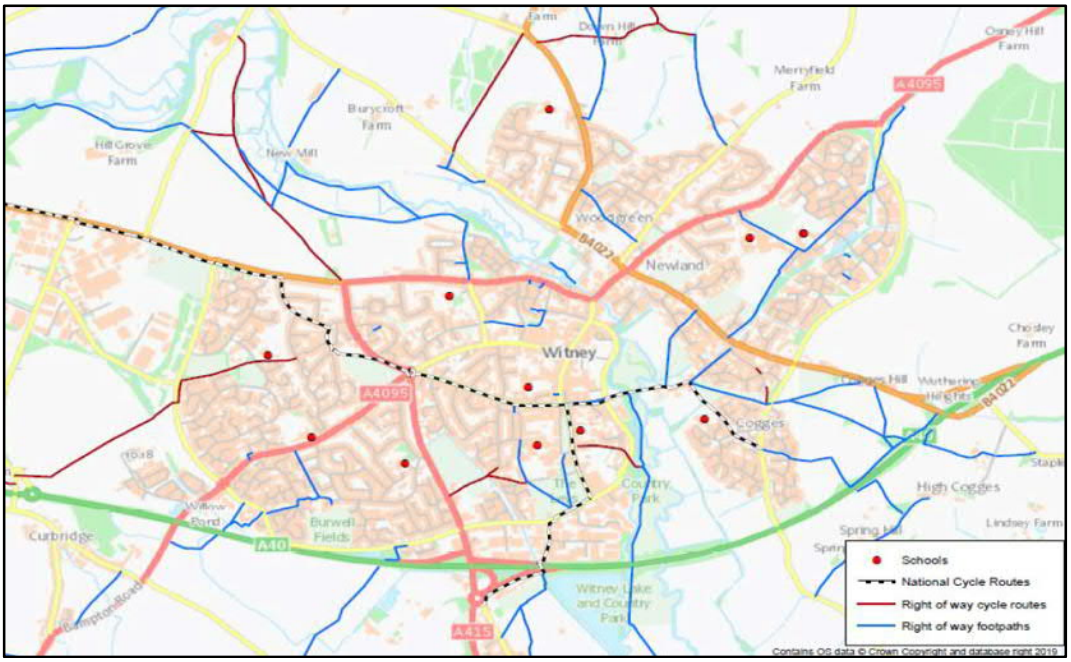
Figure 6. Public rights of way



Source: Identification of Selected Cycling Infrastructure Enhancements in East Witney Draft Report, 2020, Oxfordshire CC - © Crown copyright and database right 2019.

Figure 7. National cycle routes & rights of way network (2019)

Commuting patterns and modal share

2.4.16 Almost three-quarters of Witney's residents drove to work, based on Census 2011 data[6], compared to just over a quarter by more sustainable means. Analysis of this data has shown that about 6% of Witney residents cycle to work and 14% walk to work (Table 4-2). This is slightly higher than the walking and cycling percentages for West Oxfordshire as a whole (5% bicycle and 12% pedestrian) and for England (3% bicycle and 12% pedestrian).

Table 4-2. Journey to Work – Witney Residents

Mode (travel to work)	Place of work		Total	%
	Within Witney	Outside Witney		
Rail	3	94	97	1%
Bus	74	636	710	6%
Car	2,291	6,865	9,156	73%
Bicycle	491	219	710	6%
On foot	1,462	246	1,708	14%
Other method of travel to work	32	117	149	1%
Total	4,353	8,177	12,530	
%	35%	65%		100%

Source: Census 2011 data

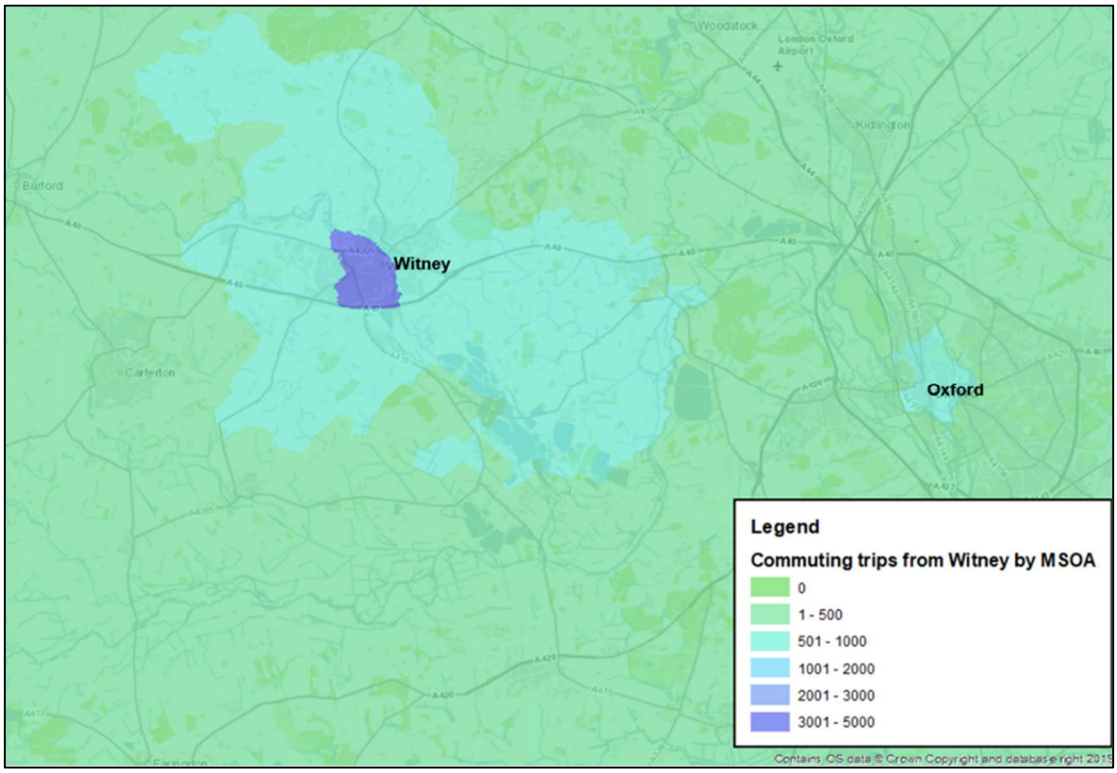
2.4.17 Figure 8 to Figure 12 show trips from Witney to other areas (at Middle Layer Super Output Area (MSOA) level) for work and Figure 13 shows trips to Witney from other

[6] Office for National statistics (2011) Census date: *https://www.nomisweb.co.uk*

areas (at MSOA level) for work. The analysis suggests that the majority of people commuting to/ from Witney live and work in close proximity to Witney.

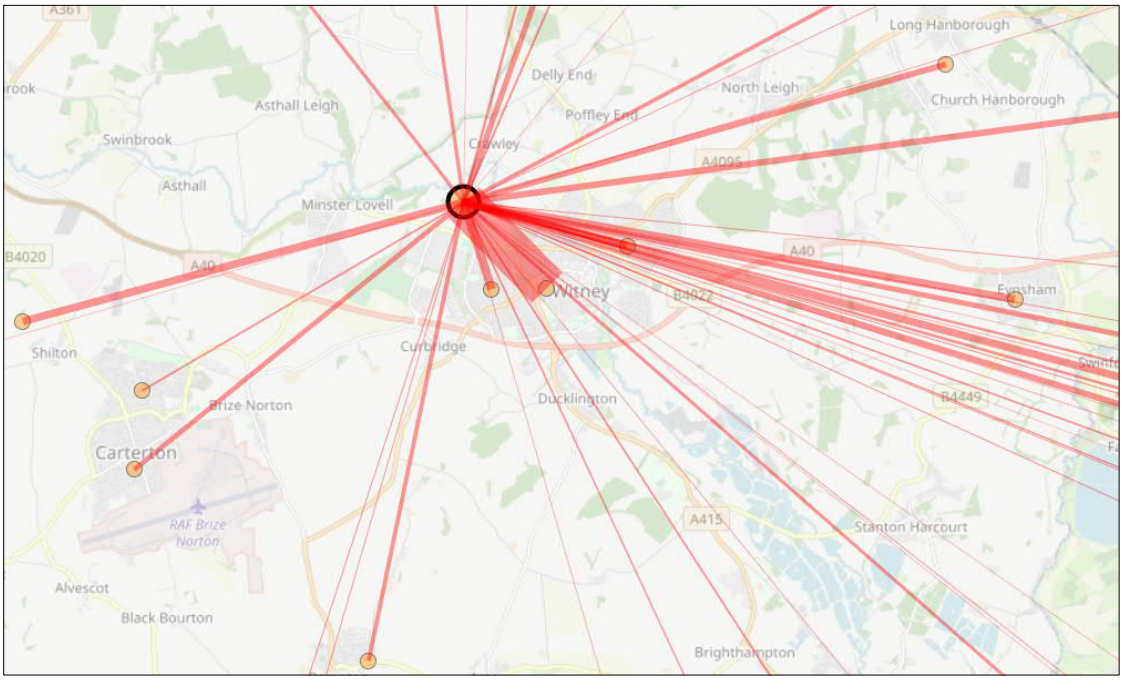
2.4.18 The data shows that 59% of Witney residents work within West Oxfordshire, 18% work in Oxford and 35% live and work within Witney. In total, 12,540 commuting trips originated in Witney.

2.4.19 Of the 10,809 commuting trips into Witney, 3% were from Oxford, 20% from within Witney and 77% from West Oxfordshire.



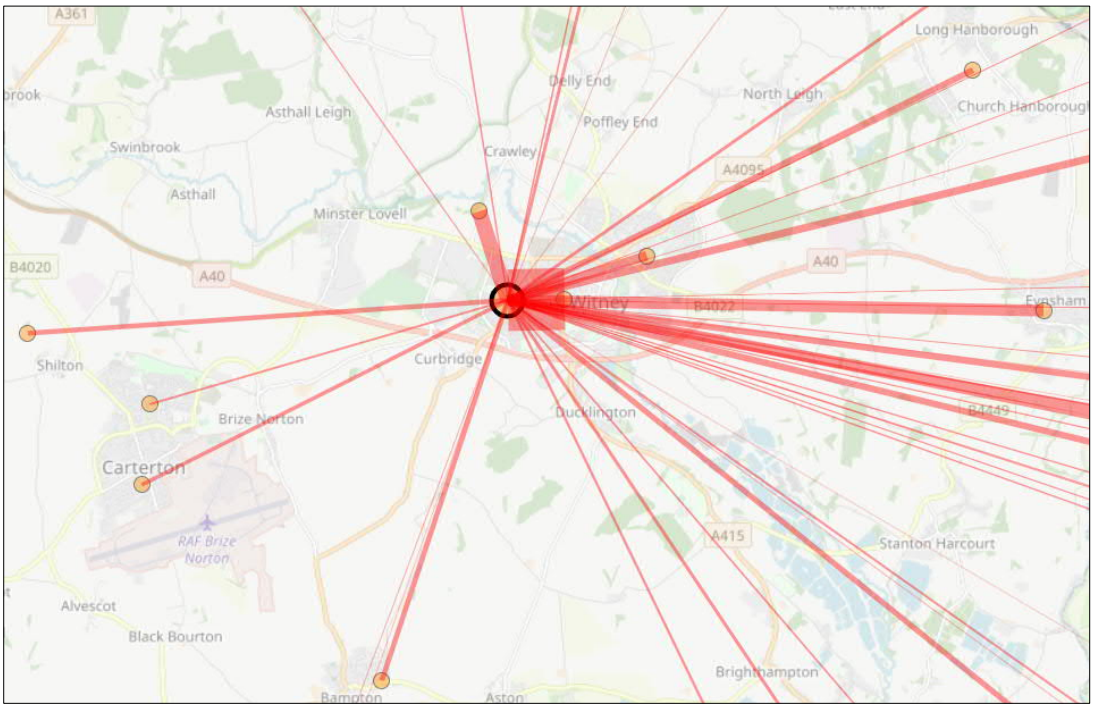
Source: Identification of Selected Cycling Infrastructure Enhancements in East Witney Draft Report, 2020, Oxfordshire CC - © Crown copyright and database right 2019.

Figure 8. Commuting trips from Witney



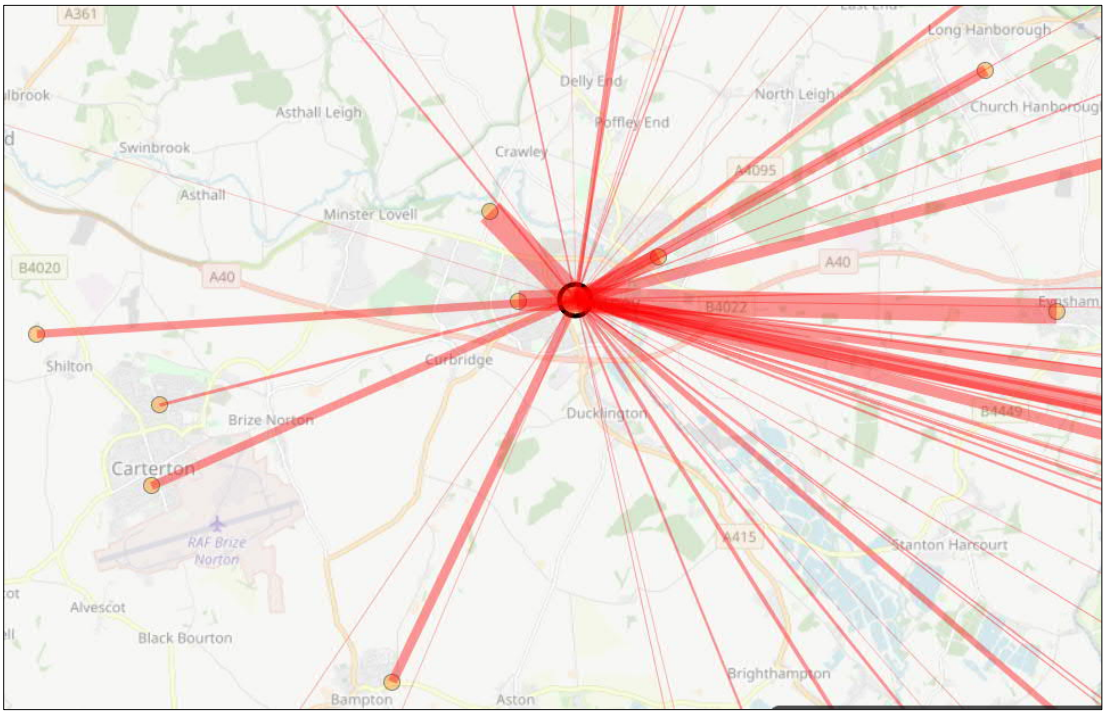
Source: datashine.org

Figure 9. Commuting trips from Witney (MSOA: West Oxfordshire 007)



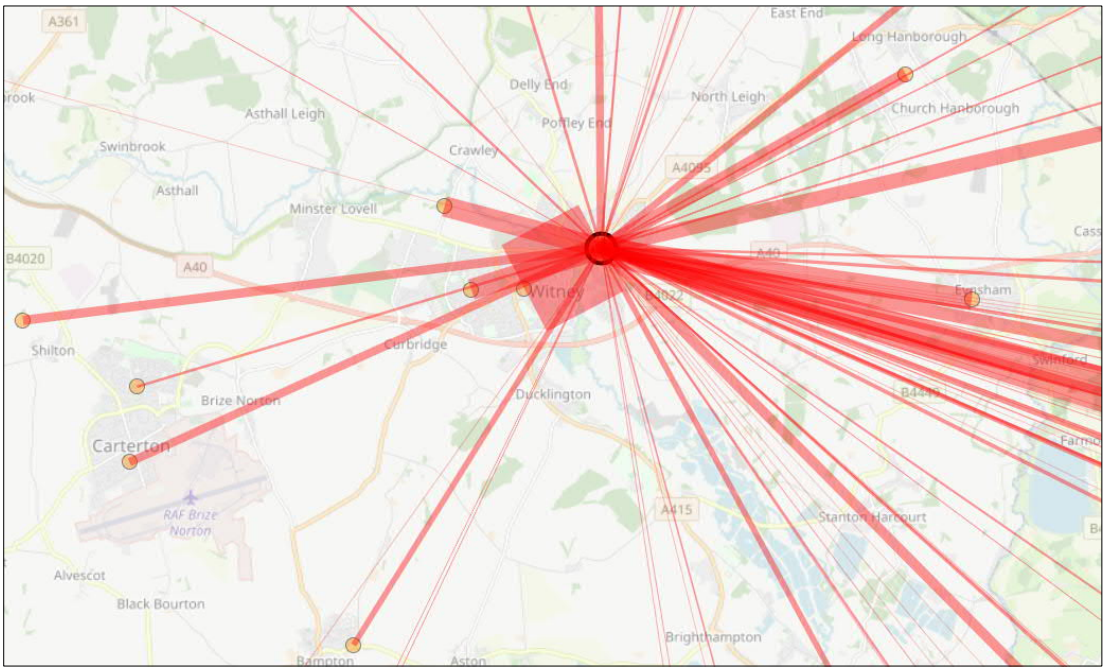
Source: datashine.org

Figure 10. Commuting trips from Witney (MSOA: West Oxfordshire 009)



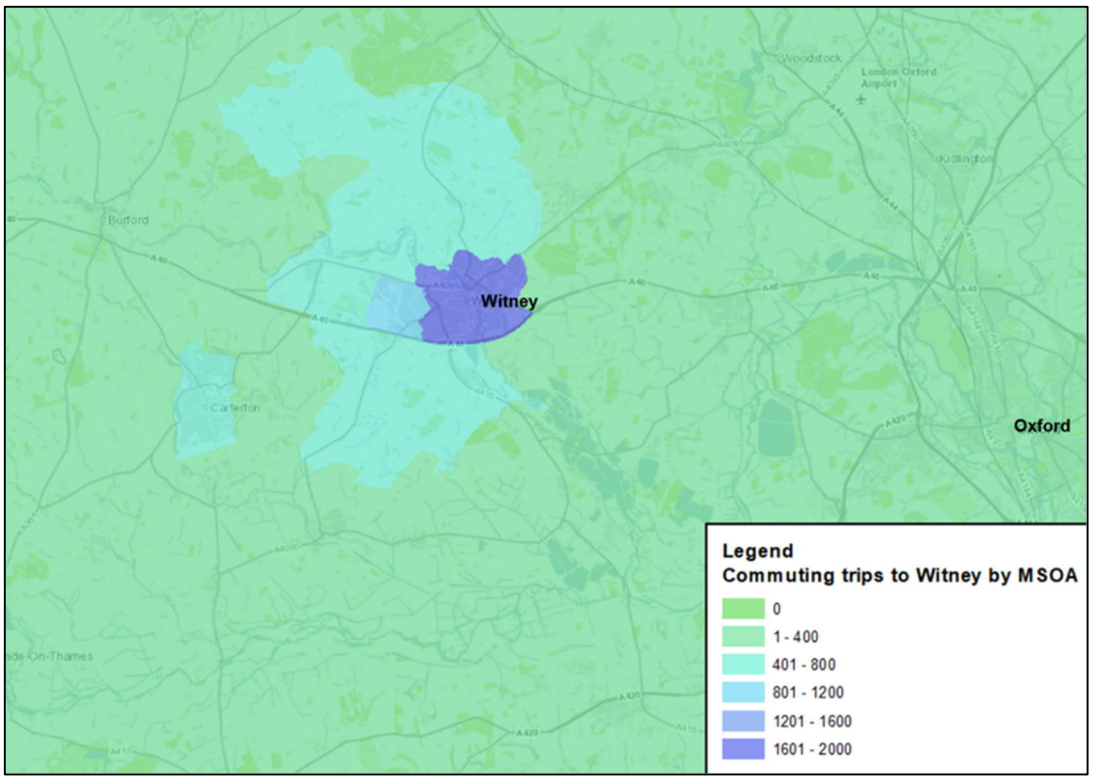
Source: datashine.org

Figure 11. Commuting trips from Witney (MSOA: West Oxfordshire 010)



Source: datashine.org

Figure 12. Commuting trips from Witney (MSOA: West Oxfordshire 008)



Source: Identification of Selected Cycling Infrastructure Enhancements in East Witney Draft Report, 2020, Oxfordshire CC - © Crown copyright and database right 2019.

Figure 13. Commuting trips to Witney

2.4.20 The census data indicates relatively strong internalisation of trips in West Oxfordshire, although forecast housing growth in the urban fringes and changes in the local economic environment may change this in future. Nevertheless, modelling undertaken using the Oxfordshire Strategic Model (OSM)[7] has shown (for all trip purposes) demand to access local attractors, including the commercial, employment and industrial sectors in south Witney (located to the north east of the A415-A40 junction) and west Witney (located to the north of the new A40-Downs Road roundabout).

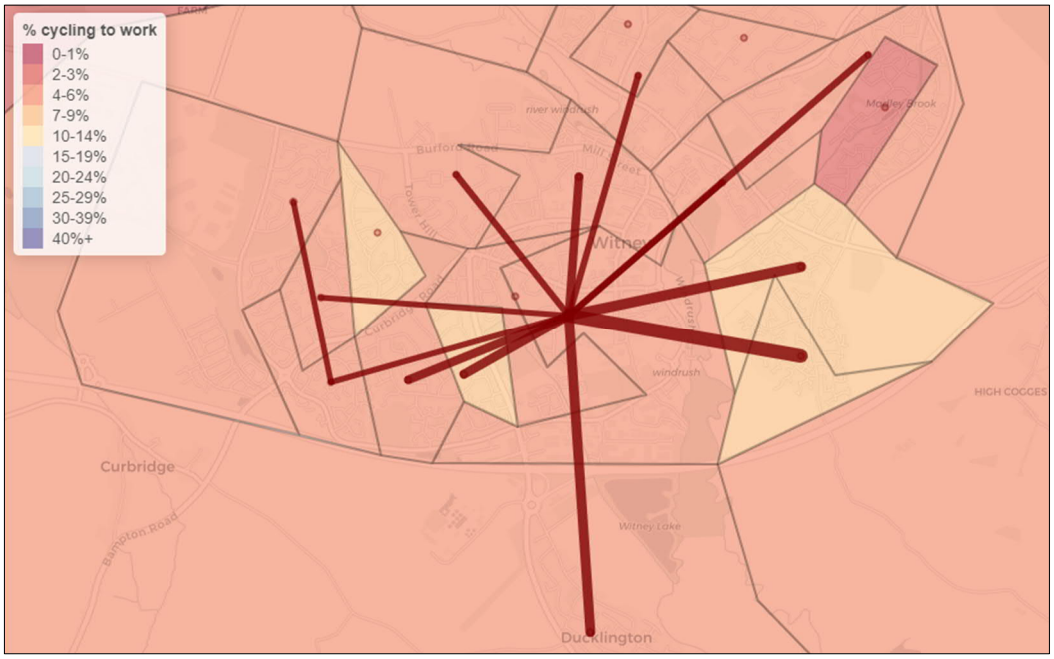
2.4.21 The compact nature of Witney and large proportion of local trips indicate the potential for more trips to be made by foot or cycle. OCC is undertaking work to identify potential enhancements to the cycling network, and the Access to Witney study will need to take this into account.

2.4.22 Figure 14, drawn from the Propensity to Cycle Tool and Census 2011 data, maps the proportion of residents commuting to work by cycle, with the top 15 flows (shown as straight lines from LSOA centres) indicated. Cycling rates are generally low at about 4% to 6% in much of Witney, but with significantly higher proportions noticeable in for example East Witney (10 – 14%). This may reflect its better non-motorised connectivity, including for example NCR 57, which is largely traffic free between Stanton Harcourt Road to Witan Way/ Langdale roundabout, with shared use

[7] The OSM is a strategic transport model that was developed specifically to assess land use and transport interventions in Oxfordshire.

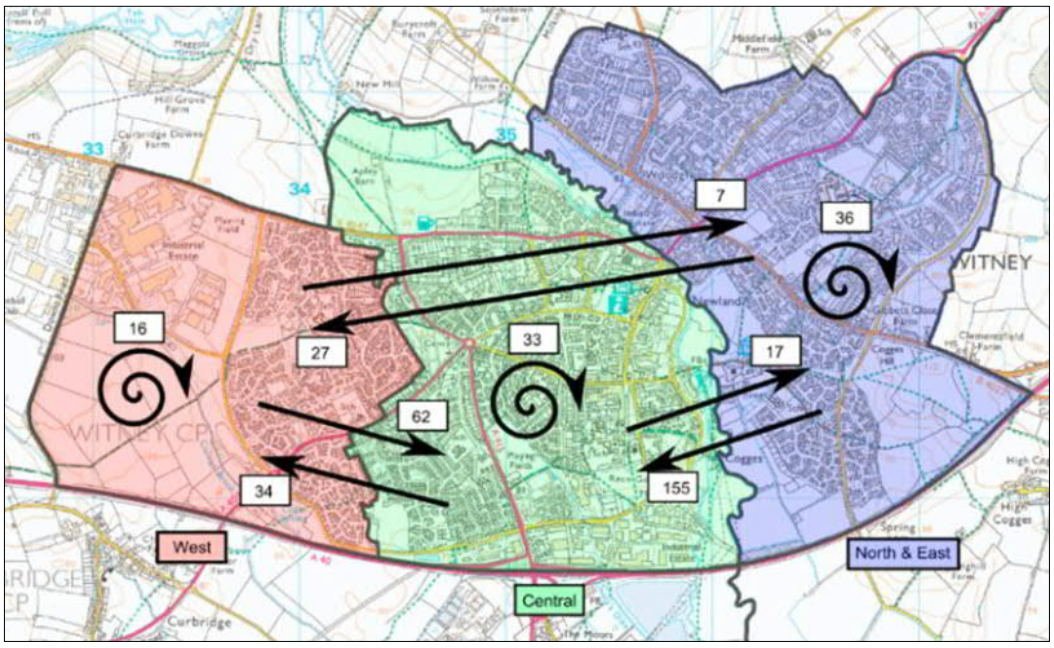
facilities flanking Cogges Manor Farm and a pedestrian and cyclist only river crossing west of Church Lane.

2.4.23 Figure 15 summaries Census 2011 origin and destination analysis undertaken by OCC, with the arrows showing movements between West, Central, and North & East Witney MSOAs. The spiral arrows indicate cyclists who live and work in the same MSOA. The largest inter-MSOA commuter flows are from North & East (182 cyclists) and West (69 cyclists). Of these, 85% from the North & East and 90% from the West cycle towards the central MSOA.



Source: Identification of Selected Cycling Infrastructure Enhancements in East Witney Draft Report, 2020, Oxfordshire CC / Propensity to Cycle; https://www.pct.bike/m/?r=oxfordshire

Figure 14. Cycling trips (commuting only, Census 2011) and the top 15 demand flows

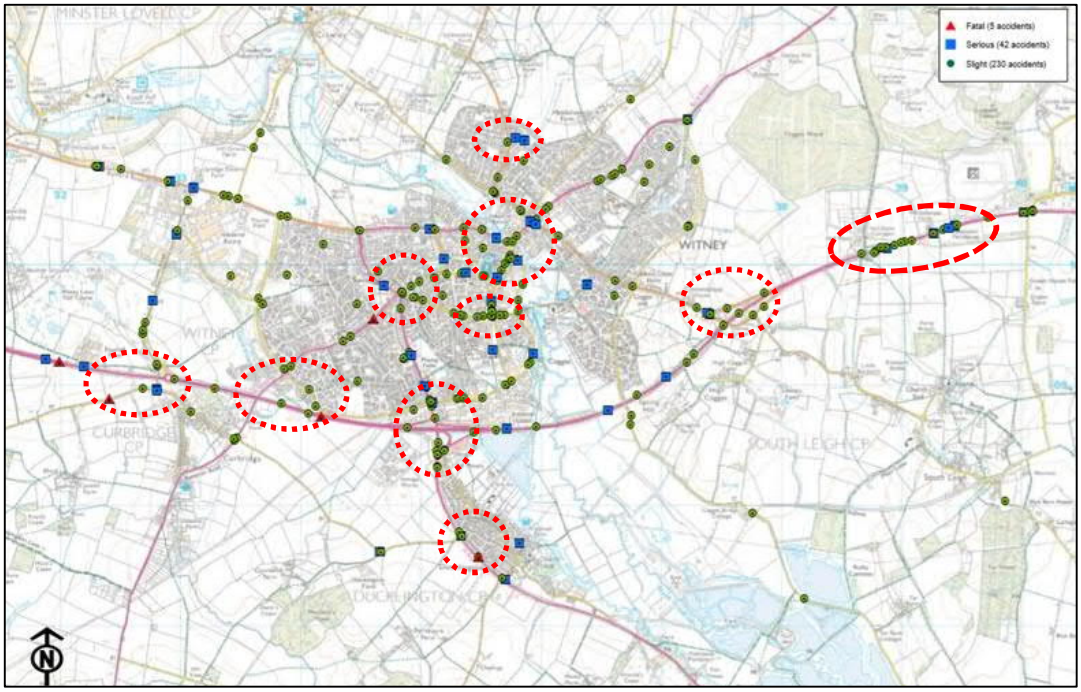


Source: Identification of Selected Cycling Infrastructure Enhancements in East Witney Draft Report, 2020, Oxfordshire CC - © Crown copyright and database right 2020.

Figure 15. Cycling trips (commuting only, Census 2011) – origins and destinations

Collisions

2.4.24 There have been 277 accidents in the past six years (January 2014 to September 2019) in and around Witney[8]. As can be seen in Figure 16, 230 of these accidents were only slight, however 42 were serious and 5 were fatal. Key hotspots are highlighted in red. Accidents are mostly concentrated around junctions and in the central roads around the town centre, reflecting the main traffic flows and trip patterns.



Source: Map provided by Oxfordshire CC - © Crown copyright and database rights 2020 Ordnance Survey.

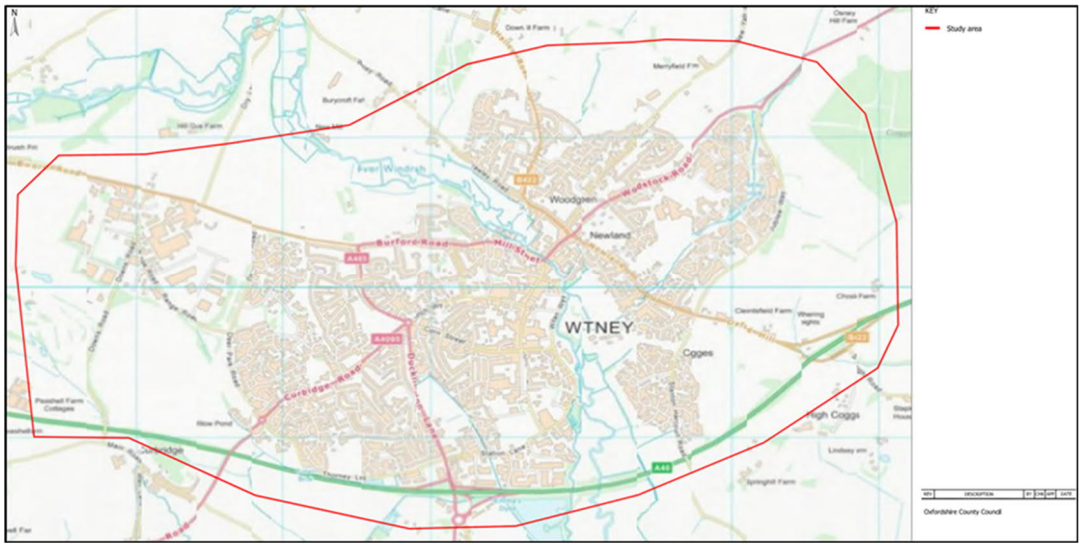
Figure 16. Collision data

Traffic flows

2.4.25 Current and forecast traffic congestion are covered in more detail in sections 2.5 and 2.6 respectively. The 2018 Witney Highways Model is a cordoned model (Figure 17), which was extracted from the OSM and updated to a 2018 base. Table 4-3 shows the modelled trips in the base year (2018) and forecast year (2031) in the cordoned model area[9].

2.4.26 The resultant growth by 2031 is significant with an increase between 17% and 21% in total modelled trips across both morning and evening peak periods. As expected, car accounts for the majority of current and future traffic. LGVs have the highest percentage increase between 2018 and 2031, which reflects national projections.

[8] Supplied by Oxfordshire County Council
[9] WYG (2018) Witney highways model, Future Year Forecasting Report.



Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and also contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 17. Study Area – Witney Highways Model

Table 4-3. Forecast Do Minimum Matrix Totals: AM peak (Passenger Car Unit equivalents)

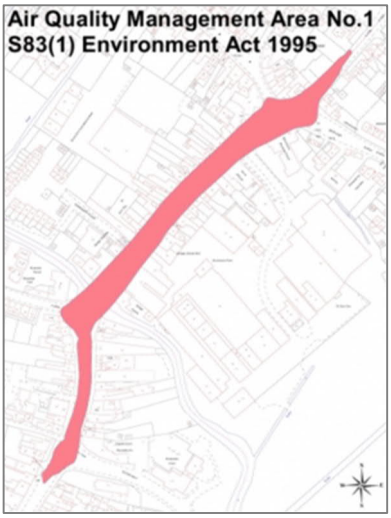
Year	AM peak (PCUs)				PM Peak (PCUs)			
	Car	LGV	HGV	Total	Car	LGV	HGV	Total
2018	10,161	1,360	543	12,064	10,836	1,235	147	12,218
2031	12,174	1,792	613	14,579	12,526	1,630	165	14,321
% Change (2018-2031)	20%	32%	13%	21%	16%	32%	13%	17%

Source: Oxfordshire County Council, Witney Highways Model Report (2018)

Environment

2.4.27 Figure 18 summarises the main environmental designations in and around Witney, whilst Figure 19 shows Witney in relation to Environment Agency flood zone classifications.

2.4.28 Witney has one AQMA (for nitrogen dioxide (annual mean), the main emissions source is road transport) which incorporates Bridge Street and the junctions with New Yatt Road, Newland, Mill Street and the High Street. As noted in West Oxfordshire District Council's 2019 Air Quality Annual Status Report (June 2019), average annual NO_2 has remained around 50 μgm^{-3} in Bridge Street (the legal air quality limit value is 40 μgm^{-3}) over the last nine years. The Draft Air Quality Action Plan (December 2010) assumed compliance could be achieved with the implementation of the Cogges Link Road, but this scheme did not proceed following the Planning Inspector's refusal to allow a compulsory purchase order for the land needed (see section 0). Alternative schemes need to be considered (and this is recognised in the county's Local Transport Plan). Although there has been a general improvement in air quality, it is unlikely that the trend towards cleaner vehicles will in itself provide a mechanism to achieve compliance with legal air quality limits in the shorter term.



2.4.29 As part of the West Oxfordshire Minerals and Waste Preferred Option document, High Cogges Farm immediately south-east of the Shores Green junction has been designated as a site for a waste facility[10]. Planning permission will be granted on the site for an anaerobic digestion facility for farm and food waste providing it conforms to the core policies of the Oxfordshire Minerals and Waste Local Plan Part 1 – Core Strategy.

2.4.30 There is one site of special scientific interest, Duckling Mead just south of Witney (there is another further west, Worsham Lane SSSI, not shown on the map). There are a number of important habitats in and around Witney, partly reflecting the river environment. As shown in Figure 19, parts of Witney fall within Flood Zone 3, which is land assessed by the Environment Agency as having a 1 in 100 or greater annual probability of river flooding, ignoring any flood defences.

2.4.31 The habitats and flood zones also provide a clear east-west split through Witney, with Bridge Street providing the main access point across the River Windrush, and

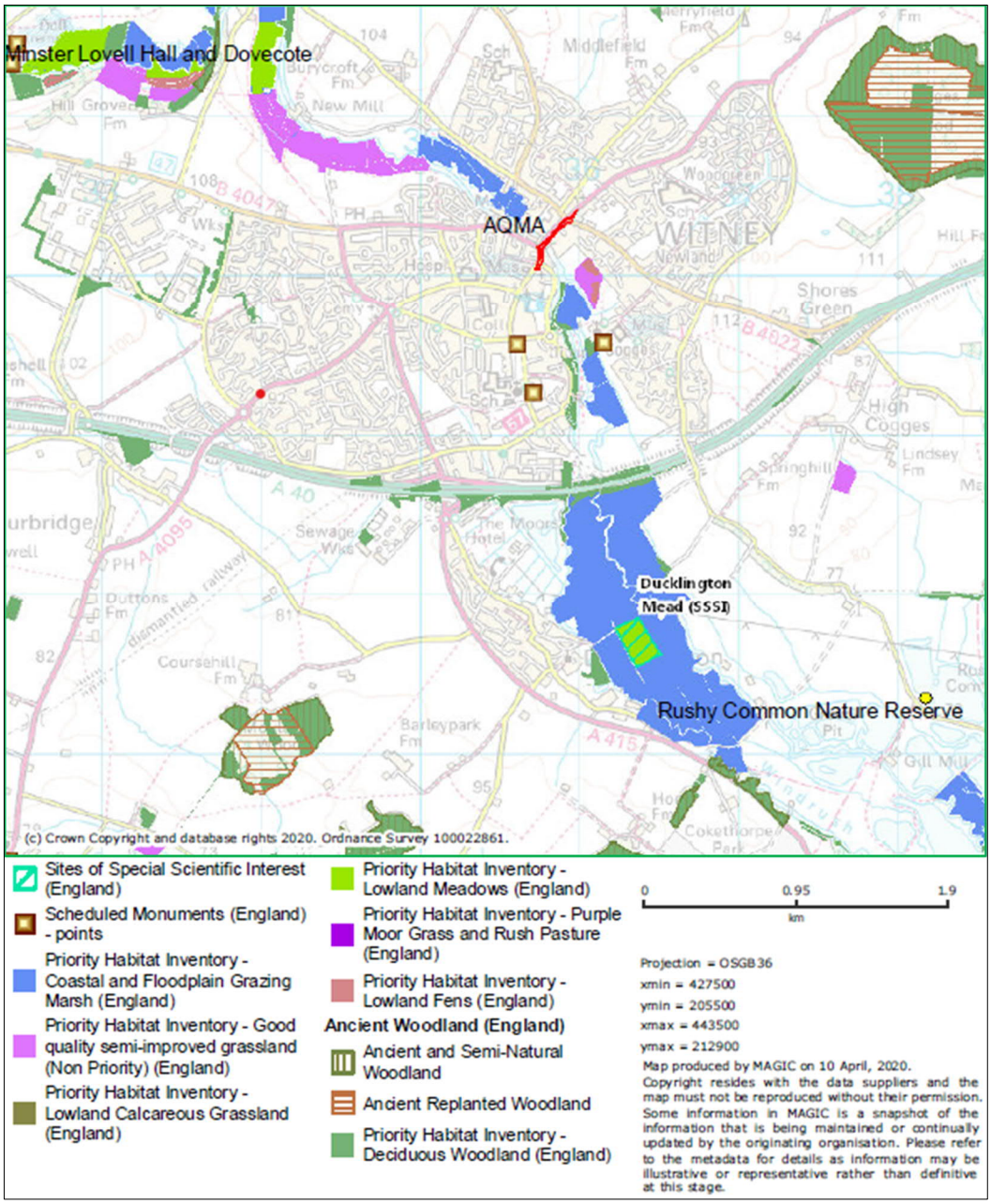
[10] https://www.oxfordshire.gov.uk/residents/environment-and-planning/planning/planning-policy/minerals-and-waste-policy/core-strategy#paragraph-761

which helps explain both the air quality and congestion in this area and through the town centre.

2.4.32 The market town's historic nature is reflected in the large number of listed buildings and heritage sites, largely in the town centre, as shown in Figure 20. There is also a heritage site to the north west of Witney, Minster Lovell Hall and Dovecote, which can be seen in Figure 18.

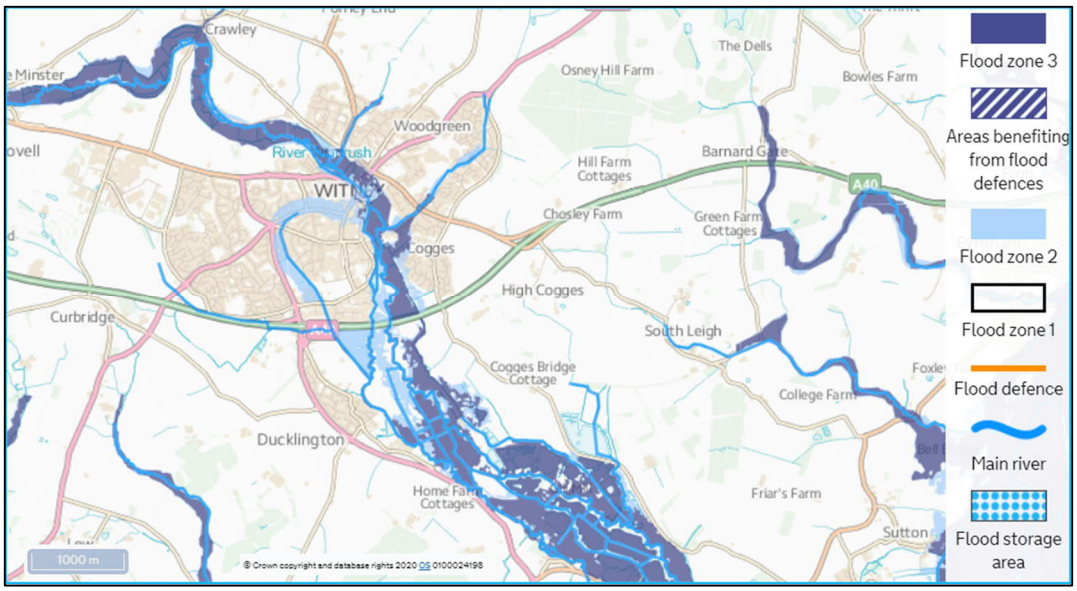
2.4.33 The natural and built environment in Witney provides both opportunities and challenges. Whilst it is a desirable place to live and work, with natural and historic attractions, there are limited opportunities for growth in the historic centre, and both built environment and natural constraints in terms of adding further transport capacity. Hence growth has tended to occur on the fringes, away from the more sensitive river environment. This does however pose a challenge, in particular for residents in east Witney, as the main commercial, retail and employment centres (excluding the town centre) are in the west and south west of the town.

2.4.34 Addressing these issues will need to take into account Policy 1 of OCC's LTP4, which states that the county will work to ensure that the transport network supports sustainable economic and housing growth in the county, whilst protecting and where possible enhancing its environmental and its creative, cultural, heritage and tourism assets, and supporting the health and wellbeing of its residents.



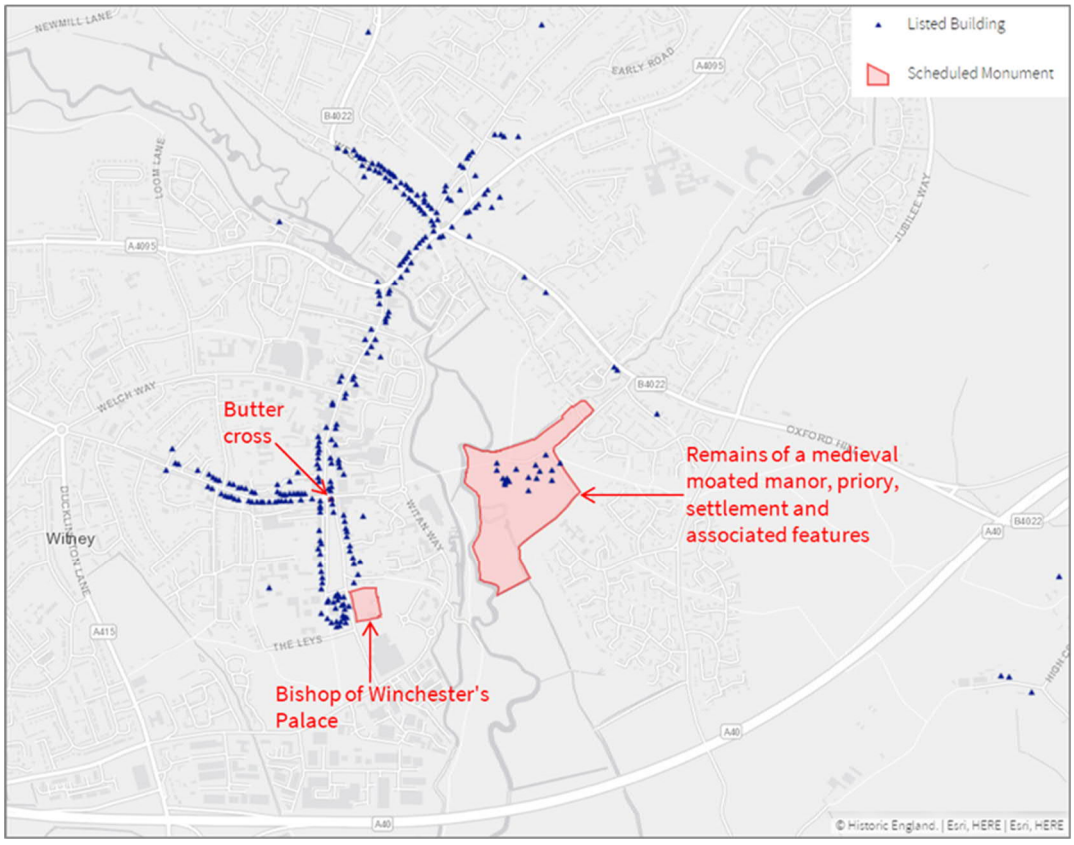
Source: magic.defra.gov.uk; uk-air.defra.gov.uk/aqma/maps

Figure 18. Environmental designations and scheduled monuments



Source: flood-map-for-planning.service.gov.uk

Figure 19. Flood zones



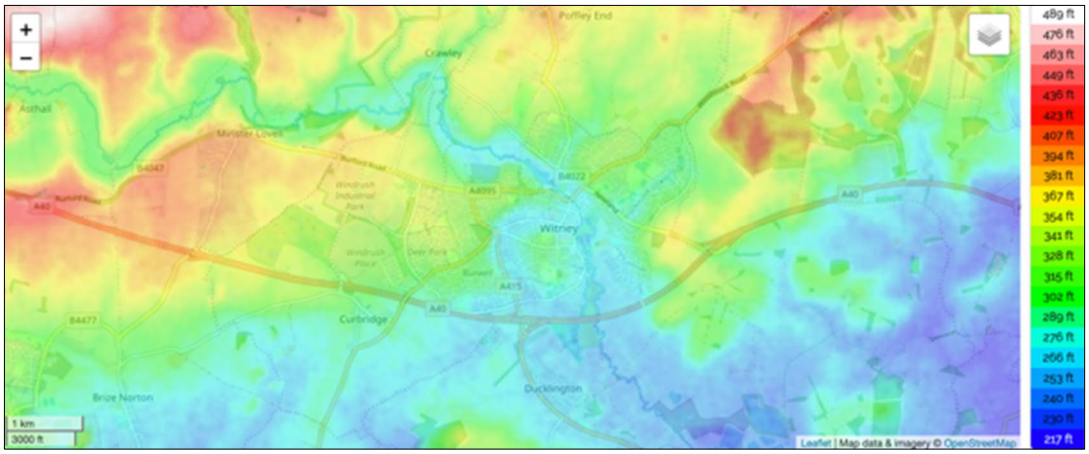
Source: historicengland.org.uk/advice/hpg/heritage-assets/nhle/

Figure 20. Heritage designations in Witney

Topography

2.4.35 Witney's topography is shown in Figure 21, with the lower elevations associated with the River Windrush and flood plain clearly apparent (the river flows south into the Thames near Standlake). Moving to the north east and the north west, land elevation rises and increases further north going into the Cotswolds. Elevation also rises to some of the developments in the east and west away from the river. Nevertheless,

for Witney as a whole, the topography does not indicate significant issues in, for example, encouraging uptake of active modes or e-bikes. There are also more river crossing points suitable for pedestrians and cyclists than vehicular traffic.



Source: Topographic map (2020)[11]

Figure 21. Topography

2.5 Current Traffic Congestion Issues

2.5.1 Witney's congestion problems are in large part due to there being only one main vehicular crossing point across the River Windrush at Bridge Street which acts as a bottleneck to traffic travelling east-west across the town. A previous scheme known as the Cogges Link Road (CLR), which would have cut town centre congestion by providing a second river crossing and linking to new developments, was abandoned in 2012 after the Planning Inspector refused to give OCC permission to compulsorily purchase the land needed. The Inspector's Report in particular compared the CLR with west facing slip roads on the A40 at Shores Green (SGSR) in terms of policy requirements for the promotion of sustainable modes of travel; the concerns that led to the need for any such scheme in the first place in relieving the AQMA, the Bridge Street area and the historic core from traffic congestion; their wider traffic effects; and cost benefit analysis and value for money.

2.5.2 The Inspector's Report noted that in terms of the traffic congestion problems in Witney, the submitted evidence pointed to SGSR as being a better solution than the CLR. However, it also concluded that the CLR would be a better option to address the air quality problems, although the differences between the schemes would be small. Nevertheless, based on the evidence presented to the Inquiry at that time, the Inspector concluded that SGSR would be a better scheme than the CLR.

2.5.3 The Inspector's Report did however make a number of statements that could affect any future work to address the congestion and air quality issues in Witney town centre. It noted there was little evidence of effective demand management measures having been implemented, the absence of modal shift modelling was a shortcoming in the traffic assessment, but that there remained a clear need for the re-routing of traffic from the Bridge Street area.

[11] Topographic map: *https://en-gb.topographic-map.com/maps/b9/England/*

2.5.4 There are two key sources of data on the baseline situation in Witney, the Witney Transport Strategy (2017) and an Automatic Number Plate Recognition (ANPR) survey (2018), which are outlined below.

Witney Transport Strategy (2017)

2.5.5 The OSM covering Witney was used in the Witney Transport Strategy 2017, to assess network performance. The 2013 Baseline Model Run was used to identify existing network issues in the Witney central area and east of Witney.

2.5.6 A summary of the existing capacity issues is described below:

- *Bridge Street: It carries an average of 29,000 vehicles a day[12]. In the peaks this link exceeds capacity (up to 104% capacity northbound in the AM Peak). The congestion contributes to the area being identified as an AQMA and causes delays to buses and deters cyclists and pedestrians from using the route.*
- *Station Lane: The road forms the southern edge of the town centre and exceeds capacity during the peaks on its westbound approach to the Ducklington Lane signalised junction.*
- *Burford Road: The road forms the northern edge of the town centre and exceeds capacity during the PM peak on its westbound approach to the Deer Park Road junction.*
- *A40 Corridor: This forms the main strategic route through West Oxfordshire and provides access to Witney from the southern edge of the town. There are two junctions, in the west the Ducklington Lane junction is the only all movement junction and to the east the Shores Green junction provides west facing slip roads only for access to and from Oxford. In the peaks it approaches capacity at its access roads to Eynsham and Cassington, between Witney and Oxford. In 2019, just to the west of Witney, an at grade all movement access was provided with a new roundabout on the A40 at Downs Road.*

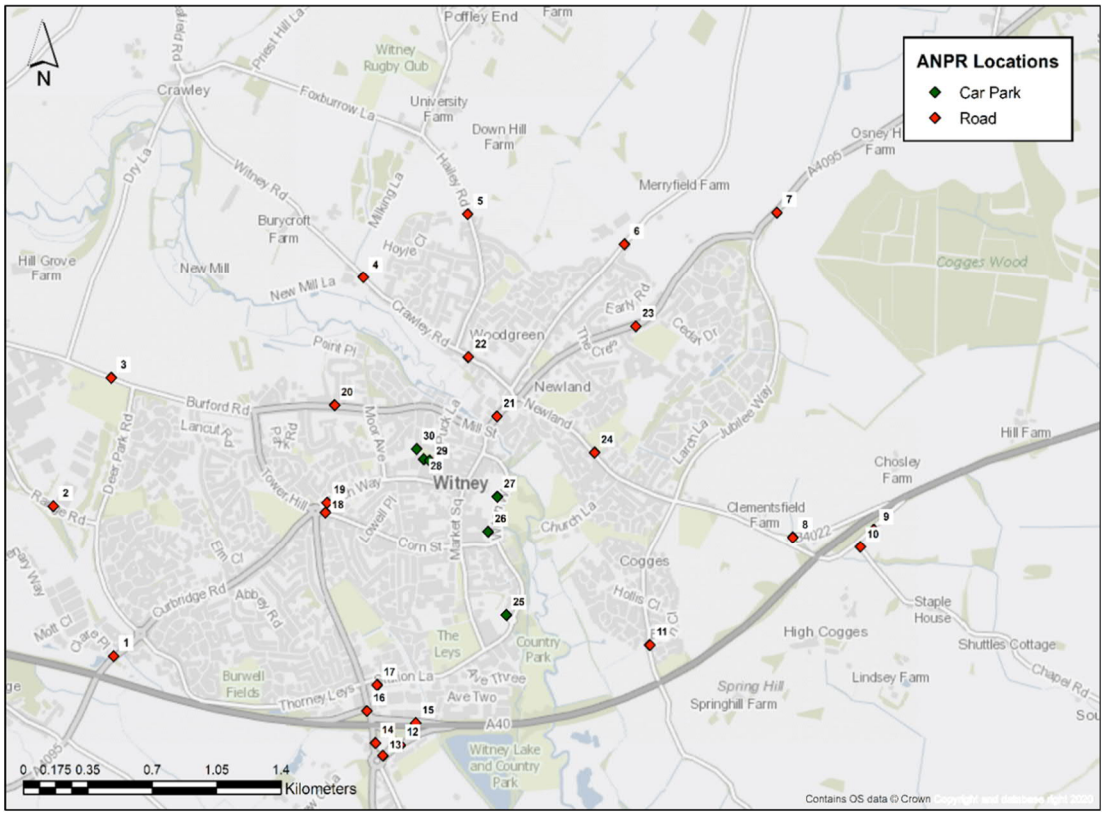
ANPR Survey (2018)

2.5.7 In addition to the transport modelling, an ANPR survey was undertaken in May 2018. Twenty-two road sites had an ANPR camera, six of which are of interest. Figure 22 shows the ANPR locations:

- To inform the analysis, Sites 1, 2 and 3 (Curbridge Road, Burford Road and Range Road respectively) were identified as destinations. Sites 14 and 16 (Ducklington Lane and A40 Eastbound off-slip) were identified as origins, and Site 21 (Bridge Street) was identified as a through site.

2.5.8 It is important to note that this ANPR survey was undertaken prior to the opening of the new A40 Roundabout at Downs Road. This means that routing through the town does not include the option of using the new junction. The survey is also only a sample; not all sites were operational for the whole survey period; and the results can only be used to infer possible routing, and may exclude brief stopovers between camera sites that might influence routing.

[12] Connecting Oxfordshire LTP4 – Witney Area Strategy

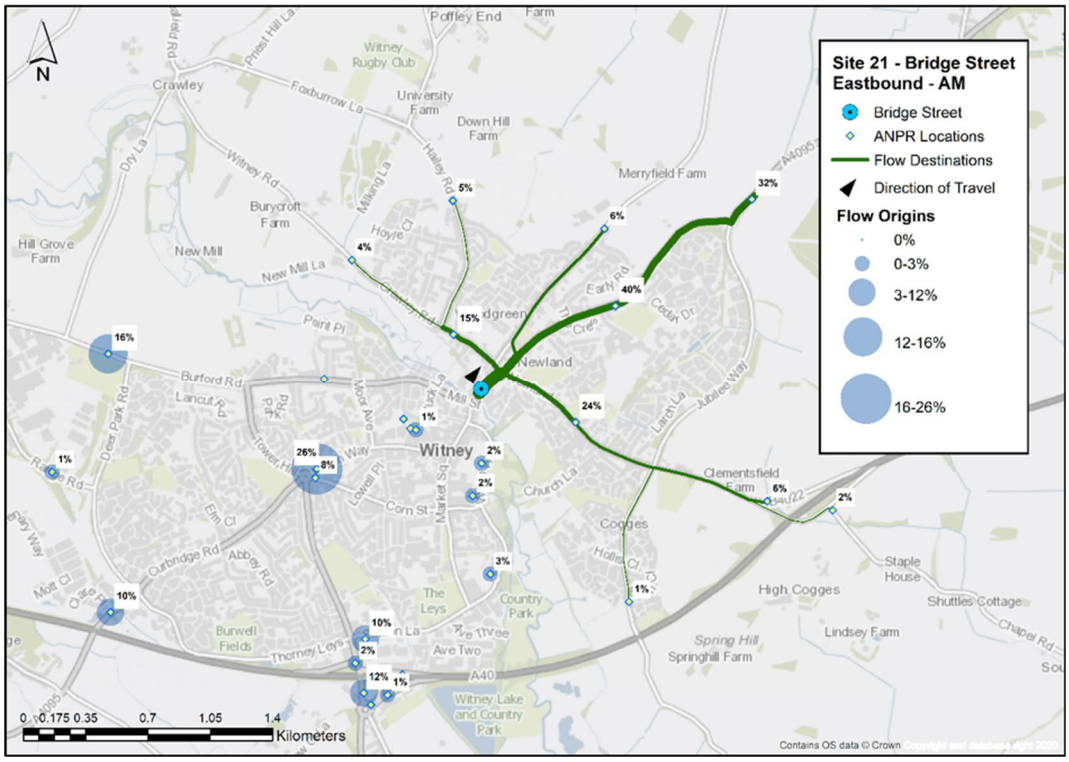


Source: AECOM Analysis. Contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 22 ANPR Locations

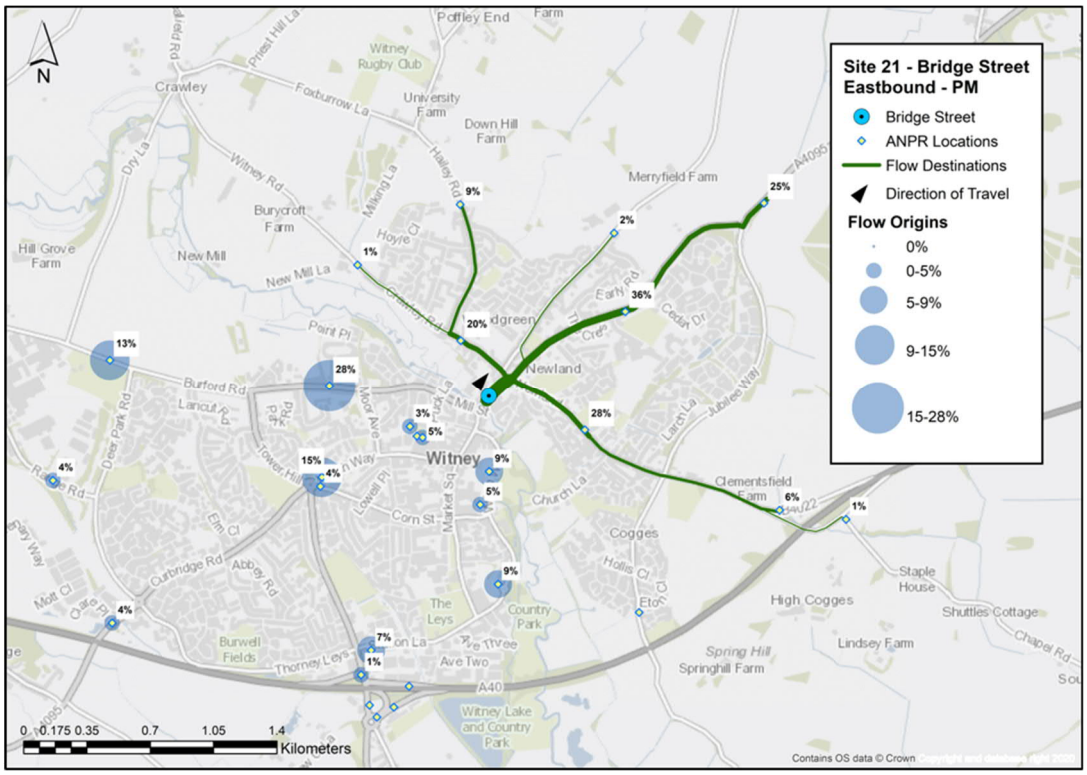
2.5.9 Of particular interest are the results of the ANPR at Bridge Street, as this is a key bottleneck in Witney. As shown in Figure 23, at Bridge Street (Site 21) in the AM peak (8:00 – 9:00), 16%, 10% and 12% of vehicles travelling eastbound across Bridge Street originated at Burford Road, Curbridge Road and Ducklington Lane (south of A40) respectively. 32% of eastbound vehicles across Bridge Street were detected at Site 7, a location on the A4095 in north-east Witney. In the PM peak (16:30-17:30; Figure 24), 25% of eastbound vehicles were detected at Site 7, north-east Witney.

2.5.10 Figure 25 shows that in the AM peak, 27% of westbound vehicles across Bridge Street were detected at Site 7, north-east Witney. As shown in Figure 26, in the PM peak, 41% of westbound vehicles across Bridge Street were first detected at Site 7, north-east Witney. 16% of vehicles of travelling westbound across Bridge Street were detected at Burford Road. The ANPR analysis indicates that Bridge Street is a key link within Witney for 'through trips' to/ from east and north-east Witney (Site 7).



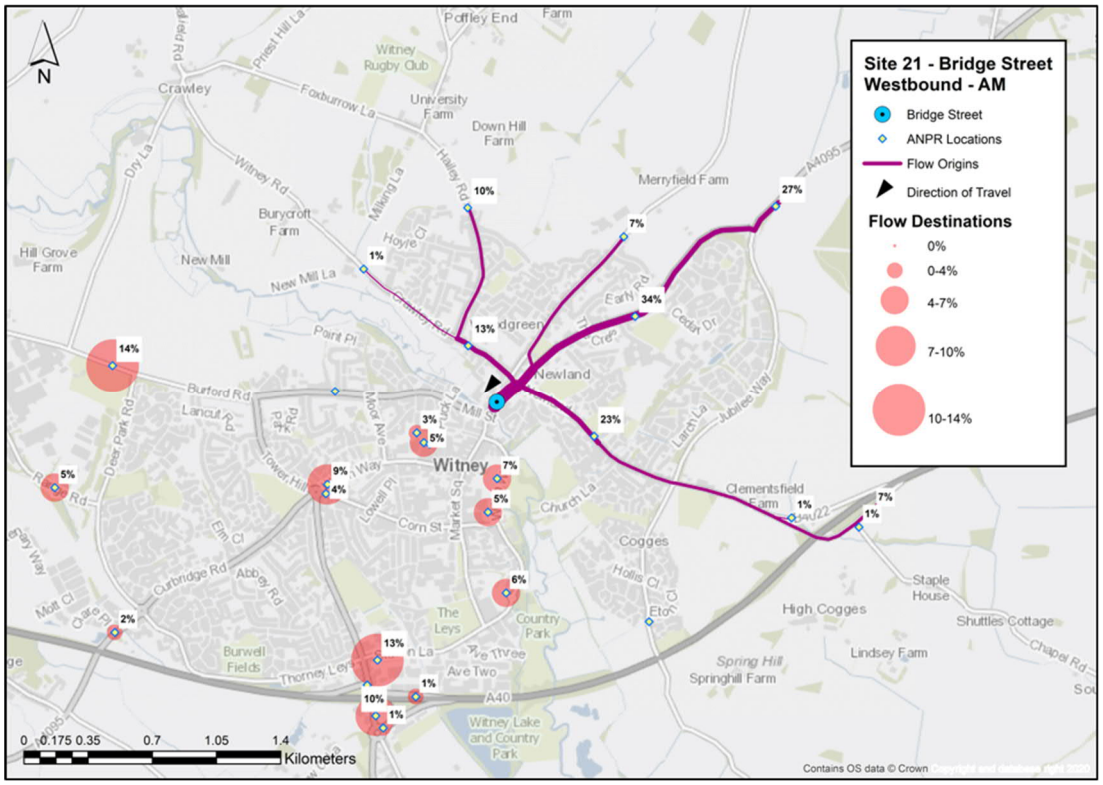
Source: AECOM Analysis, 2020 - contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 23 ANPR Results Bridge Street Eastbound – AM



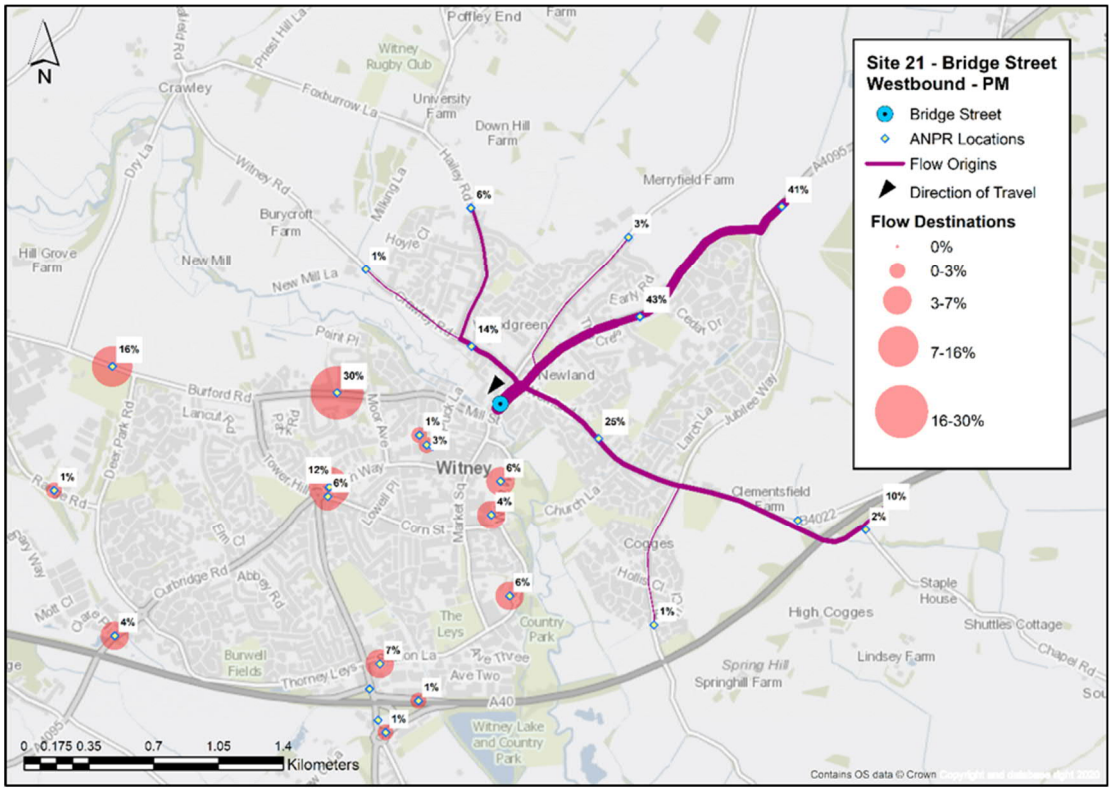
Source: AECOM Analysis. Contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 24 ANPR Results Bridge Street Eastbound - PM



Source: AECOM Analysis. Contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 25 ANPR Results Bridge Street Westbound – AM



Source: AECOM Analysis. Contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 26 ANPR Results Bridge Street Westbound - PM

2.6 Future Traffic Congestion Issues

2.6.1 Figure 27 and Figure 28 show the forecast (2031) traffic volumes over hypothetical maximum highways capacity (VoC)[13] ratios in Witney. Traffic flows tend to show increased congestion and poorer reliability above 85% VoC, and flows break down further with extensive queuing as VoC approaches 100% (over 100% VoC implies significant blocking back and extensive delays).

2.6.2 The main areas of congestion in the peak period are the links around the Bridge Street area, B4022/A4095 junction and on both sides of the River Windrush. High levels of congestion can also lead to social and economic costs to the local area as a result of increased journey times and increased driver frustration, poor journey time reliability as well as air quality and noise impacts. The area is covered by an AQMA and based on these forecasts would be expected to continue to have air quality issues notwithstanding the transition to cleaner vehicles with improved emissions over the medium to longer term.

Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and also contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 27. 2031 modelled VoC - AM peak

[13] Traffic volumes compared to highways capacity (VoC), 2031. Links over 85% (when flows tend to break down and congestion levels and queues increase) highlighted in red.

Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and also contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 28. 2031 modelled VoC - PM peak

2.6.3 Two future scenarios were modelled using the OSM, as part of the Witney Transport Strategy 2017, to identify potential future challenges, including the 2031 "Do Minimum" (including only newly built and known committed developments), and 2031 "Preferred Development", including a level of proposed development above the "Do Minimum" but consistent with the Local Plan. Subsequent work is included in the Witney Highways Model: Future Year Forecasting Report (2018).

2.6.4 Under the "Do Minimum" scenario, only a low level of growth (c. 1000 residential units) and limited highway interventions would be implemented. The major issues identified under this scenario were the increasing levels of congestion in the centre of the town, particularly along Bridge Street and minor capacity issues on the A40 associated with the new at-grade A40/Downs Road roundabout.

2.6.5 The "Preferred Development" scenario included over three times more development (3,600 residential units) and a number of additional highway schemes to facilitate this development:

- *West facing slips to provide an all-movements junction on the A40 at Shores Green;*
- *North Witney Distributor Road, inclusive of improvements at Jubilee Way roundabout; and*
- *West End Link (WEL2) providing a second crossing of the River Windrush, to the north east of Bridge Street.*

2.6.6 In this scenario the west facing slips and WEL2 provided some level of improvement in traffic conditions along Bridge Street, by providing alternative routes for cross-town traffic. However, the Witney Area Transport Strategy identified the need for further measures to deter traffic from Bridge Street, to fully maximise the new highway infrastructure in this scenario.

2.6.7 These two future scenarios highlight the need for a package of measures to both support growth and alleviate congestion in the town centre.

2.6.8 Strategic traffic modelling results were available from the OSM, assessing both a business as usual (Do Minimum) scenario and different options to address congestion and current routing through the town centre. These options were tested in the Witney Highways Model (see Figure 17 in section 2.4)[14], to develop and assess alternatives to the Cogges Link scheme (which was rejected by the Planning Inspector in 2012 with a recommendation to look at slip roads on the A40 at Shores Green instead) and to assess the impact of local plan development, the Shores Green slip roads (SGSR) and the West End Link (WEL2) over the River Windrush.

Witney Highways Model, Future Year Forecasting Report (2018)

2.6.9 Following on from the 'Witney Transport Strategy: Bridge Street Option Generation Study', four future scenarios were modelled in the Witney Highways Model 2018[15] to determine their impact on the Witney highways network with the aim of reducing congestion in the town. The study area was centred on Witney, including the A40 and all significant local roads (also discussed in section 4.2). Four forecast scenarios were modelled (forecast year 2031) covering the full 2031 Local Plan growth in which SGSR and WEL2 schemes were tested:

- Scenario 1: Forecast Year (2031): Full 2031 Local Plan growth: With 'East facing Shores Green Slip Roads' (SGSR) on the A40 (labelled "1" in Figure 29).
- Scenario 2: Forecast Year (2031): Full 2031 Local Plan growth: With SGSR and West End Link (WEL2) bridge over the river Windrush (labelled "2"; in Figure 29).
- Scenario 3: Forecast Year (2031): Full 2031 Local Plan growth: With SGSR and WEL2 plus Bridge Street closed to private transport (cycle and public transport access still permitted); and
- Scenario 4: Forecast Year (2031) Scenario 1: Full 2031 Local Plan growth: With SGSR with WEL2 and Bridge Street/West End Partial Gyratory system.

2.6.10 The results of the modelling are as follows:

- Scenario 1: the inclusion of the SGSR causes rerouting of traffic on to the A40 which drives traffic away from Bridge Street and Witney Town Centre. Even though traffic is rerouted from Bridge Street, it still exceeds a traffic volume over capacity (V/C) ratio of over 85% (traffic flows tend to start breaking down at this level and become more stop-start in nature). The flows reduce to 1,122 vehicles westbound and 1,224 vehicles eastbound in the AM peak and 1,046 vehicles in the AM peak and 1,164 vehicles in the PM peak.
- Scenario 2: WEL2 attracts further traffic from Bridge Street providing motorists with an alternative. The results indicate that the westbound direction of Bridge Street is still overcapacity in the AM peak whereas the double mini-roundabouts heading into Bridge Street from the North are congested. The flows include 641 vehicles westbound and 967 vehicles

[14] Witney Highways Model – Future Year Forecasting Report, 2018, OCC
[15] WYG (2018) 'Witney Highways Model, Future Year Forecasting Report'

eastbound in the AM peak and 793 vehicles westbound and 835 eastbound in the PM peak.

- Scenario 3: this provides the best results in mitigating congestion on Bridge Street by converting it for the use of Public Transport and cyclists only. However, traffic re-routes towards WEL2 which causes it to go overcapacity in the PM peak.
- Scenario 4: this results in the distribution of traffic on both Bridge Street and WEL2 as they form the gyratory. Bridge Street is overcapacity in the westbound direction in both the AM and PM peaks whereas WEL2 is overcapacity in the eastbound direction. The westbound flow is 1041 vehicles in the AM and 963 vehicles in the PM peak on Bridge Street.

2.6.11 Appendix B shows VoC plots for all four scenarios. Appendix B also shows the future modelled AM and PM traffic flow difference plots (*2031; without SGSR and with A40 Improvement Schemes*).

2.6.12 Overall, the following observations were noted in the Witney Highways Model, Future Year Forecasting Report on the modelling results:

- Bridge Street is currently overcapacity, with traffic conditions significantly worse in the 2031 (Do Minimum scenario; based on forecast traffic growth).
- Option testing was carried out in the OSM, with west facing slips added at Shores Green. The addition of the slips decreases the traffic at Bridge Street as traffic reroutes via the westbound on-slip. The results of the 2031 scenario demonstrate that traffic using the A40 travelling westbound is predominantly local traffic. Approximately half of the rerouted vehicles are forecast to access the commercial and industrial areas located to the north east of the A40/A415 junction and the remainder to access the industrial area in north west Witney thorough the newly delivered A40/ Downs Road roundabout.
- A second option providing a bypass to traffic at Bridge Street was also tested, called the West End Link Road (WEL2). The results of the 2031 scenario demonstrate improvements in traffic flow conditions at Bridge Street against the Do Minimum scenario.
- The model predicts that the volume of traffic travelling westbound on the A40 outside Witney (west of its junction with Downs Road) will remain the same with or without the slip roads.

Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 29. Witney Highways Model – highway improvement schemes

A40 Corridor Highway Model: Improving Access to Witney (Shores Green) – Future Year Forecasting Report (2020)

2.6.13 OCC undertook a modelling exercise using the A40 Corridor Highway Model (cordoned from the OSM) where four scenarios were run[16], in effect two Do Minimum scenarios (i.e. excluding any junction improvement scheme on the A40 in Witney) and two 'with scheme' Do Something scenarios (i.e. including west facing slip roads on the A40 at Shores Green):

- Scenario C0: includes all committed schemes with the exception of the wider A40 corridor improvements
- Scenario C1: represents the 'with scheme' scenario and is based on C0 but includes the Witney Shores junction improvement (the west-facing slip roads at Shores Green (A40/B4022), change in the road layout at the A40/B4022 junction and signal timings update at the Oxford Hill/Jubilee Way junction)
- Scenario E0: contains all committed schemes and includes the wider A40 corridor improvements[17]
- Scenario E1: represents the 'with scheme' scenario and is based on E0 but includes the Witney Shores junction improvement (the west-facing slip roads at Shores Green (A40/B4022), change in the road layout at the A40/B4022 junction and signal timings update at the Oxford Hill/Jubilee Way junction)

2.6.14 The results of the modelling for the C0 and C1 scenarios showed that as a result of introducing the slip roads, traffic reroutes to use the A4095 and B4022 to join the A40 at Shores Green, rather than joining the A40 further west. A noticeable flow of traffic uses the slip roads to access the A40 for a short distance to the A415 and

[16] Further information can be found in "A40 Corridor Highway Model: Improving Access to Witney (Shores Green) – Future Year Forecasting Report" (2020).
[17] These improvements have secured both Local Growth Fund (LGF) and Housing Infrastructure Fund (HIF) allocations from Government. These are subject to final optioneering and design. See section 2.8 for further details.

further on to settlements to the south. No traffic was forecast to use the slip roads to access South Leigh or nearby settlements.

- Further to this, traffic volumes in Witney town centre fall as traffic no longer needs to travel through Witney to reach the A40 and A415. Table 4-4 shows the flows along Bridge Street in the with and without scheme scenarios. The reduction of two-way traffic on Bridge Street is sufficient to reduce the level of queuing and delay in the vicinity.
- Traffic volumes were also reduced on the new development-related roads to the north of Witney, as again traffic no longer needs to use these roads to avoid the congested town centre. This could explain why the reduction in traffic on Bridge Street is not as large as potentially expected, as the removal of through traffic allows more local traffic to use this route rather than finding a longer route to its destination.
- The increase in traffic using the new slip roads at Shores Green leads to an increase in journey times along the B4022. In turn this results in some vehicles from the east which previously used the Shores Green junction to access Witney, to use the A415 to access Witney.
- For traffic travelling between the A40 Witney bypass and locations to the north east of Witney, such as Long Hanborough, both the A40 and the A4095 can be used. With the slip roads in place traffic tends to use the A4095 to access the A40 via Jubilee Way. Without the slip roads in place traffic tends to use the A40 further to the east, decreasing traffic on the A4095.

Table 4-4 Bridge Street Demand Flows (2031), without other A40 projects

Time-Period/ Location	*C0 (without scheme)*	*C1 (with scheme)*	*C1 – C0 change*	*C1 – C0 % change*
AM – Eastbound	*1,157*	*1,093*	*-64*	*-6%*
AM – Westbound	*1,209*	*1,099*	*-110*	*-9%*
IP – Eastbound	*1,119*	*1,010*	*-109*	*-10%*
IP – Westbound	*1,115*	*969*	*-146*	*-13%*
PM – Eastbound	*1,250*	*1,166*	*-84*	*-7%*
PM – Westbound	*1,255*	*1,040*	*-215*	*-17%*

Source: A40 Corridor Highway Model: Improving Access to Witney (Shores Green) – Future Year Forecasting Report, 2020, Pell Frischmann

2.6.15 For the E0 and E1 scenarios, the model results show an increase in traffic flows along the A4095 and B4047 between Witney and the destinations to the east and west. Similar to Scenario C1, traffic makes use of the A40 to travel between Shores Green and the A415. Table 4-5 shows the flows along Bridge Street in the with and without scheme scenarios

- The reduction in two-way traffic on Bridge Street is sufficient to reduce the level of queuing and delay in the vicinity.

- Providing the slip roads results in a reduction in traffic volumes entering Witney from the west along Burford road, with more traffic entering Witney along the A40 at both the Shores Green and A415 junctions.
- In scenario E0, the Barnard Gate roundabout allows traffic to use the existing east-facing slip roads and U-turn at the Barnard Gate roundabout to access the A40 west. In scenario E1, the provision of the Shores Green slip roads removes the need for the U-turn and therefore traffic can use the shorter, more direct route along the A40, improving traffic conditions in the area.
- Although the impact of the slip roads is less noticeable in these scenarios compared to C0/C1, the changes in vehicle routing result in a reduction in traffic travelling through the Witney urban area with the slip roads in place.

Table 4-5 Bridge Street Demand Flows (2031), with other A40 projects

Time-Period/ Location	*E0 (without scheme)*	*E1 (with scheme)*	*E1 – E0 change*	*E1 – E0 % change*
AM – Eastbound	*1,110*	*1,087*	*-23*	*-2%*
AM – Westbound	*1,146*	*1,101*	*-45*	*-4%*
IP – Eastbound	*1,076*	*981*	*-95*	*-9%*
IP – Westbound	*1,079*	*962*	*-117*	*-11%*
PM – Eastbound	*1,152*	*1,167*	*+15*	*1%*
PM – Westbound	*1,218*	*1,041*	*-177*	*-15%*

Source: A40 Corridor Highway Model: Improving Access to Witney (Shores Green) – Future Year Forecasting Report, 2020, Pell Frischmann

2.7 Cycle Network Improvements

2.7.1 In Witney currently a mixture of shared-use paths and limited on-carriageway cycle lanes exist (see Figure 7 earlier in this chapter). However, these do not currently combine to form a comprehensive safe cycling network. There is a need to improve existing facilities and provide a connected, cohesive network to encourage and support many more cycle trips for shorter journeys. There is also lack of safe, well connected cycling routes between Witney and the nearby surrounding settlements including Minster Lovell, Curbridge, Ducklington, South Leigh, North Leigh and Hanborough.

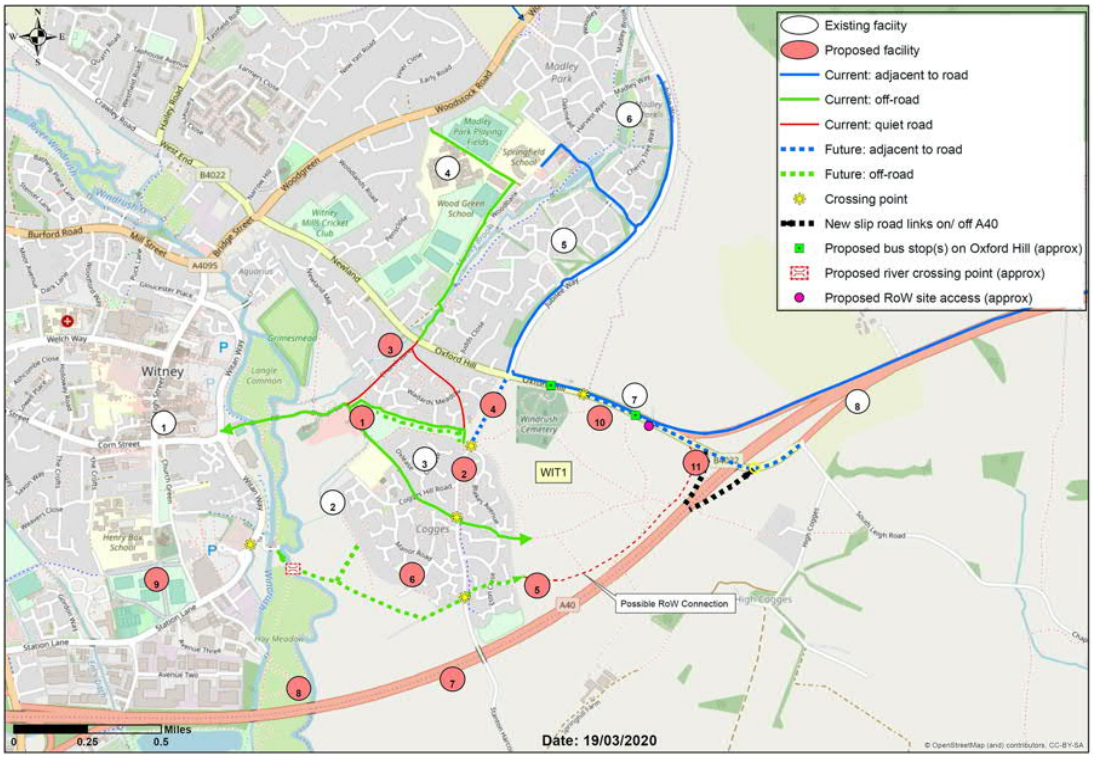
2.7.2 OCC has recognised the importance of delivering an integrated programme of cycle network improvements in Witney to enable a major shift towards active travel that will assist in easing traffic congestion issues in Witney, improve physical activity (health benefits) and avoid a further deterioration of the environment and urban realm[18]. These improvements will help in supporting the proposed new housing development sites in East and North Witney and encouraging a significant proportion of the trips generated to be undertaken by cycle.

2.7.3 As the first phase of the programme of cycle network improvements, OCC has identified a number of key cycle network improvements required in East and North

[18] TAG unit A5-1 active mode appraisal. https://www.gov.uk/government/publications/webtag-tag-unit-a5-1-active-mode-appraisal-may-2018

Witney. These include improving links across the A40 to/from South Leigh in the Shores Green area and also to ensure good connectivity into the A40 shared pedestrian and cycle path that runs along the north side of the A40 between Witney and Eynsham (which will be upgraded as part of the wider A40 corridor improvements).

2.7.4 The East Witney Cycle Network Delivery Plan is being prepared by OCC. This will identify a series of priority interventions to improve walking and cycling in East Witney. Figure 30 shows the identified interventions as part of the East Witney Cycle Network Delivery Plan to help deliver the proposed new housing development sites, such as a proposed direct connection between East Witney Strategic Development Area (SDA) and the town centre and a second river crossing connecting the SDA to Farm Mill Lane across Witan Way and on towards Church Green (see Point 8 in Figure 30; this will allow current and future residents to link directly into central Witney and the industrial and commercial area off Station Road).



Source: Identification of Selected Cycling Infrastructure Enhancements in East Witney Draft Report, 2020, Oxfordshire CC - © Crown copyright and database right 2020.

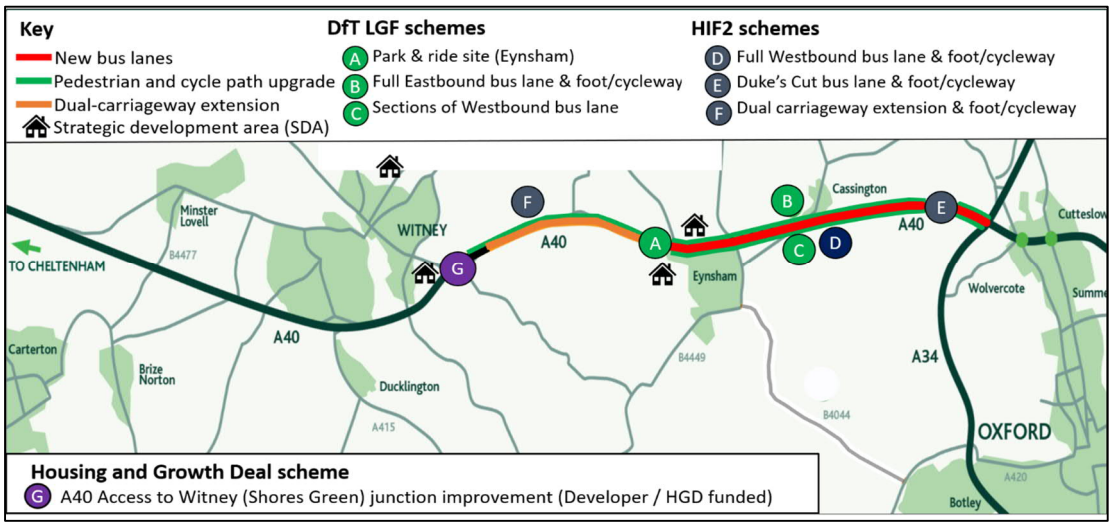
Figure 30. Priority network improvements – active travel

2.8 Future A40 Corridor Improvements Schemes (Witney to Oxford)

2.8.1 A40 Corridor Improvement Programme: Oxfordshire County Council is currently developing proposals for a range of schemes to improve the A40 road corridor between Witney and Oxford (see Figure 31 and Figure 32), all of which seek to encourage greater use of public transport and cycling for trips between West Oxfordshire and Oxford.

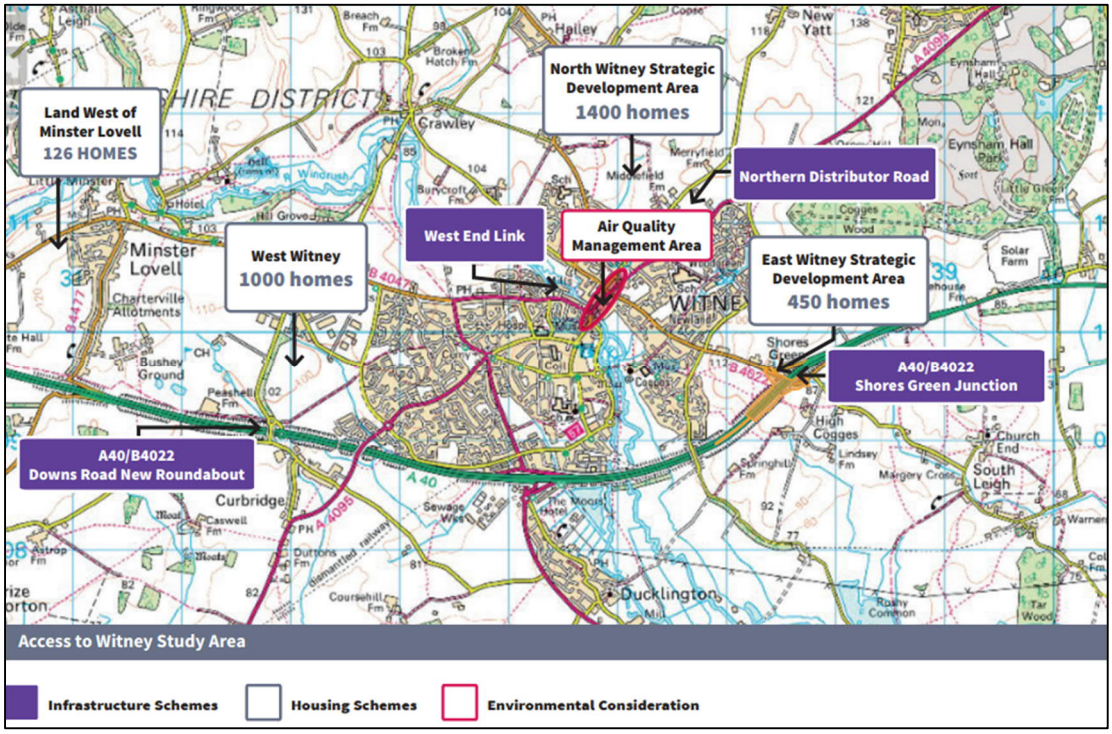
2.8.2 The A40 Strategy (2016), developed with an aim to increase transport capacity and reduce traffic delay, currently proposes delivery in two phases (Figure 31):

- A40 Science Transit 2 (A40ST2) scheme: this scheme is to be funded from the Department for Transport's (DfT) Local Growth Fund (LGF) (£35m) and to deliver the following by March 2021:
  - A40 Park & Ride (Eynsham): A new park & ride site for 800 cars to the north of the A40, located to the west of the A40/Cuckoo Lane junction at Eynsham. Planning consent is currently being sought for this scheme.
  - A40 Eastbound Bus Lane (Park & Ride to Duke's Cut): An eastbound bus lane and shared pedestrian / cycle path improvements along the A40 from the proposed new park & ride to Duke's Cut bridges west of the A34 viaduct. This scheme will improve eastbound bus journey times and reliability along the A40 and enable a significant increase in bus service frequency. Planning consent is also currently being sought for this scheme.
  - Short sections of westbound bus lane from the park & ride to Duke's Cut.
- A40 Smart Corridor scheme: this is planned to be implemented alongside or after the construction of A40ST2. It also seeks to modify and improve the A40ST2 scheme with additional funds. The scheme, which secured £102m from the MHCLG's Housing Infrastructure Fund (HIF), has three elements:
  - A40 dual carriageway between Witney and Eynsham: Widening of the existing single carriageway to dual carriageway along the A40 from just east of Witney to Eynsham. It will include an improved shared pedestrian and cycle path along the northern side of the A40 along this section. This scheme will increase highway capacity and reduce delays for all modes of transport including improving bus journey times and reliability along the A40 between Witney and the proposed Eynsham Park & Ride.
  - A40 westbound bus priority lane: A westbound bus lane and shared pedestrian / cycle path improvements along the A40 from west of the Duke's Cut bridges to the proposed new park & ride. This scheme will improve westbound bus journey times and reliability and enable a significant increase in bus service frequency. It modifies and enhances the A40ST2 scheme.
  - A40 capacity and connectivity improvements at Duke's Cut canal and railway bridges. Capacity and connectivity improvements over the four structures at Duke's Cut (Earls Culvert, Duke's Cut Canal Bridge, Wolvercote Canal Bridge and Wolvercote Railway Bridge) to facilitate the extension of an eastbound bus lane over the bridges. It also includes cycling infrastructure, to provide cyclists with safe and easy access to the National Cycle Network (NCN Route 5) from the A40 Eynsham-Oxford cycleway, providing a direct, off-road cycle route between Oxford city centre and Witney.



Source: Adapted from A40ST2; Oxfordshire CC - © Crown copyright and database right 2020

Figure 31. A40 Corridor Schemes



Source: Access to Witney Public Consultation, 2021

Figure 32. Witney Schemes

2.8.3 These transport infrastructure schemes and associated bus service improvements will enable faster and more frequent bus services between Witney and Oxford, including services to/from the new Eynsham Park & Ride Interchange on the A40. The bus service will provide improved connectivity to Oxford North, Oxford City entre and employment centres and healthcare facilities (including the John Radcliff Hospital) in east Oxford.

2.8.4 Bus service (S1, S2 and S7) frequencies along the A40 corridor will increase from eight buses per hour to 14 buses per hour in 2024 and to 18 buses per hour in 2031,

with each service stopping at the park & ride. Service frequencies from Witney will increase as part of these service enhancements encouraging more trips by public transport between Witney and Oxford. Bus services S1, S2 and S7 all pass through and have bus stops in the A40 / Shores Green area. Minimising delays for buses travelling through this area will be important, as will the provision of high quality bus stop infrastructure with good passenger waiting facilities to help encourage, sustain and increase demand for PT.

2.8.5 It is therefore important that the scheme options being considered and developed in Witney are seen within the context of these wider A40 corridor improvements.

2.9 Identifying the Need for an Intervention

2.9.1 As set out above, the analysis to date has demonstrated current and forecast problems, including congestion and air quality issues, and a high-level assessment of whether potential interventions could help address these. These include potential cycle schemes to address gaps and issues in the current cycle network, and Local Growth Fund and Housing Infrastructure Fund schemes in the A40 corridor between Witney and Oxford with a focus on providing a step change in public transport provision.

2.9.2 Nevertheless, there remain significant challenges in addressing current and forecast highways congestion in Witney, which affects both private and public transport modes, as well as providing infrastructure to enable delivery of additional homes in the area.

2.9.3 Witney's setting, with natural, historical and built assets, make it an attractive location to live and work, but these also act as potential constraints in how the town can grow and cater to the area's housing and employment needs. Thus, intervention is needed to:

- Reduce traffic congestion and improve air quality in Witney town centre: there is a recognised issue with traffic congestion and concomitant issues with air quality in Witney, in particular in the centre as there is only one central vehicular link over the River Windrush and the town centre is forecast to remain heavily congested. There have been a number of proposals to address current traffic and environmental issues and to facilitate delivery of new homes to help meet Local Plan targets and also address or avoid exacerbating congestion and air quality issues.
- Support delivery of Local Plan growth: there is demand for new housing in Witney, much of which can only be delivered as extensions to the existing urban area and will likely increase congestion in the town centre without alternative routes, modes or travel habits. There has been significant growth in employment and new commercial and industrial estates, in particular on the western fringes of the town. Land to the west of the town (north Curbridge) is already committed, incorporating 1,000 homes and 10 hectares of new business land but the Local Plan notes it is possible that an increase in the number of homes to about 1,100 could be achieved as detailed planning applications are dealt with. The remaining strategic options considered

through the Local Plan process are to the south, east, north-east, north and further west of Witney.

- Improve access to the A40 from East and North Witney: With housing being developed in the east, this will increase the demand for east-west movements through the town and to access the commercial areas in the south and west. The current links to the A40 in east Witney (Shores Green) only provide east facing slip roads (to/ from Oxford), and as such both private and PT modes only have one realistic option for east-west movements (Bridge Street).

2.9.4 In previous work these issues led to the development of the Cogges Link Road scheme, but this was rejected by the Planning Inspector on the grounds it had not been demonstrated to be a better option than another alternative (Shores Green Slip Roads). The Inspector's Report was however also clear that "*Transport proposals now need to identify the quantum of travel movement that will occur, before the correct solutions for providing for such movement can be ascertained. This must be a 'first principles' exercise. That is, to look at total travel demand by all modes, and then provide policies and infrastructure to minimise travel demand and maximise travel by non-car modes before identifying any highway scheme*" and to investigate the options for managing demand. This statement may carry some weight in the development of any future scheme(s) and implies there may need to be a packaged approach to addressing the identified challenges in Witney and to deliver the Local Plan.

2.9.5 The Local Plan has identified a number of 'strategic' and 'non-strategic' schemes needed to support its delivery, partly based on the modelling work and issues described above. In addition to the improvements to the Ducklington Lane junction which have already been completed, the following strategic highway schemes were identified as being necessary to support the quantum and distribution of planned housing and employment growth at Witney:

- Downs Road junction: the provision of a new 'all movements' junction onto the A40 at Downs Road to the west of Witney. This was delivered in 2019 as part of the committed urban extension to the west of Witney (north Curbridge).
- Shores Green Slip Roads: the provision of west facing slip roads at the Shores Green junction onto the A40 to the east of Witney. Delivery will be facilitated by the proposed East Witney Strategic Development Area (SDA) and will be accompanied by proposed improvements to Bridge Street.
- West End Link: the provision of a new road link between Woodford Way and West End creating a second river crossing for Witney. Delivery will be facilitated by the proposed North Witney Strategic Development Area (SDA).
- Northern Distributor Road: the provision of a new road link between Hailey Road and Woodstock Road via New Yatt Road. This will be delivered as part of the proposed North Witney Strategic Development Area (SDA).

2.9.6 LTP4 envisages that these schemes will come forward sequentially with the Ducklington Lane improvements happening first followed by the A40/Downs Road

junction (now completed) followed by the Shores Green Slip Road scheme and associated improvements at Bridge Street.

2.9.7 Whilst not specified in LTP4, the inference is that the West End Link and Northern Distributor Road would follow on from these other strategic highway improvements. Whilst these schemes cannot be expected to eliminate traffic congestion in Witney, the assessments to date suggest they would help mitigate the impacts of the proposed developments. As a combined package of measures, they would have a number of wider benefits that may justify them being safeguarded and taken forward through the Local Plan and to delivery.

2.9.8 The A40/Downs Road junction has a number of benefits not least the fact that the large number of businesses located on the western side of Witney can now access the A40 directly instead of using Deer Park Road and Thorney Leys. New residents of the committed urban extension to the west of Witney would also be able to access the town centre via the A40.

2.9.9 The Shores Green Slip Roads scheme would allow those living in the east and north east areas of Witney to access the town centre and south and west Witney from the south by using the A40 instead of travelling along Oxford Hill and Bridge Street. Similarly, a proportion of drivers wishing to access the A4095 will be able to do so via Jubilee Way rather than via Bridge Street and Woodstock Road.

2.9.10 The West End Link and northern distributor road would enable the proposed development of land to the north of Witney. Without these measures in place the development would be likely to have a large negative transport impact. The transport modelling also suggests these new links will have a number of wider benefits to Witney.

2.9.11 Additionally, a number of potential 'non-strategic' improvements are also likely to be needed in and around the central area of Witney to help facilitate the movement of vehicles including buses through the town. The Council's IDP identifies a number of potential improvements.

2.9.12 As such, the analysis of challenges to date has demonstrated the need for interventions to address them. This review has taken a neutral approach to these proposals. Instead, the next chapter sets out scheme objectives that have been created on the basis of the identified challenges and existing policy documents. This was then used to develop a long list of options to address these challenges, taking a modally agnostic approach, irrespective of previously identified or 'preferred' options.

3 Policy Context and Objectives

3.1 Introduction

3.1.1 The review of current and forecast conditions has informed the development of the objectives to address the identified challenges. A review of relevant national, regional and local policies was undertaken to ensure the objectives align with broad policy goals and to confirm whether existing policies and programmes are in favour of interventions in these circumstances, and their type and scale.

3.1.2 As such, the objectives have been tailored to the need for an intervention or package of interventions for Witney, but also to maintain consistency with the policy aspirations and objectives set out in the fourth Local Transport Plan *Connecting Oxfordshire 2015 – 2031* (Oxfordshire County Council, LTP4) and the *West Oxfordshire Local Plan 2031* (West Oxfordshire District Council, 2018).

3.2 Policy Context

National Policy

3.2.1 At a national level, Government policy endeavours to balance the need to deliver economic growth for a growing population, increased housing demand and increasingly congested transport networks with a longer term vision of a sustainable and carbon neutral economy, making better use of available capacity and technology. These are reflected in the National Planning Policy Framework (NPPF), the Industrial Strategy, the Housing White Paper and the Transport Investment Strategy (TIS). More recently there has been a heavy focus on addressing air quality problems in the short term, rather than relying solely on market forces and technological improvements in reducing vehicular emissions.

3.2.2 The NPPF seeks to promote sustainable transport and this is highlighted through the key objectives of the NPPF. Some of the relevant objectives to the Access to Witney scheme include:

- Delivering a sufficient supply of homes and supporting development (NPPF Chapter 5).
- Promoting healthy and safe communities (cycle connections) (NPPF Chapter 8).
- Take into account the presence of Air Quality Management Areas and Clean Area Zones (NPPF Chapter 15).

3.2.3 The NPPF states that significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. Nevertheless, the Industrial Strategy states that the availability of high-quality infrastructure is essential for continued growth and prosperity. Its vision for a transformed economy is centred around productivity, and infrastructure is identified as one of the five foundations of this.

3.2.4 The role of transport in supporting local growth is highlighted in the TIS which states that transport investment must seek to create a better and more reliable transport network in order to build a stronger, more balanced economy, enhance productivity and respond to local growth priorities. Its objectives are:

- Create a more reliable, less congested, and better connected transport network that works for the users who rely on it.
- Build a stronger, more balanced economy by enhancing productivity and responding to local growth priorities.
- Enhance the global competitiveness by making Britain a more attractive place to trade and invest.
- Support the creation of new housing (the Government's Housing White Paper recognises transport infrastructure as one of the keys to unlocking development and delivering places where people want to live).

3.2.5 In November 2020 the Government announced that the sale of new petrol and diesel cars will be phased out by 2030, and all new cars and vans will be fully zero emission at the tailpipe from 2035. Such measures will contribute to both improving air quality and help in achieving the UK's commitments as a signatory of the Paris Agreement and delivery of the Climate Change Act (2019) commitments, including the 2050 carbon net zero target.

3.2.6 The Equality Act 2010 is a major piece of UK legislation which provides the framework to protect the rights of individuals against unlawful discrimination and to advance equal opportunities for all. Section 149 of the Equality Act sets out the Public Sector Equality Duty (PSED) to which Oxfordshire County Council (OCC) as a public body, is subject in carrying out all its functions. Those subject to the PSED must, in the exercise of their functions, have due regard to the need to:

- *Eliminate unlawful discrimination, harassment and victimisation and other conduct prohibited by the Act;*
- *Advance equality of opportunity between people who share a protected characteristic and those who do not; and*
- *Foster good relations between people who share a protected characteristic and those who do not.*

3.2.7 The Act describes fostering good relations as tackling prejudice and promoting understanding between people from different groups. It states that compliance with the duty may involve treating some people more favourably than others.

3.2.8 The duty covers the following nine protected characteristics: age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation.

Oxfordshire Local Enterprise Partnership (OxLEP)

3.2.9 OxLEP's Strategic Economic Plan (SEP) for Oxfordshire (2016) set out a vision for Oxfordshire to be a vibrant, sustainable, inclusive, world leading economy, driven by innovation, enterprise and research excellence. Whilst being strong in many areas,

including innovation, enterprise and research, the SEP also referred to challenges around the lack of affordable housing, increasing congestion, sustainability and inclusion, and the need for greater resilience.

3.2.10 The SEP set out four wide-ranging priorities around People, Place, Enterprise, and Connectivity to help achieve its vision. Regarding Connectivity it noted the need to enable people, goods and services to move more freely; and around Place it noted the need to ensure a strong link between jobs and housing growth.

3.2.11 The SEP was clear that the overall priority for Oxfordshire's places is to plan simultaneously for both jobs and housing growth, putting in place the infrastructure required for both, whilst also protecting and where possible enhancing environmental quality and social inclusion. These priorities are consistent with Government policy and the objectives set out in the TIS but adapted to suit Oxfordshire's own socio-economic and environmental challenges.

3.2.12 In terms of connectivity, the SEP set out key actions, a number of which are relevant to Witney, in particular:

- Support for the implementation of the Oxfordshire Local Transport Plan 2015-31 to address congestion and to identify ways to avoid exacerbating existing problems due to growth.
- Ensure, through the planning process, that connectivity improvements are linked to the scale and location of planned growth.
- Implement the Oxfordshire Active & Healthy Travel Strategy.

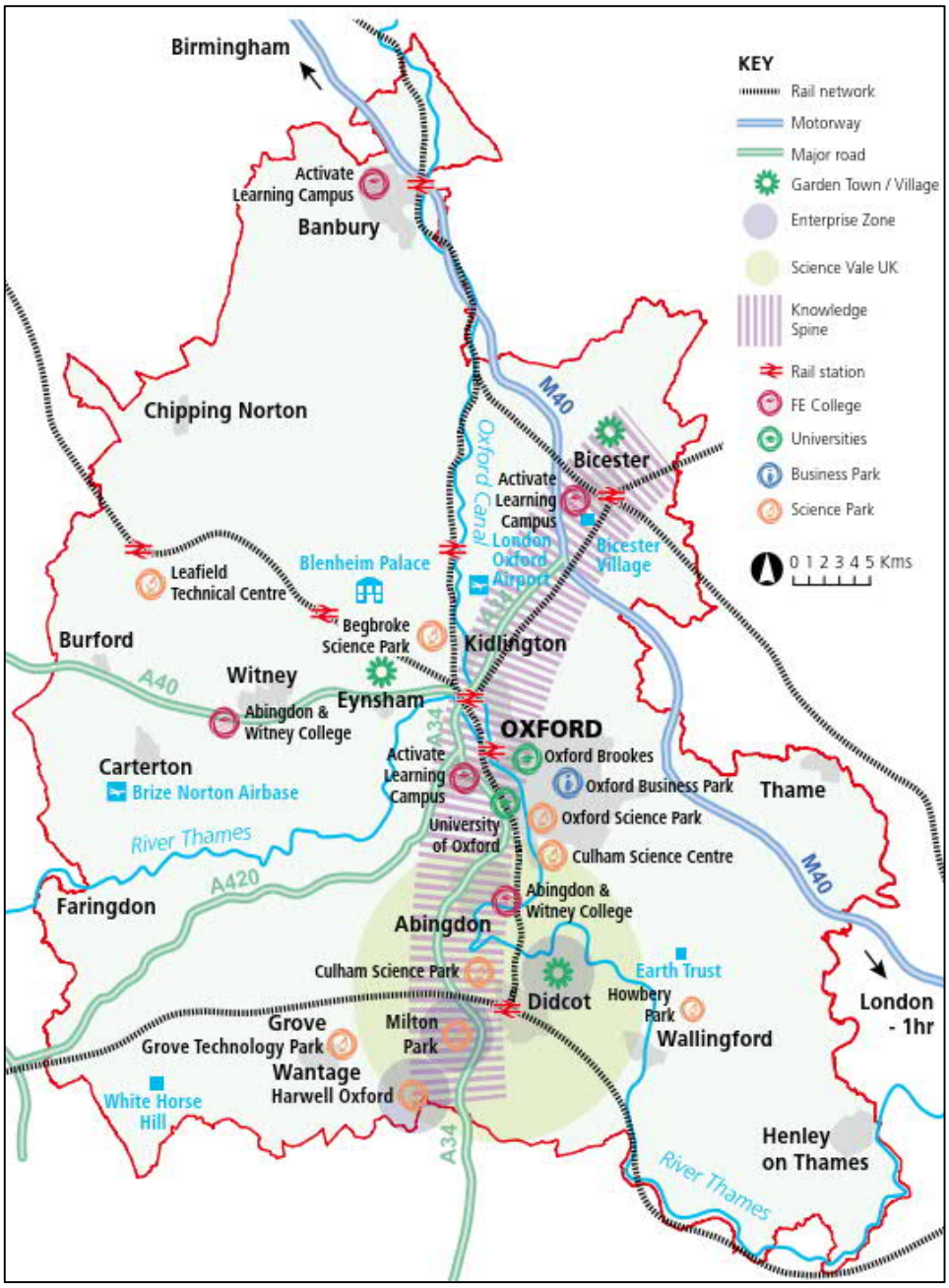
3.2.13 The Oxfordshire Infrastructure Strategy (OXIS) recognises the A40 corridor as a Growth Corridor with key strategic sites along it. The OXIS provides Oxfordshire with a common platform to deliver sustainable development for both housing and employment and identifies infrastructure requirements to 2040 to support it. It identifies the need to prioritise and develop a long-term strategy to address congestion on the A40.

3.2.14 One of these interventions is the "A40/Shores Green West Facing Slips & redesignation of the A4095", which is a previous iteration of the existing Access to Witney scheme, and indicates there would be support given to the scheme.

3.2.15 As shown in Figure 33, Witney includes one of the LEP's defined Enterprise Zones, with Abingdon & Witney Colleges having secured funding via OxLEP to develop state of the art facilities to support increased science, technology, engineering and mathematics (STEM) provision. As set out in chapter 2, Witney has seen employment growth including investment by high technology manufacturers linked to the Oxford Bioscience Cluster.

3.2.16 Both OxLEP and England's Economic Heartland refer to the planned improvements to the A40 corridor between Witney and Oxford, which will provide significant improvements to public transport as well as cycle and walk links, and improve sustainable connectivity between Witney, Oxford and the planned developments/ Garden Town at Eynsham. However, the more local improvements required in Witney

to address local accessibility issues and strategic access to the A40 are taken up in Oxfordshire's Local Transport Plan, which is supported by OxLEP.



Source:https://mycouncil.oxfordshire.gov.uk/documents/s34779/OGB_SEP2616R06%20Oxfordshire%20SEP%20Draft%20-%20Revised%20following%20public%20consultation%20-%20August%202...pdf

Figure 33. Oxfordshire's Strategic Economic Assets (OxLEP SEA)

Oxfordshire County Council: Local Transport Plan 4 (LTP4)

3.2.17 Oxfordshire County Council set out its policy and overall strategy in *Connecting Oxfordshire: Local Transport Plan 2015-2031*. With forecasts for over 85,000 new jobs and 100,000 new homes by 2031, OCC's LTP4 recognised the challenges this growth will have on the transport network, in particular the challenge in enabling people to make journeys, whilst avoiding damage to the economy caused by severe congestion, as well as protecting the environment.

3.2.18 Witney itself is not on the national rail network, with the nearest station being Hanborough on the Cotswold line. OCC supports the completion of the Cotswold Line redoubling project, including the development and expansion of Hanborough station.

3.2.19 LTP4 recognised the potential role of locally organised community transport, with Policy 13 indicating OCC will support its development to meet local accessibility needs. OCC also set out a range of policies to manage demand, promote sustainable modes and new technologies, and reduce the need to travel, including through improved internet and mobile connectivity (LTP4 Policy 18). In addition, Policy 3 supports measures and innovation that make more efficient use of transport network capacity by reducing the proportion of single occupancy car journeys and increasing journeys made by foot, bicycle or public transport. Policy 29 supports Air Quality Action Plans, giving priority to measures which also contribute to other transport objectives.

3.2.20 Within the context of Witney's current congestion issues and planned developments, Policy 17 in LTP4 is pertinent, stating that "OCC will seek to ensure through cooperation with the districts and city councils, that the location of development makes the best use of existing and planned infrastructure, provides new or improved infrastructure and reduces the need to travel and supports walking, cycling and public transport".

3.2.21 LTP4 was clear that congestion is not limited to the strategic road network, and developed area strategies for Oxford, Science Vale, Bicester, Banbury, Witney and Carterton, outlining the local transport improvements that may be required to accommodate the developments identified for those areas. For Witney the LTP4 specifically referred to west-facing slip roads at Shores Green junction on the A40, to enable the A40 to be used by people travelling from one side of Witney to the other.

3.2.22 This is consistent with Policy 2 of LTP4, recognising the need for new or enhanced roads related to new developments for example, and which states that "Oxfordshire County Council will manage and, where appropriate, develop the county's road network to reduce congestion and minimise disruption and delays, prioritising strategic routes".

Witney Area Transport Strategy

3.2.23 The Witney Area Transport Strategy was developed as part of LTP4 Volume 8 Part II. In the Witney Area Transport Strategy there are four key policies of interest for the Access to Witney Scheme:

- Policy WIT1 "to establish a transport network that supports future growth and attracts economic investment at Witney we will work closely with the District Council, developers and local partners to improve access to the strategic transport networks and manage through traffic".
- Policy WIT3 "we will work with West Oxfordshire District Council to safeguard land for future transport infrastructure, to support Local Plan growth".

- Policy WIT5 “the County Council will improve facilities for pedestrians and cyclists focusing on enhancing links between homes, schools, employment and the town centre”.
- Policy WIT7 “to mitigate the cumulative impact of development across the Witney area and implement the transport measures identified in the Witney area strategy”.

3.2.24 As part of these policies several Witney-based transport options have been included in order to support future growth and attract economic investment. These are outlined below alongside the policy of which the option is part:

- All-movement at-grade junction on the A40 at Downs Road, related to the West Witney strategic housing and employment site (opened in 2019). *(WIT1)*
- West-facing slip roads at A40 Shores Green junction and improvements to the B4022 Oxford Hill junction with Jubilee Way and Cogges Hill Road to be delivered by housing development at East Witney. *(WIT1)*
- A feasibility and viability assessment of West End Link Road 2 (WEL2), a new road bridge crossing the River Windrush. *(WIT1)*
- Re-designating the A4095 via Jubilee Way, Oxford Hill, A40, Ducklington Lane and Thorney Leys so through traffic travels around the edge of the town rather than through it. *(WIT2)*
- Implementing schemes to deter through traffic from using Bridge Street and the Woodstock Road, and encourage through traffic to use the re-designated A4095. *(WIT2)*
- Improving the environment in the town centre by reducing congestion and enhancing the Air Quality Management and Conservation Areas. *(WIT2)*
- Discouraging undesirable routing of traffic by improving directional signs. *(WIT2)*
- Protecting the line of the Shores Green Slip Roads and promoting its safeguarding in the Local Plan. *(WIT3)*
- Continuing to safeguard land for the proposed West End Link stage 2 pending adoption of the WODC Local Plan. *(WIT3)*
- Ensuring development at North Witney is served by a Northern Distributor Road running from Woodstock Road to Hailey Road (in the event North Witney is allocated in the Local Plan). *(WIT3)*

3.2.25 In the context of planned development in Witney and the proposed infrastructure to help deliver this, it is worth referring to Policy 34 in the County’s LTP:

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

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

3.2.26 As part of work to produce the new LTP5 the Witney Area Transport Strategy will be reviewed and updated.

Witney Transport Strategy 2017: Bridge Street Option Generation Study

3.2.27 The Witney Transport Strategy was developed to address changing levels of development around Witney due to updates to the Local Plan. The plan looks at Witney and is focused on the impact of additional development and potential mitigation options along several highway corridors within Witney including Bridge Street and the town centre. The outcome of this assessment is discussed above as part of Section 2.6.

West Oxfordshire Adopted Local Plan (2011-2031)

3.2.28 West Oxfordshire District Council adopted their Local Plan (2011 – 2031) in 2018, noting it was underpinned by a general presumption in favour of 'sustainable development. Once adopted, applications for planning permission must be determined in accordance with the plan unless material considerations indicate otherwise. As part of Policy T3, WODC will work with OCC (as the highways authority), developers, local councils, bus and rail operators and other voluntary and community sectors to:

- Increase the use of bus, rail and community transport through the provision of improved services, facilities and information including specific schemes identified in the Local Transport Plan (Connecting Oxfordshire) and Infrastructure Delivery Plan (IDP); and
- Provide safe and convenient travel within and between the network of towns and villages in West Oxfordshire, particularly for pedestrians, cyclists and other vulnerable road users, users of public and community transport including specific schemes identified in the Local Transport Plan and IDP.

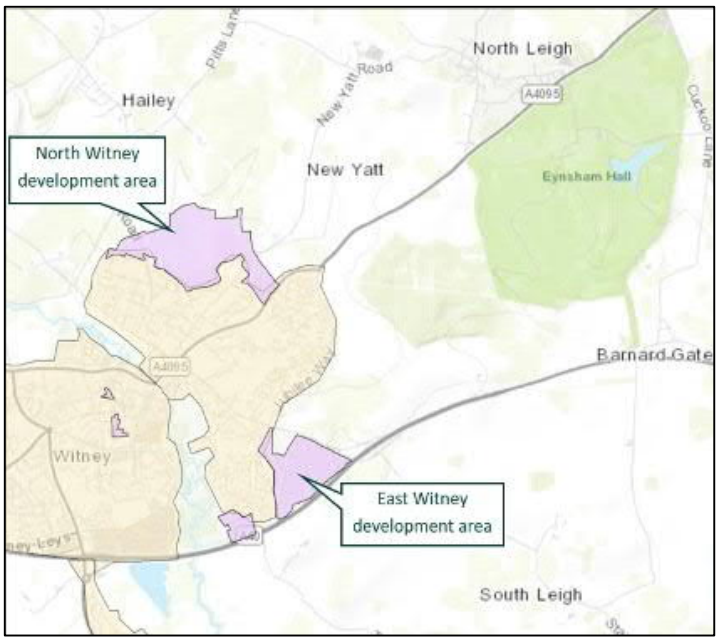
3.2.29 WODC set out five themes under which it developed objectives for its Local Plans. These themes were:

- Strong market towns and village;
- Meeting the specific housing needs of its communities;
- Sustainable economic growth;
- Sustainable communities with access to services and facilities; and
- Protecting and enhancing the environment and reducing the impact from climate change.

3.2.30 The Local Plan noted there is considerable demand for more housing, but with limited opportunities for housing within the built-up area of Witney, development would need to be undertaken on the fringes of the town.

3.2.31 In this context, the Local Plan identified a strategic development area (SDA) to the east and north of Witney (see Figure 34) as suitable for delivering new homes (with land currently allocated for 450 homes in the East Witney SDA and 1,400 in the North Witney SDA). Both sites have no significant environmental or heritage constraints. These would be in addition to the housing already secured for development to the north of Burford Road.

3.2.32 The Local Plan noted that these new developments would be dependent on providing west facing slip roads at the nearby Shores Green junction on the A40, to mitigate the potential traffic impact of the developments on the town centre and to provide improved accessibility to the retail, industrial and employment centres in south Witney. The west-facing off-slip could be delivered through a planning obligation on the housing development north of Burford Road, but the west-facing on-slip would need to be delivered by other means, potentially as part of a wider strategic transport infrastructure fund/package for Witney and an appropriate financial contribution from further development in east Witney.



Source: A40 – Smart Corridor HIF Business Case - contains Ordnance Survey data © Crown copyright and database right 2019.

Figure 34. East Witney Strategic Development Area (indicative developable area)

3.2.33 Whilst the proposals above reflect both national and local objectives to deliver more housing and mitigate the impacts, the Local Plan also noted the need to provide improved public transport (including frequency, coverage, and waiting facilities) in the wider area; and improved pedestrian and cycle routes.

3.2.34 The Local Plan also recognised the importance of maintaining a strong, diverse and accessible centre in this historic market town, through improvements in the public realm.

3.2.35 The Local Plan does suggest the need to provide both increased public car parking to go with any significant new developments (but also managing parking to try and reduce car use for short journeys) and to provide improvements to bus, pedestrian and cycle infrastructure.

3.2.36 With regard to parking, OCC's LTP4 noted that the County Council would manage parking under its control and work with district and city councils to ensure that overall parking provision and controls support the objectives of local communities and LTP4.

Access to Witney: Planning Context Report

3.2.37 A Planning Context Report (October 2020) has been produced for the Access to Witney scheme. It sets out the planning context of the scheme and gives recommendations of how the design of the scheme can be informed through interpretation of the policy context. In addition, potential policy issues and risks that may affect the outcome of the application have been identified.

3.2.38 Both the West Oxfordshire Local Plan 2031 and National Planning Policy Framework were considered in the Planning Context Report. In addition, as part of the Planning

Context Report, the Oxfordshire Minerals and Waste Plan (adopted in 2017) was considered.

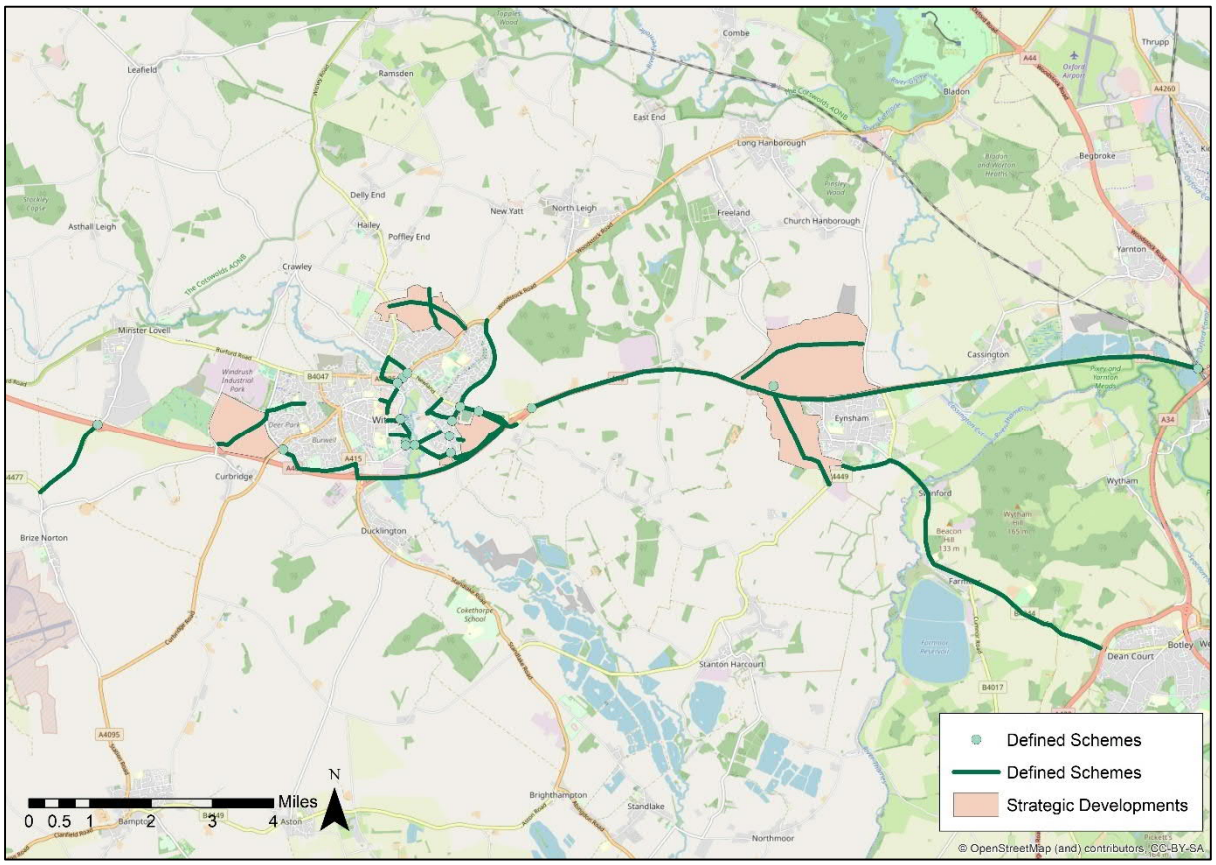
3.2.39 The Planning Context Report highlights:

- the importance of producing a Biodiversity Net Gain Strategy. This is in order to comply with The Environment Bill, which is currently passing through Parliament, which makes biodiversity net gain a legal requirement when granting planning permission.
- that the scheme will likely require a Flood Risk Assessment to assess the impact of the scheme on flood risk.
- a Landscape and Visual Impact Assessment is likely to be required as part of the planning application.
- further recommendations to ensure the scheme adheres to the NPPF are considered, including impact on pollution, the historic environment, sustainable development and climate change.
- the importance of engagement with landowners, developers and stakeholders. Regular and ongoing liaison with developers and landowners will enable efficient co-ordination between the scheme and the delivery of housing in West Oxfordshire. In addition, whilst consultation is not a statutory requirement prior to a planning application being submitted, it is strongly recommended in order to minimise the risks of objection to the scheme.
- the red line boundary should be established as part of the preliminary design in order to confirm any land take required.

Developments and currently proposed interventions

3.2.40 It is important to understand how the Access to Witney scheme will fit spatially with planned developments, as mentioned above, and currently proposed interventions[19]. In order to do so, Figure 35 has been produced to identify the planned developments, shown in light orange, and the proposed schemes in green. All schemes included in this figure and the source have been outlined in Appendix G. This shows that there is significant housing growth expected in Witney, and whilst there are transport interventions planned within the town there are limited interventions along the A40 and at key junctions. Taking into account the level of development planned in Witney, including the East Witney SDA, this indicates the need for an Access to Witney Scheme.

[19] The previously defined interventions have been sourced from the Infrastructure Delivery Plan, LTP4, Witney Transport Strategy and Identification of Selected Cycling Infrastructure Enhancements in East Witney



Source: AECOM Analysis based on existing documents

Figure 35: All Previously Defined Schemes

3.3 Local Transport and Planning Policy Objectives

3.3.1 This section of the report sets out the agreed scheme objectives based on the assessment of challenges and the underlying policy context set out above. The objectives were agreed in workshops with OCC, and after reviewing them against the objectives in the LTP4, WODC's Local Plan and the Witney Area Strategy.

3.3.2 The objectives for each of these are set out in turn, demonstrating their alignment, followed by the Access to Witney scheme objectives developed for this study, and against which all potential scheme options will be assessed.

OCC's Local Transport Plan 4 – Objectives

3.3.3 OCC developed three overarching transport goals around the economy, environment and society, and ten objectives to support these goals. These are set out in Table 4-6.

Table 4-6: Connecting Oxfordshire 2015-2031: LTP4 Goals and Objectives

LTP4 Goals		Objective
1 - Support jobs and housing growth and economic vitality	1.1	Maintain and improve transport connections to support economic growth and vitality across the county
	1.2	Make most effective use of all available transport capacity through innovative management of the network
	1.3	Increase journey time reliability and minimise end-to-end public transport journey times on main routes
	1.4	Develop a high-quality, innovative and resilient integrated transport system that is attractive to customers and generates inward investment
2 - Reduce emissions, enhance air quality and support the transition to a low carbon economy	2.1	Minimise the need to travel
	2.2	Reduce the proportion of journeys made by private car by making the use of public transport, walking and cycling more attractive
	2.3	Influence the location and layout of development to maximise the use and value of existing and planned sustainable transport investment
	2.4	Reduce per capita carbon emissions from transport in Oxfordshire in line with UK Government targets
3 - Protect and enhance the environment and improve quality of life (including public health, safety and individual wellbeing)	3.1	Mitigate and wherever possible enhance the impacts of transport on the local built, historic and natural environment
	3.2	Improve public health and wellbeing by increasing levels of walking and cycling, reducing transport emissions, reducing casualties and enabling inclusive access to jobs, education, training and services

West Oxfordshire District Council's Local Plan - Objectives

3.3.4 The specific transport related objectives identified in the WODC Local Plan are tabulated below. In addition, these have been mapped to the most pertinent OCC LTP4 objectives to demonstrate the synergy and consistency between them. The WODC objectives include a combination of economic, environmental, and social elements, and hence any one objective may map to more than one of the LTP4's three overarching Goals. They are shown in Table 4-7.

Table 4-7: West Oxfordshire Local Plan 2031 Vision: Transport-related Core Objectives (CO)

Core Objectives (CO)	Description	Map to OCC LTP4 Objectives
CO1	Enable new development, services and facilities of an appropriate scale and type in locations which will help improve the quality of life of local communities and where the need to travel, particularly by car, can be minimised	1.1, 2.1
CO10	Ensure that land is not released for new development until the supporting infrastructure and facilities are secured.	1.2, 2.3
CO11	Maximise the opportunity for walking, cycling and use of public transport.	1.3, 2.2
CO13	Plan for enhanced access to services and facilities without unacceptably impacting upon the character and resources of West Oxfordshire	3.1, 3.2
CO15	Contribute to reducing the causes and adverse impacts of climate change, especially flood risk	2.4, 3.1
CO16	Enable improvements in water and air quality	3.1
CO17	Minimise the use of non-renewable natural resources and promote more widespread use of renewable energy solutions	2.4

Witney Area Transport Strategy

3.3.5 The combination of LTP4 and WODC Local Plan transport objectives are reflected in the objectives that were set out in the Witney Area Transport Strategy. These are tabulated in Table 4-8 together with a summary of the key challenges they seek to address. The objectives map directly to the LTP4 Goals (Economy, Environment, and Society). They have also been mapped to the most pertinent WODC transport objectives, where relevant, to show synergy and consistency.

Table 4-8: Witney Area Transport Strategy Objectives

Strategy Objectives	Key challenges related to these objectives	LTP4 Vision	WODC Transport Objectives
I) Establish a transport network that supports future growth and attracts economic investment by improving access to the strategic transport networks and managing through traffic.	West Oxfordshire Local Plan growth proposals comprise 3,700 new homes in the Witney sub area by 2031; 20ha of land identified for employment. Housing and employment growth in Witney will place increasing demand on existing transport networks and the junctions with the A40. Too much traffic through the town centre due to lack of alternative routes to the A40, resulting in congestion and journey time delay.	1	CO1, CO10
II) Mitigate the local environmental impact of increased travel by addressing congestion, and poor air quality through improving opportunities for people to travel on foot, by cycle, and/or public transport, including Door to Door integrated travel (e.g. walking or cycling with bus/rail).	Existing congestion on Bridge Street, average of 29,000 vehicles/day. Bridge Street is the only vehicular crossing over River Windrush for local journeys and through traffic to/from northeast Witney, resulting in delays and congestion, including impacts on bus journey times and reliability. Poor air quality and congestion deters cyclists and pedestrians in the town centre. Bridge Street is an AQMA, and action is needed to address or mitigate negative impacts on air quality.	2	CO11, CO15, CO16, CO17
III) Support town centre vitality, by providing a local transport network that enables easy access to services by sustainable means	Local Plan policies to maintain and enhance Witney's town centre shopping, leisure and cultural attractions. Cogges/Church Lane path well used for pedestrians/cyclists, however in some locations high levels of traffic, poor quality surfaces and on-street parking deter walking and cycling. Congestion increases bus journey times.	3	CO13

Access to Witney Scheme Objectives

3.3.6 Following the review of the challenges and need for intervention to address these for Witney and the planned developments, and the review of the goals and objectives set out in the LTP4, WODC Local Plan, and Witney Area Strategy, a set of localised objectives specific to this study were created. They were developed to address the specific problems identified in existing work and also take into account the relevant County and District goals and objectives. Whilst all these plans include proposed interventions and potential options, these were not taken into account in formulating the Access to Witney objectives. Instead, the key challenges and priorities were distilled, and objectives created accordingly.

3.3.7 The objectives are shown in Table 4-9. These were developed with and reviewed by OCC. An assessment of any scheme or option to achieve these objectives may need to be undertaken in line with the Green Book and DfT TAG, including where relevant an assessment of overall value for money.

Table 4-9: Access to Witney Objectives

#	Challenge Summary	Objective	Measures of success	Witney Transport Strategy Objectives
1	With only one direct town centre link between east and west Witney, this will be a significant challenge, in particular given the need to address housing demand in the area with new developments, increasing pressure on existing transport networks	Reduce future traffic flows in the Bridge Street area	Less traffic in the centre of Witney	I
2	Forecast growth is likely to result in longer journey times and decreased journey time reliability in the town centre, especially in the peaks. Forecast growth, in particular in the east of the town, may result in increases in congestion and journey times to destinations outside Witney town centre. Limited connectivity between east and west Witney except through the town centre or unsuitable local roads, and limited connectivity to the west of Witney. With only one river crossing in the town centre, there are few alternatives for East-West movements without taking longer distance detours on inappropriate roads.	Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.	Reduced queuing on Bridge Street and other town centre roads, and less journey time variability for both PT and private modes Improved journey times to key destinations and services. An increase in the number of people within 30/ 45 minutes of key destinations. An increase in the number of opportunities within 30/45 minutes of residents. Increased capacity or alternative routing for PT and private/ active modes away from the town centre, with improved journey time reliability.	III
3	In the short term, increases in traffic and congestion may result in a	Reduce the level of air pollution within the AQMA	Improved air quality on Bridge Street, and a reduction in emissions	II

#	Challenge Summary	Objective	Measures of success	Witney Transport Strategy Objectives
	deterioration in air quality, all else being equal. In the longer term, even with increased uptake of 'cleaner' vehicles, there may still be associated environmental impacts including noise.		(and over the longer term and a wider area also a reduction in greenhouse gases).	
4	National evidence suggests encouraging more walking and cycling needs to include a combination of infrastructure and behaviour change, but the challenge is highways capacity in the town centre serves a mix of traffic and trip purposes, which impacts on the desirability or ease of walking and cycling, and the cycling network in wider Witney is patchy, including the Shores Green area.	Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.	Increased walking and cycling as Bridge Street and the town centre become more attractive due to less traffic. Provision for active travel may help increase its mode share and thus reduce overall emissions and support climate agenda.	III
5	Current levels of congestion and journey time reliability and overall door-to-door journey times mean that bus is not considered an alternative option	Enable modal shift by improving public transport and the quality of service, reliability, or capacity.	Mode shift to bus. Improvement in bus journey time may help increase its mode share and thus reduce overall emissions and support climate agenda.	III
6	A key role of the Local Plan is to ensure that future housing needs are met. Given the current challenges in Witney, a key objective is to enable delivery of housing whilst mitigating the impact on the transport network and providing both local and strategic access to/ from the new developments without	Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre	Strategic (through) traffic removed from the town centre, whilst also improving strategic access to Oxford and other major centres	I

#	Challenge Summary	Objective	Measures of success	Witney Transport Strategy Objectives
	the need to travel through Witney town centre. In addition, the expansion of high technology and bioscience industry in the County, including Witney, is likely to increase demand for more strategic connections between centres, to achieve agglomeration and wider economic benefits.			
7	Town centre roads currently cater for a mix of short, medium and longer distance traffic, including through trips to/ from east Witney. There is a need to balance an approach that manages the amount of traffic using roads in the town centre versus providing access for trips to the town centre that contribute to its economic functioning. This needs to consider what contributes to town centre economic viability and how to cater for the demand to access it.	Support the vitality, viability, performance and attractiveness of the town centre	Improved satisfaction with the town centre environment and improved health and well-being, hence maintaining and enhancing its function as an historic market town.	III
8	Additional homes and demand for travel will increase pressure on the transport network; the potential to deliver more homes in future to address identified housing needs may be delayed.	Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.	Delivery of homes.	I

#	Challenge Summary	Objective	Measures of success	Witney Transport Strategy Objectives
9	Addressing current transport constraints could be addressed with additional highways and or PT capacity. Additional highways capacity, such as new link roads and bridges, may induce more traffic and may not provide a cost-effective way of addressing current constraints, and is likely to have environmental impacts	Make best use of existing infrastructure assets	As far as practicable use existing infrastructure or improve local access to this infrastructure in order to improve overall network accessibility. Land take and additional highways route length to provide new capacity, and the associated volume/ capacity ratios, vis-à-vis improving local and strategic accessibility.	II

3.3.8 Based on the above assessment, the Access to Witney study objectives are therefore:

- Reduce future traffic flows in the Bridge Street area.
- Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.
- Reduce the level of air pollution within the AQMA.
- Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.
- Enable modal shift by improving public transport and the quality of service, reliability, or capacity.
- Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre.
- Support the vitality, viability, performance and attractiveness of the town centre.
- Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.
- Make best use of existing infrastructure assets.

3.4 Recommendations and Next Steps

Work and proposals to date

3.4.1 There is a broad body of evidence around the issues and challenges in Witney, and a number of proposed interventions to address these. For work going forward, it is important to take a neutral view on these proposals, and develop a long list accordingly (this is covered in the following chapter), together with a sifting framework to short list the better performing options, assessed against the new scheme objectives and their ability to address the identified challenges.

3.4.2 It will also be important to determine how and whether to package options (not all of which could necessarily be modelled or assessed with existing tools) in order to meet the scheme objectives, or whether to focus on the most significant challenges or on easy wins. This decision should be informed by a potential funding envelope and view on affordability or on identification of funding / financing sources to deliver schemes.

Traffic Data and Modelling

3.4.3 Whilst there has been extensive modelling work, the modelling and analysis to date has focused on the Witney area, and there has been little indication of significant strategic impacts. However, any analysis of issues and options will have to take into account wider strategic road network impacts and interactions with the surrounding routes and settlements (including Hardwick/ Ducklington (A415), South Leigh, North Leigh, Crawley, and Curbridge). Additionally, it is important to understand the

interaction, links, dependencies and the potential impacts of the wider A40 Corridor Improvement Schemes with further strategic highway modelling required.

3.4.4 This may require additional traffic data collection, and a review should be undertaken against the data collected for the A40 corridor schemes to identify where supplementary data may be needed. Data on journey term reliability (e.g. using TrafficMaster) may also help determine the optimum package of options to address current congestion issues in the town centre.

3.4.5 It is recommended that an Appraisal Specification Report (ASR) and Uncertainty Log (with planning and infrastructure scenarios) are developed to inform any strategy and local modelling of the Access to Witney scheme options. This should include a review of the suitability of the models available and their calibration / validation and area covered (see below on Study Area). Sensitivity tests should be undertaken, to help understand the likely range of impacts of different options (and/ or robustness of the model and any issues with model noise) based on different population and employment projections. Give recent modelling work, this may simply be a validation exercise.

3.4.6 It is recognised that further strategic and local highway modelling is required to assess the A40 and its capacity to carry traffic diverted from Bridge Street.

Public Transport and Active Modes

3.4.7 There is less information on existing and forecast use of PT and active modes. Whilst OSM based forecasts consider both highway and PT demand, it is more difficult to model the impact of investment in public transport and active travel modes based on current data and tools. Some further model sensitivity tests around future uptake of these measures (and demand management measures) or off-model assessments of their potential impact could be considered.

3.4.8 If available, the impacts of any behaviour change programmes on demand by mode (for example workplace travel plans) would be beneficial, as well as results from public consultations indicating where investment in sustainable modes would be most beneficial and hence should be targeted.

3.4.9 This would also start to address the Planning Inspector's comments on the Cogges Link scheme, setting out the need to ensure modal shift and PT were appropriately assessed in work going forward, and mitigate risks of objections should this not be done.

New Developments and Trip Patterns

3.4.10 Assumptions on trip rates, patterns and modes used for new developments will have a major impact on the assessment of options. These will need to be carefully reviewed and should feed into the updated Uncertainty Log.

3.4.11 With census data somewhat dated, it is important to have confidence in current models' validation, but also forecasts of trip patterns and their ability to assess different planning scenarios. For example, the demand for travel between east-west

Witney will have a significant impact not only on the choice of intervention(s) but also the scale and timing of options. Options sifted out at this stage may still be part of a package of enhancements linked with developments being brought forward at a later date, but currently not committed.

Air Quality and Noise Impacts

3.4.12 The assessment of options should take into account the impact on air quality and noise, as part of the Environmental Impact Assessment (EIA) of the options[20]. This may require further traffic counts as required to assess air quality (average annual daily traffic) and undertake noise modelling rather than just to inform modelling peak traffic conditions.

Logic Mapping and Benefits Realisation

3.4.13 A logic map will be developed for the preferred option to set out the short to medium term outcomes (such as improvement in air quality and uptake of active travel) and longer term impacts (such as improvements to public health) of the scheme. Logic maps show the links from the scheme outputs (e.g. new infrastructure) to the short and longer term impacts (these could be both benefits and disbenefits) and help demonstrate how the various outcomes of the options relate to the scheme objectives (see DfT Logic Mapping guide[21]).

3.4.14 This will also help identify potential gaps and may inform where additional options may need to be brought forward e.g. for other future (not yet committed) developments or to create a packaged set of interventions. Taking this approach will help in the definition and creation of a Benefits Management Plan and identify the metrics to monitor and evaluate the effectiveness of the scheme after it is delivered.

Demand and Parking Management and Wider Initiatives

3.4.15 There may be wider policy discussions in the County about the role of demand and parking management initiatives (the latter under the control of District and City councils, excluding sites run by the County), which may be quite sensitive in the current economic and political climate. This will particularly be the case if initiatives involve pricing as a mechanism to manage demand, or constraining / reducing supply (e.g. parking spaces) whilst approving new developments, without corresponding or equivalent increases elsewhere or alternative options /modes.

3.4.16 Similarly, the role of new technology and modes may be dependent on County or even regional / national programmes, for example around electric vehicle uptake and charging points, pods and driverless vehicles etc.

3.4.17 Whilst the aim of this Study includes addressing longer term growth aspirations and the associated impacts, it is mainly focused on the need to address the immediate

[20] DfT. TAG UNIT A3 Environmental Impact Appraisal. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/825064/tag-unit-a3-environmental-impact-appraisal.pdf

[21] DfT. Logic mapping: hints and tips guide. https://www.gov.uk/government/publications/logic-mapping-hints-and-tips-guide.

issues related to current developments, existing congestion and air quality with interventions that are realistic, acceptable and deliverable. Nevertheless, demand and parking management and the role of technology may be raised by stakeholders and the public, and may need to be taken into account in later stages of this study, if they are likely to materially affect the forecasts.

Study Area

3.4.18 The assessment of the challenges indicated that issues are relatively localised, but this may need to be revisited based on updated modelling and depending on the proposed shortlisted solutions and their likely impact. This may require use of both a strategic model (such as OSM) and a more local cordoned or microsimulation model. Other schemes, such as those for the wider A40 Corridor Improvement Schemes, may also have an impact on travel patterns and traffic in Witney that will need to be identified.

3.4.19 Based on the assessment of challenges, the main requirements are to provide options that address congestion and air quality issues in the town centre and on Bridge Street, improve access to the rest of Witney from east Witney, and ensure a suitable multi-modal set of options are assessed to mitigate the impact of new developments. Where options are likely to have impacts beyond Witney, it will be necessary to extend the Study Area. This will particularly be the case if a full economic and value for money assessment is required.

4 Option Generation

4.1 Introduction

4.1.1 This chapter discusses the long list of options to address the objectives developed, which includes highway, public transport and active mode interventions. As set out in the previous chapter, it is recognised there may be options related to demand management and future technology that could influence interventions not only in Witney but elsewhere in the region, but these are likely to need a County-wide steer on their potential role, as well as potential agreement at District/ City level on their acceptability and approvals needed. The options are mostly focussed on the study area as defined in Figure 1 above.

4.1.2 The options have been derived based on the assessment of current and forecast travel patterns, development and growth, and challenges; previous and current proposals from the relevant local authorities and stakeholders; workshops with Oxfordshire County Council officers; and professional judgement based on experience elsewhere and within Oxfordshire to provide a comprehensive list of options.

4.1.3 It is recognised that options could be packaged in order to provide an optimum solution to the identified problems and achieve the scheme objectives. However, funding, financing and affordability as well as deliverability will need to be taken into account for not just single options but also potential packages. Delivery may be dependent on different agencies, developers and funding sources, and completion and sign-off of other emerging strategies.

4.1.4 Options that are sifted out may still perform well either as part of an overall package; to address other specific issues such as new developments; or following implementation of other options.

4.1.5 This chapter ends with a high-level overview of the steps that will be undertaken to assess and sift the options, and which are set out in the proceeding chapters (chapters 5 to 7).

4.2 Context and Precis of Key Challenges

4.2.1 There are plans to increase the current housing levels in Witney by 1,000 homes in West Witney, 450 in East Witney and 1,400 in North Witney[22]. The increase in the number of dwellings will cause a substantial increase in traffic in Witney town centre and its surrounding areas. To understand the travel patterns prevalent in Witney, a brief review of OCC's Oxfordshire Strategic Model (OSM) was carried out. The model outputs suggest that due to the substantial traffic in Witney town centre, traffic will have to use other alternative routes to access the commercial and industrial areas located in south and west Witney.

[22] Connecting Oxfordshire LTP4 – Witney Area Strategy

4.2.2 Bridge Street is an important strategically placed route which provides a connection between east and west Witney. It also provides access to the town centre for the people living in the east of Witney. Traffic wishing to join the A40 to travel west from east Witney would also need to use Bridge Street to access the A40 via its junction with the A415 at the south of Witney. The location and importance of Bridge Street results in significant traffic congestion resulting in poor air quality in the area, which has accordingly been designated an Air Quality Management Area (AQMA). Previous studies have shown that Bridge Street carries an average of 29,000 vehicles a day[1].

4.2.3 As discussed in Sections 2.5 and 2.6, strategic traffic modelling has been undertaken to assess the impact of several schemes across Witney, including the Shores Green Slip and West End Link Road. Modelling in 2018[23], from the Witney Highways Model, showed that Bridge Street is currently over capacity, with conditions worsening in the DM 2031. Inclusion of the west-facing slips decreases the traffic at Bridge Street as traffic reroutes via the westbound on-slip, improving traffic conditions in this area. In addition, further modelling undertaken in 2020[24] showed that as a result of introducing the slip roads, traffic reroutes to use the A4095 and B4022 to join the A40 at Shores Green, rather than joining further west. Traffic also makes use of the A40 to travel between Shores Green and the A415 (see Appendix H for overall modelling results).

4.3 Option Development

4.3.1 The challenges currently being faced by Witney have been summarised above and in previous sections of this report. Significant traffic congestion is observed on Bridge Street due to it being a singular crossing point between east and west Witney. The options have been developed based on the challenges faced by Witney and the scheme objectives. They aim to help improve traffic flow conditions at Bridge Street & Witney town centre, encourage modal shift to sustainable forms of transport by improving public transport, cycling & walking infrastructure, minimise the impact of general traffic resulting from the proposed housing developments, and improve local and strategic accessibility for existing and proposed new residential areas, in particular the planned and proposed developments in east Witney.

4.3.2 The remainder of this chapter describes the options and an overview of their potential issues and benefits. The options are listed in Table 4-1 together with brief indication of type of intervention and location (see Appendix H).

[23] Witney Highways Model, Future Year Forecasting Report (2018)
[24] A40 Corridor Highway Model: Improving Access to Witney (Shores Green) – Future Year Forecasting Report (2020)

Table 4-1: Access to Witney Options Long List

Option	East Witney	E-W/ town centre link	West Witney	Town-wide	External links
Option 1: West facing slip roads at Stanton Harcourt Road	A40 Junction - upgrade				
Option 2A: West facing slip roads at Shores Green	A40 Junction - upgrade				
Option 2B: West facing slip roads at Shores Green - Alternative arrangement	A40 Junction - upgrade				
Option 2C: West facing slip roads at Shores Green - D Link alternative arrangement	A40 Junction - upgrade				
Option 2D: West facing slip roads at Shores Green - Grade Separated	A40 Junction - upgrade				
Option 3: Roundabout North and South of Shores Green	A40 Junction - new				
Option 4A: Overbridge at Hill Farm, A40	A40 Junction - upgrade				
Option 4B: Half or Full roundabout on the A40 to the east of Shores Green	A40 Junction - new				
Option 5: West End Link Road		New link			
Option 6: Church Lane link from B4022 to Witan Way via Church Lane to general traffic		New (upgraded) link			
Option 7: Jubilee Way to A40 - Bypass	New link and new A40 Junction				

Option	East Witney	E-W/ town centre link	West Witney	Town-wide	External links
Option 8: Upgrading Downs Road to improve access to the A40			New (upgraded) link		
Option 9: New Link Road Connecting B4022 with B4047		New link			
Option 10: Cogges Link Road		New link			
Option 11A: Rail link between Witney and Oxford					Rail (Oxford)
Option 11B: Bus Rapid Transit (BRT) between Witney and Oxford					BRT (Oxford)
Option 11C: Tram between Witney and Oxford					Tram (Oxford)
Option 11D: Bus Lanes and Bus Service Improvements on the A40 from Witney to Oxford					Bus network improvements (Oxford)
Option 12A: Railway line between Witney and Long Hanborough					Rail (Little Hanborough)
Option 12B: Bus Rapid Transit (BRT) between Witney and Hanborough					BRT (Little Hanborough)
Option 13A: Light rail link between Jubilee Way/A4095 junction – Windrush Industrial Park - Two Rivers Industrial Estate				New links (light rail)	
Option 13B: Bus Rapid Transit (BRT) link from Jubilee Way/A4095 junction to Windrush Industrial Park and to Two Rivers Industrial Estate				New links (BRT)	
Option 14A: Increased bus frequencies/ routes within and to/from the wider Witney area				Bus	

Option	East Witney	E-W/ town centre link	West Witney	Town-wide	External links
Option 14B: Demand responsive service within Witney				Demand-responsive	
Option 15: Cycle network improvements in East Witney and across Witney				New links (cycle)	
Option 16: Witney Car Parking Management Strategy and Policies				Parking policy & enforcement measures	
Option 17: At-grade roundabout at Shores Green – option A.1	A40 Junction - upgrade				
Option 17a: At-grade roundabout at Shores Green – option A.2	A40 Junction - upgrade				
Option 18: At-grade roundabout at Shores Green – option B	A40 Junction – upgrade				
Option 19: At-grade roundabout at Shores Green – option C	A40 Junction – upgrade				
Option 20a: At-grade roundabout at Shores Green – option D	A40 Junction - upgrade				
Option 20b: Alternative slip roads arrangement at Shores Green	A40 Junction - upgrade				
Option 21: At-grade roundabout on the A40 near Stanton Harcourt Road Bridge	A40 Junction - new				

4.4 Option 0: Do Minimum scenario

4.4.1 The Do Minimum scenario assumes no physical interventions are undertaken on the network within Witney that are not already committed or funded. The Do Minimum scenario does therefore include all committed local plan developments and committed (and funded) transport schemes including associated bus network and cycle network improvements. This provides the scenario against which to compare the impact of proposed interventions in meeting the scheme objectives and addressing the identified challenges. It is expected that in the longer-term air quality will improve as a consequence of tighter legislation and improved vehicular emissions, all else being equal; but in the shorter term, air quality will remain an issue. The potential benefits and issues associated with the Do Minimum are summarised in Table 4-2.

Table 4-2: Potential Benefits and Issues - Option 0

Potential Benefits	Potential Issues
Minimal capital investment or revenue expenditure required.	Committed schemes in any future year do minimum scenario will encourage a strategic uplift in the use of public transport and active modes. However, it is still anticipated that significant local traffic flows and congestion issues will remain on Bridge Street, particularly in the context of committed local plan growth. The anticipated increase in traffic resulting from the town's growth will potentially result in increasing journey times and increase queuing which has the potential to increase air pollution. Reliant on longer term trends in vehicle emissions to reduce air pollution. It may not be possible to deliver or sustain development sites without additional transport infrastructure and capacity, particularly in east Witney. Increased traffic on Bridge Street may result in increased operating and maintenance costs over time.

4.5 Option 1: West facing slip roads at Stanton Harcourt Road

4.5.1 Option 1 proposes constructing west facing slip roads at the Stanton Harcourt Road bridge over the A40. This is expected to reroute traffic wishing to access the commercial/industrial areas in south Witney. The new slip roads could be used by public transport, benefitting local residents. The option is shown in Figure 36. The potential benefits and issues associated with this option are summarised in Table 4-3.

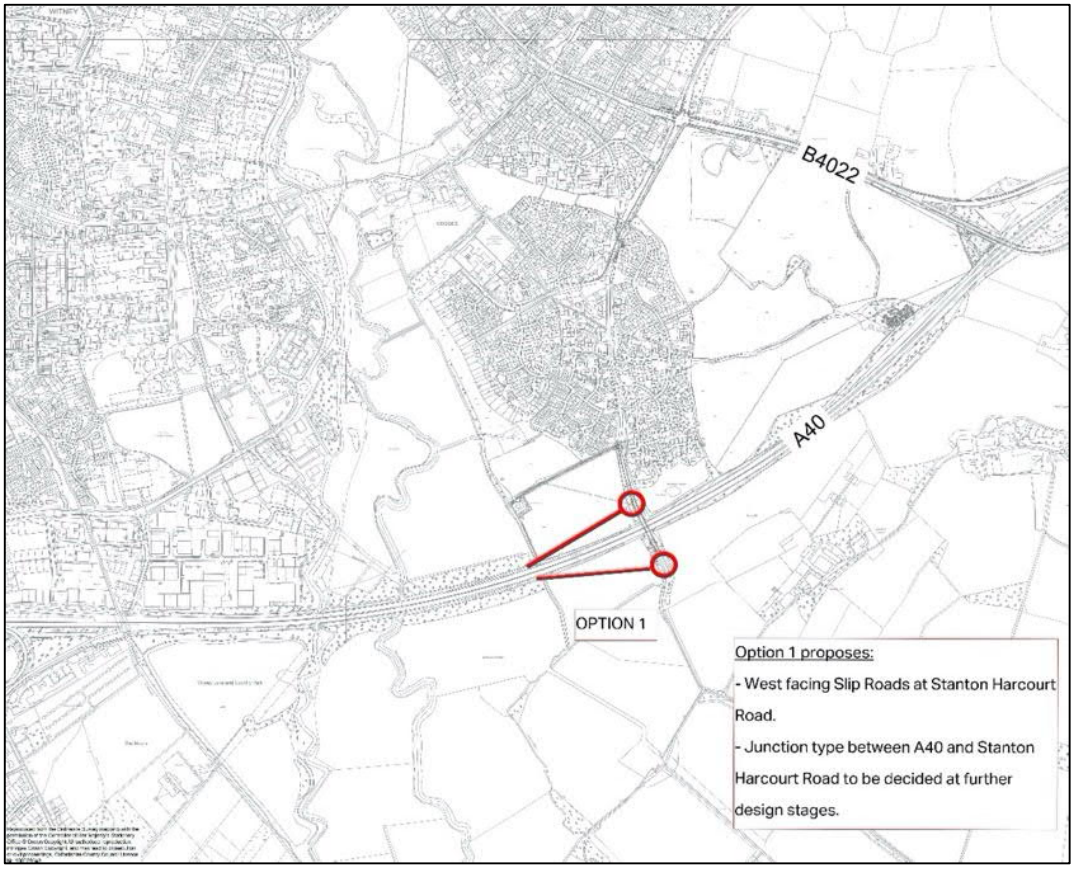


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Figure 36: Option 1: West facing slip roads at Stanton Harcourt Road

Table 4-3: Potential Benefits and Issues - Option 1

Potential Benefits	Potential Issues
A compact design can be proposed to minimise land take.	Land take would still be required to construct this option. Visibility at the slip road junctions might be substandard due to the layout of the road. Widening and capacity improvements to Stanton Harcourt Road would be required as it is currently a narrow route. The existing bridge might need to be widened depending on the proposed junction design of the slip roads. Structural assessments of the bridge would be needed to determine its capability to accommodate the extra traffic. Significant vegetation clearance would be required to join the slip roads with Stanton Harcourt Road. Potential equalities impacts associated with land take dependent on current use and land ownership

Potential Benefits	Potential Issues
Both EB off slip & WB on slip can be constructed simultaneously and there would be minimal disruption to the A40 during construction.	May be an earthworks element to bring imported fill in to form both slip roads.
Reducing traffic and improving air quality at Bridge Street and through the town centre.	Traffic would increase on a minor C road through the large Cogges residential area, with potential impacts on local residents. Risk of attracting traffic rat running off the A40 through narrow rural roads and villages to the south or diverting through Witney to use the A4095 to the east of Witney. Potential equality impacts resulting from increase in traffic through residential areas largely relating to air quality, noise and safety.
Improving access to the A40 for residents in east Witney.	The considerable increase in traffic from north and east Witney accessing the A40 through the large Cogges residential area in the vicinity of the proposed scheme will face objections from residents. Traffic is also expected to worsen the air quality and cause noise pollution locally in the area of Stanton Harcourt Road. Improved access to the A40 from north and east Witney would be more appropriate via the B4022 Oxford Hill than via a minor C road serving a residential area.

4.6 Option 2: West facing slip roads at Shores Green

Option 2A: West facing slip roads at Shores Green

4.6.1 Option 2A proposes west facing slips at the B4022/ A40 junction, including an improved cycle link along the B40422 to South Leigh Road. This option is expected to provide an alternative to local traffic wishing to access west Witney. This option has been modelled in OCC's OSM model and has demonstrated benefits in reducing traffic at Bridge Street. Public transport provision can be improved with newly defined routes to make use of the slip roads. The option is shown in Figure 37. The potential benefits and issues associated with this option are summarised in Table 4-4.

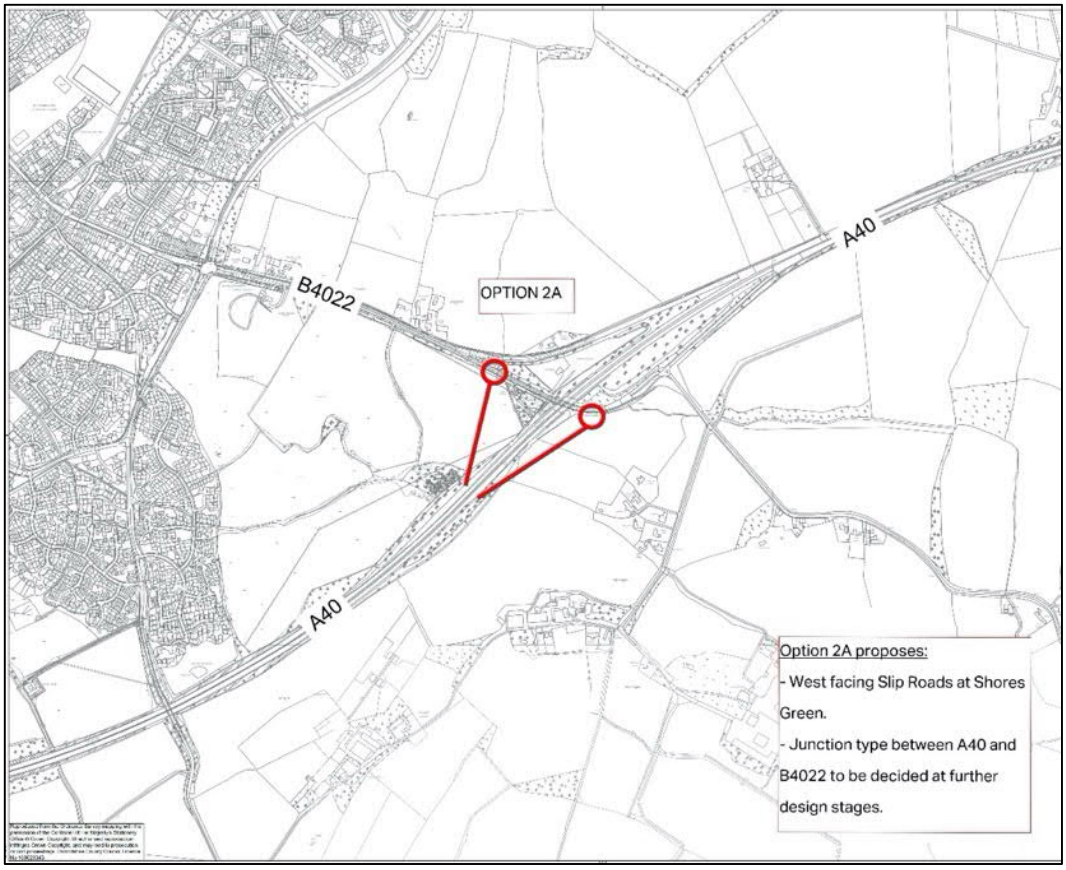

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Figure 37: Option 2A: West facing slip roads at Shores Green

Table 4-4: Potential Benefits and Issues - Option 2A

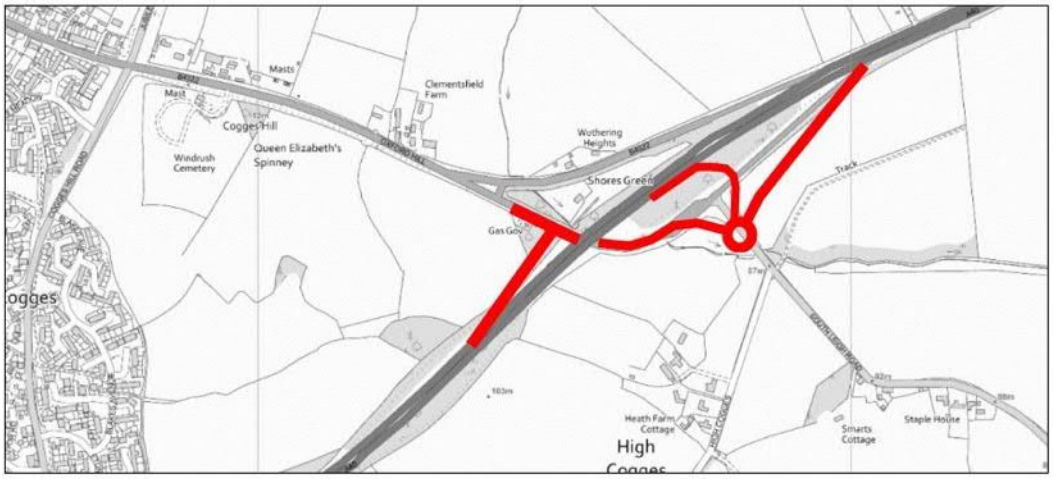
Potential Benefits	Potential Issues
Reduction in traffic at Bridge Street as demonstrated by the OSM's output results and improving air quality & noise as a result. Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic The additional pedestrian and cycle crossing point may also encourage more sustainable travel options on Bridge Street Potential beneficial equality impacts in terms of safety and accessibility through the provision of pedestrian and cycle crossing points.	Risk of rat running off the A40 through narrow rural roads and villages to the south or diverting through Witney to use the A4095 to the east of Witney.
Improved access to the A40 for the residents of north and east Witney and	There are some residential properties in the vicinity of the

Potential Benefits	Potential Issues
support for proposed local plan strategic sites in north and east Witney. Relatively few existing residential properties in close proximity of the scheme.	proposed scheme area. Objections may be raised.
Construction works could be combined into a package with the various other A40 corridor improvements potentially providing efficiencies and savings.	Significant vegetation clearance required with possible clashes with some large trees that might have Tree Protection Orders (TPO). Off slip would require a substantial amount of earthworks to be removed through an existing area of high ground that would leave a large embankment of ground between the new off slip & the existing A40
Good use of existing infrastructure as there are already east facing slip roads at Shores Green. A compact design can be proposed to minimise land take. Flexibility to consider a range of alternative slip road alignments and junction types at the top of the slips to avoid constraints, ensure safety and manage traffic / turning movements.	Land take from multiple landowners would be required to construct this option. The land between the slips & the A40 may become of little value requiring long term maintenance commitments unless some accommodation works were provided to hand it back to a land owner. The presence of a gas governor near the A40 bridge might significantly influence the design layout. Potential equalities impacts associated with land take dependent on current use and land ownership.
Opportunity to provide improved cycle connectivity from Witney to South Leigh as part of the scheme. Increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics.	Improved highways connectivity may encourage more trips by car. Likely to be more expensive option than 2E.

Option 2B: West facing slip roads at Shores Green - alternative arrangement

4.6.2 Option 2B is a variation of Option 2A where the west facing off-slip has been converted to a T-junction rather than a roundabout, including an improved cycle link

along the B40422 to South Leigh Road. The biggest difference is the alignment of the west facing on-slip which has been shifted to the east forming a roundabout with the A40 off-slip / A4022 and South Leigh Road. The west facing on-slip has been shifted to the north while connecting to the A40. The option is shown in Figure 38. The potential benefits and issues associated with this option are summarised in Table 4-5.



Source: Map provided by OCC.

Figure 38: Option 2B: West facing slip roads at Shores Green - alternative arrangement

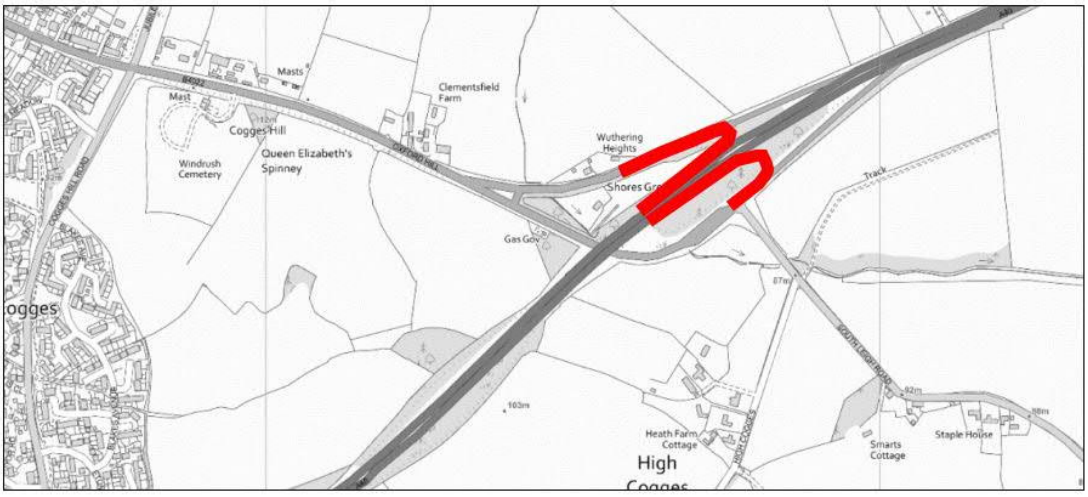
Table 4-5: Potential Benefits and Issues - Option 2B.

Potential Benefits	Potential Issues
As with Option 2A, and the following:	
T-junction for the on-slip may be straightforward to deliver.	T-junction may be less beneficial for traffic movements. Likely higher cost compared to Option 2A as some realignment of both the A40 and off-slip likely. Likely to be more expensive option than 2E. The EB off slip makes better use of the existing ground levels and requires less extensive earthworks to form the new section than Option 2A. The WB on slip would require the existing WB off slip to be closed as there is a lot of interface around the exit slip and traffic would be need to be diverted through Witney. This option would make it difficult to maintain access to South Leigh Rd without several construction phases which would increase the programme duration and increase costs.
Flexibility to consider a range of alternative slip road alignments and	The proposed merge layout (on slip road) would not be DMRB compliant and would require significant departures from standard. The radius and uphill

Potential Benefits	Potential Issues
junction types at the top of the slips to avoid constraints, ensure safety and manage traffic / turning movements.	gradient are likely to make this difficult for HGVs to use and the limited merge area will make it unsafe to merge with traffic travelling at high speeds.

Option 2C: West facing slip roads at Shores Green – D-Link alternative arrangement

4.6.3 Option 2C is a further variation of slip roads at Shores Green, with the proposed on-slip and off-slip connected to the A40 via a D-Link arrangement, including an improved cycle link along the B40422 to South Leigh Road. The off-slip connection would be taken from the already existing A40 on-slip whereas the on-slip connection would be taken from the proposed junction at the B4022 / South Leigh / A40 off-slip. The option is shown in Figure 39. The potential benefits and issues associated with this option are summarised in Table 4-6.



Source: Map provided by OCC.

Figure 39: Option 2C: West facing slip roads at Shores Green – D-Link alternative arrangement

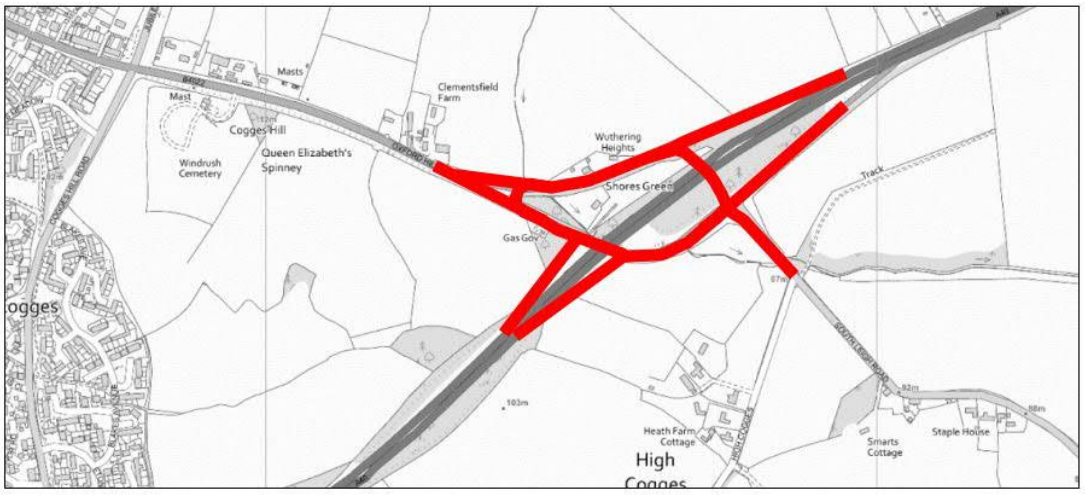
Table 4-6: Potential Benefits and Issues - Option 2C

Potential Benefits	Potential Issues
As with Option 2A, and the following: May be a smaller envelope of land take compared to Option 2A and avoids the gas governor impacted in Option 2A.	Likely higher cost compared to Option 2A as some realignment of the existing road (both the A40 and junction approach roads) will be required.
A relatively straightforward scheme to construct.	The available work area is tight and for safety reasons both EB on slip & WB off slip may have to be closed for the duration of the scheme construction with traffic diverted elsewhere through Witney.

Potential Benefits	Potential Issues
	D-Links would not meet design standards and there would be significant safety concerns.
	The proposed merge layout (on-slip road) would not be DMRB compliant and would require significant departures from standard. The radius and uphill gradient are likely to make this difficult for HGVs to use and the limited merge area will make it unsafe to merge with traffic travelling at high speeds.
	The proposed diverge layout (off-slip road) would have insufficient stopping sight distance (SSD) before the sharp turn for traffic leaving the A40. There is also a level difference and it is unlikely that the embankment could be constructed within the available highway land.

Option 2D: West facing slip roads at Shores Green - grade separated

4.6.4 This option consists of a grade separated roundabout/gyratory at Shores Green, including an improved cycle link along the B40422 to South Leigh Road. West facing slip roads would be constructed with the east facing slip roads upgraded. A grade separated connection would be provided between the A40 east facing on-slip and South Leigh road. The option is shown in Figure 40. The potential benefits and issues associated with this option are summarised in Table 4-7.



Source: Map provided by OCC.

Figure 40: Option 2D: West facing slip roads at Shores Green - grade separated

Table 4-7: Potential Benefits and Issues - Option 2D

Potential Benefits	Potential Issues
As with Option 2A, and the following:	Very high cost compared to Option 2A and significant works would be required for grade separation.
Avoids gas governor impacted in Option 2A.	

Potential Benefits	Potential Issues
	Impacts on the A40 embankment if an underpass is proposed as part of the design, and so would require works on the A40 itself.
	Land take would still likely be required (potentially residential) to deliver this arrangement. May not fit into the footprint of the existing carriageway without raising the level of the A40 to accommodate the new underbridge. Both EB on slip & WB off slip would have to be closed for the duration of the scheme construction with traffic diverted elsewhere through Witney.

4.7 Option 3: Roundabout North and South of Shores Green

4.7.1 Option 3 proposes a west facing off-slip with the junction relocated to the north west of the existing slip roads, including improved cycle link along B40422 to South Leigh Road. The west facing on-slip would be delivered by introducing a roundabout at B4022/South Leigh Road/A40, with the on-slip forming a D-Link arrangement. The option is shown in Figure 41. The potential benefits and issues associated with this option are summarised in Table 4-8.

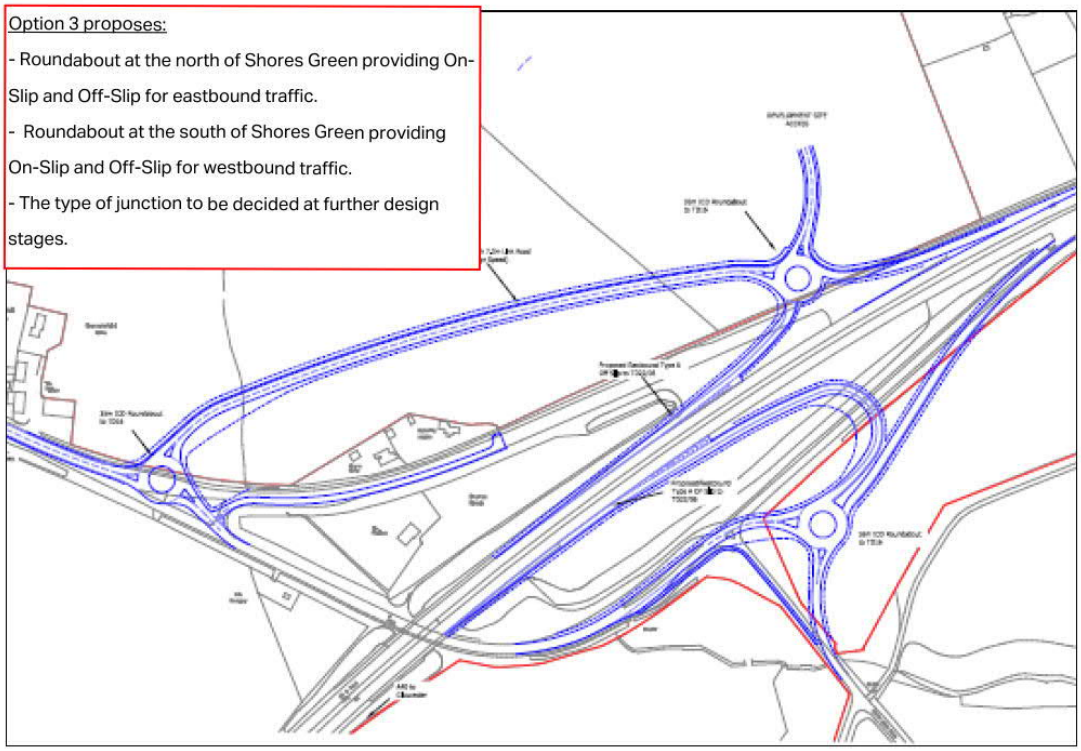


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Figure 41: Option 3: Roundabout North and South of Shores Green

Table 4-8: Potential Benefits and Issues - Option 3

Potential Benefits	Potential Issues
Potential reduction in traffic at Bridge Street and an improvement in air quality & noise as a result, if traffic diverts to using the new junction at Shores Green. Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic. The additional crossing point may also encourage more sustainable travel options on Bridge Street or provide access for bus via the A40 to avoid Bridge Street. Potential beneficial equality impacts in terms of safety and accessibility through the provision of crossing points.	Risk of rat running off the A40 through narrow rural roads and villages to the south or diverting through Witney to use the A4095 to the east of Witney, thus conflicting with Local Plan priorities. The layout introduces a disbenefit to existing traffic accessing the A40 eastbound, with the need to negotiate two roundabouts and a longer route onto the A40. The arrangement is less free flowing than the current layout. Junction modelling indicates that the scheme could result in long queues. This could result in some traffic diverting to or continuing to use Bridge Street. As such the scheme would not have a material impact decreasing flows on Bridge Street in the peaks. This option can be detrimental to existing traffic (to/ from Oxford) by introducing a junction and may lower the positive impacts of proposed dualling between Witney and the P&R site.
Improved access to the A40 for the residents of north and east Witney and support for proposed local plan strategic sites in north and east Witney. Relatively few existing residential properties in close proximity of the scheme.	There are some residential properties in the vicinity of the proposed scheme area. Objections may be raised. Potential for queues and blocking back from the roundabouts in peak hours, limiting potential scheme benefits to mainly off peak or uncongested times.
Construction works could be combined into a package with the various other A40 corridor improvements potentially providing efficiencies and savings. Both sides of this proposal can be constructed independently with little disruption to the A40.	The design layout is expected to require significant land take. Potential equality impacts associated with land take dependent on current use and land ownership The option is expected to have a considerably high construction cost due to likely land take/ preparation for construction and significant design and civil work required to align the

Potential Benefits	Potential Issues
	proposed option with the existing network alignment. The off slip in particular would require an amount of earthworks to be removed through an existing area of high ground that would leave a large area between the new off slip & the existing A40. Both EB on slip & WB off slip would have to be closed for the duration of the scheme construction with traffic diverted elsewhere through Witney.
	The proposed merge layout (on slip road) would not be DMRB compliant and would require significant departures from standard. The radius and uphill gradient are likely to make this difficult for HGVs to use and the limited merge area will make it unsafe to merge with traffic travelling at high speeds.

4.8 Option 4: A40 access to the east of Shores Green

Option 4A: Overbridge at Hill Farm, A40

4.8.1 Option 4A consists of providing a dedicated U-turn on the A40 to facilitate westbound traffic. The U-turn could be either in the form of an overbridge or a tunnel. Another option includes widening and using the existing overbridge approximately 1.3km to the east of the A40 bridge near Hill Farm, which is shown in Figure 42. The potential benefits and issues associated with this option are summarised in Table 4-9.

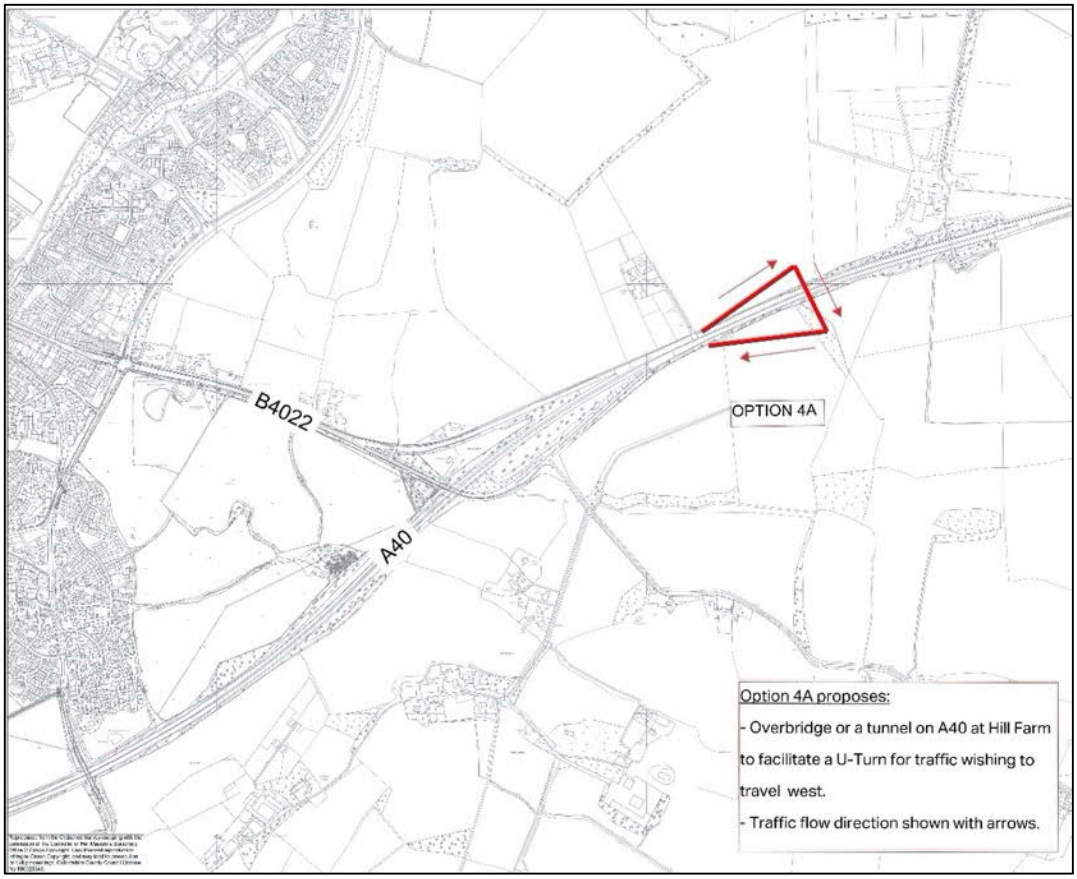

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Figure 42: Option 4A: Overbridge at Hill Farm, A40

Table 4-9: Potential Benefits and Issues - Option 4A

Potential Benefits	Potential Issues
Provides an alternative to Bridge Street for westbound traffic, and may offer additional resilience, for example when the town centre is heavily congested.	This option provides non-direct access to the A40, with traffic having to use the existing east facing on-slip, which may disrupt eastbound traffic flow. The increased distance may mean that traffic is unlikely to prefer this route to Bridge Street. A40 eastbound traffic on the return trip would also have to use this U-turn, reducing the scheme's benefits further and not fully supporting local plan development.
If the existing overbridge is used, then there may only be limited land acquisition required. Quick deliverability can be achieved with the use of the existing bridge.	If the existing bridge cannot be used, then construction of an additional bridge would be required while might also be visually intrusive. There would be limited equality impacts resulting from this option except for any

Potential Benefits	Potential Issues
	equality impacts resulting from land acquisition, although these are likely to be limited given the scale of acquisition required.
The cost implication of this option is not expected to be as high as compared to the other options providing slip roads.	Costs dependent on whether the existing bridge can be used. A new bridge would have a high cost. Even if the existing bridge can be used, works to widen it would be costly and would impact programme.
Construction works could be combined into a package with the various other A40 corridor improvements potentially providing efficiencies and savings. Both sides of this proposal can be constructed independently.	Although construction could proceed with little disruption to the A40, contraflows would be required while the bridge is constructed which would affect traffic on the A40.

Option 4B: Half or Full roundabout on the A40 to the east of Shores Green

4.8.2 Option 4B proposes a half roundabout or a full roundabout on the A40 to the east of Shores Green near Hill Farm. The option is shown in Figure 43. The potential benefits and issues associated with this option are summarised in the following table.

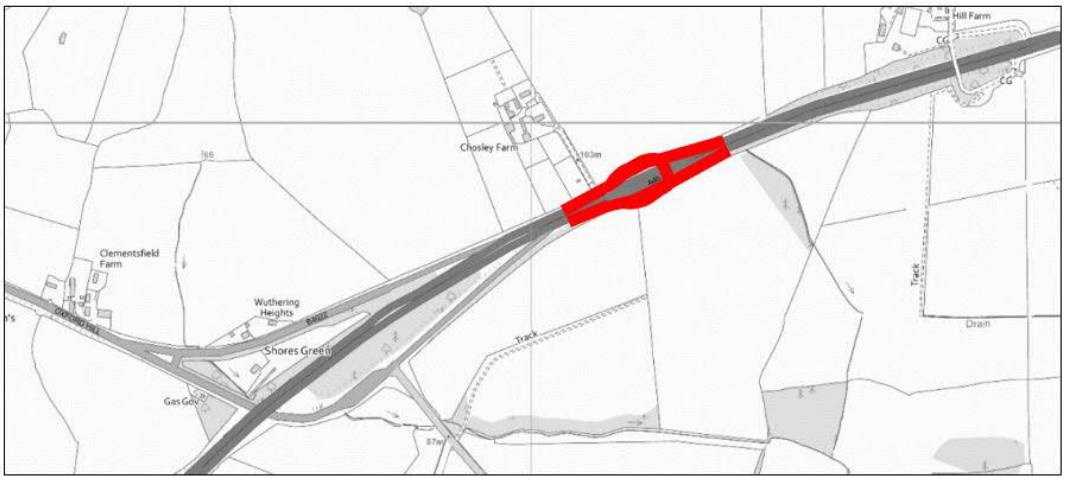

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Figure 43: Option 4B: Half or full roundabout on the A40 to the east of Shores Green

Table 4-10: Potential Benefits and Issues - Option 4B

Potential Benefits	Potential Issues
Provides an alternative to Bridge Street, and may offer additional resilience, for example when the town centre is heavily congested.	This option provides non-direct access from North and East Witney to the A40. Traffic may not prefer this route to Bridge Street, depending on junction design and speed limits.
Opportunity for more limited land acquisition compared to Option 2.	To meet design standards for a high-speed road a large junction would be required so still likely to require considerable land take to deliver. There would be limited equality impacts resulting from this option except for any equality impacts resulting from land acquisition, although these are likely to be limited given the scale of acquisition required.
The cost implication of this option is not expected to be as high as compared to the other options	Close proximity to existing slips would likely prohibit this option on safety grounds, unless a more extensive design including the existing slips was delivered at considerable cost. Likely to be more expensive option than 2E.
Improved access to the A40 for the residents of north and east Witney and support for proposed local plan strategic sites in north and east Witney.	Would require a new junction on the A40, creating another capacity constraint on the A40, and disrupting flow and increasing journey times for vehicles using this route.
Construction works could be combined into a package with the various other A40 corridor improvements potentially providing efficiencies and savings.	This design may not be consistent with the overall aims and objectives of the other A40 corridor improvements. There will be disruption to traffic on the A40 as contraflows would be required for construction. This will also increase the construction time.

4.9 Option 5: West End Link Road

4.9.1 Option 5 provides an alternative route to the residents of west Witney wishing to travel to the east of the city with a link called the West End Link (WEL2). WEL2 is proposed to be constructed to the west of Bridge Street to provide motorists with a substitute route. WEL2 has been modelled in the OSM and improves traffic conditions on Bridge Street. The option is shown in Figure 44. The potential benefits and issues associated with this option are summarised in Table 4-11.

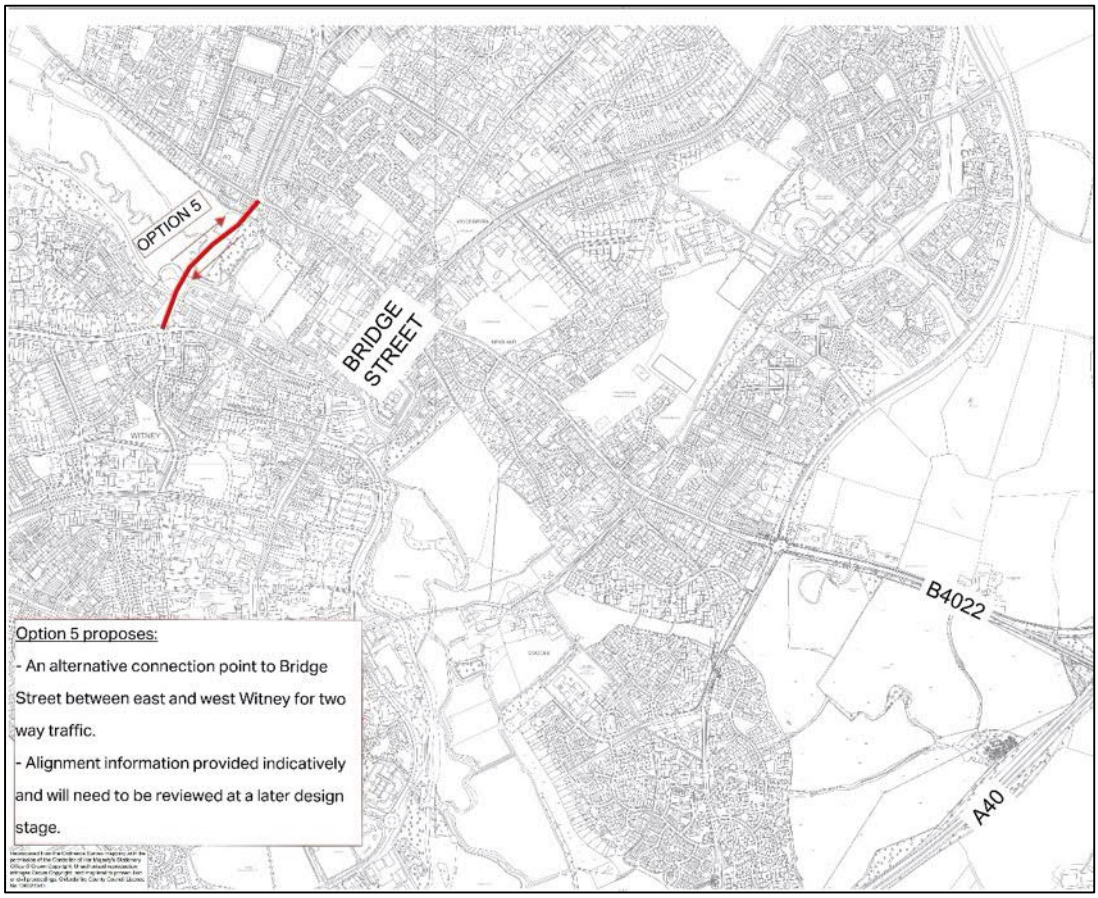

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Figure 44: Option 5: West End Link Road

Table 4-11: Potential Benefits and Issues - Option 5

Potential Benefits	Potential Issues
Improvement in traffic conditions on Bridge Street, based on results from the OSM, and therefore air quality improvements likely. Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic	Potential to shift traffic issues slightly west, and existing and induced traffic would use both this route and Bridge Street to travel through the town, depending on conditions on the two routes. The increase in air and noise pollution in the area may also receive objections from local residents. Potential equality impacts resulting from increase in traffic in the local area largely relating to air quality and noise. However, OSM modelling has shown this scheme has potential benefits, and it has been cited in various plans before.
The additional crossing point provides the flexibility of converting Bridge Street to	Potential environmental impacts of proposing a new bridge over the River

Potential Benefits	Potential Issues
one-way operation, and potentially public transport, cycle or pedestrian only to encourage sustainable forms of transport and additional environmental benefits. Potential beneficial equality impacts in terms of safety and accessibility through the provision of crossing points and improved public transport.	Windrush and potential flood impacts would need to be taken into account.
Facilitates traffic wishing to access the commercial areas in south-west Witney without having to go through the town centre, benefitting local residents.	Challenges with connecting the B4022/Crawley Road with the A4095 due to the presence of residential properties in the area.
Relatively short route connecting existing roads and supports strategic development site at North Witney proposed in the local plan.	High construction cost due to the construction of a new bridge over the River Windrush. Would require land acquisition to connect the A4095 with the B4022. It might require a Compulsory Purchase Order (CPO) for the scheme to go ahead. Potential equality impacts associated with land take dependent on current use and land ownership.

4.10 Option 6: Church Lane link from B4022 to Witan Way via Church Lane upgraded to general traffic

4.10.1 Option 6 provides a connection internally between west and east Witney, from Church Lane to the roundabout at Langdale Gate/Witan Way. Church Lane is a narrow residential (low traffic) road that is a relatively popular and quiet walking and cycling route. It runs past and close to a number of sensitive local receptors, including a local park, church and residential properties. The option would provide an alternative route to Bridge Street. The route could be used by buses to provide access to the town centre. The option is shown in Figure 45. The potential benefits and issues associated with this option are summarised in Table 4-12.

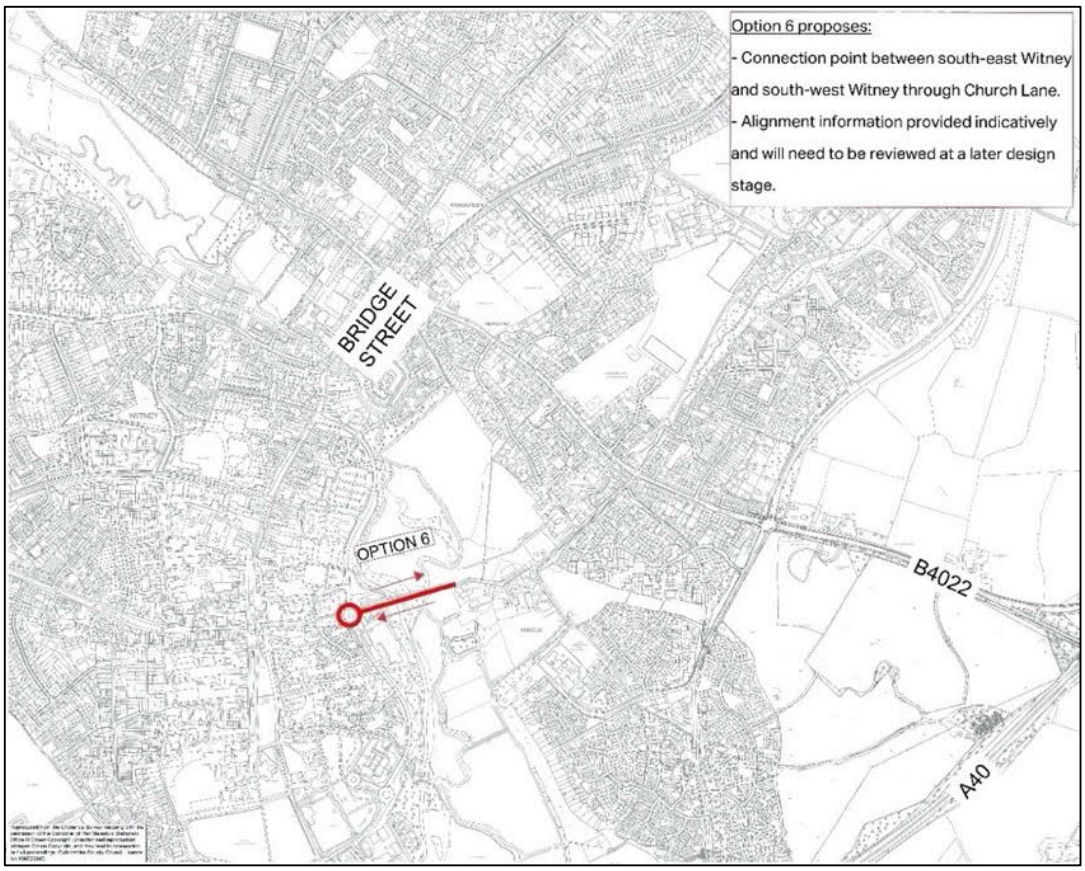

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Figure 45: Option 6: Church Lane link from B4022 to Witan Way via Church Lane to general traffic

Table 4-12: Potential Benefits and Issues - Option 6

Potential Benefits	Potential Issues
Expected reduction in traffic at Bridge Street, with associated congestion and environmental benefits.	Potential to shift traffic issues slightly south, and existing and induced traffic would use both this route and Bridge Street to travel to or through the town. The increase in air and noise pollution in the area may also receive objections from local residents. Potential equality impacts resulting from increase in traffic through residential areas largely relating to air quality, noise and safety.
Buses could also be assigned to this route promoting sustainable means of transport.	There would be a negative impact on existing cyclists and pedestrians, with the route becoming less attractive to them, given this is currently a quiet cycle route (part of NCR 57) which would be lost / impacted by upgrade to a road. Impact on cyclists and pedestrians may result in potential equality impacts, changes to the quality of provision could have a differential effect on those

Potential Benefits	Potential Issues
	groups with mobility issues or for those who are more vulnerable to road safety issues. Potential equality as this option may decrease opportunities for active travel and may result in associated health disbenefits.
The route will provide more direct access to the commercial areas in south Witney for residents in east Witney.	Widening would require significant land take. Likely to be significant objections from stakeholders and residents as the route is close to residential property and passes through a park and a church. Likely to face more local objections than WEL2. Potential equality impacts associated with land take dependent on current use and land ownership.
Makes use of an existing route and bridge.	This route is not identified within local plan proposals, with the current route catering only for pedestrians and cyclists over the river. The existing narrow route and bridge are not suitable for traffic and may require significant upgrade or demolition and rebuild with very high potential costs. Significant environmental and flood impacts with the construction of a bridge.

4.11 Option 7: Jubilee Way to A40 - Bypass

4.11.1 Option 7 proposes connecting the A40 with Jubilee Way via a bypass through private lands. The bypass would be connected to the A40 with a roundabout to the south and connected to Jubilee Way at its junction with Harvest Way. The option is shown in Figure 46. The potential benefits and issues associated with this option are summarised in Table 4-13.

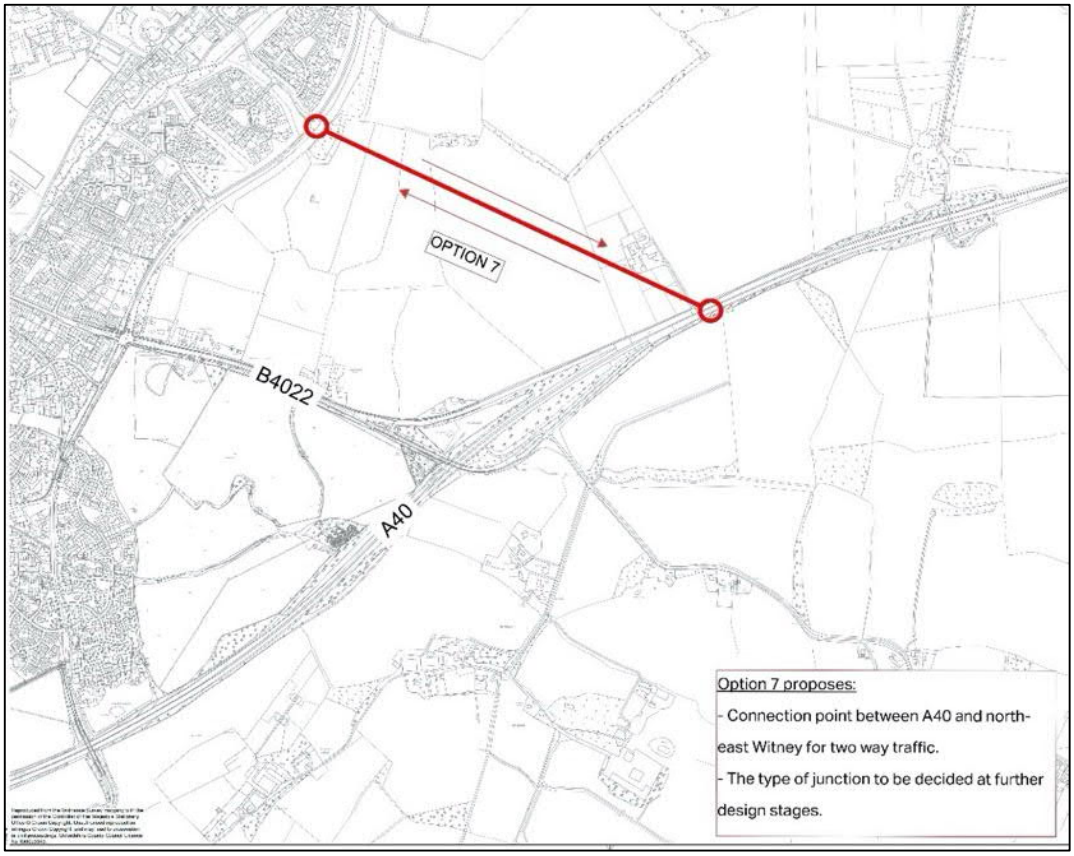

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Figure 46: Option 7: Jubilee Way to A40 - Bypass

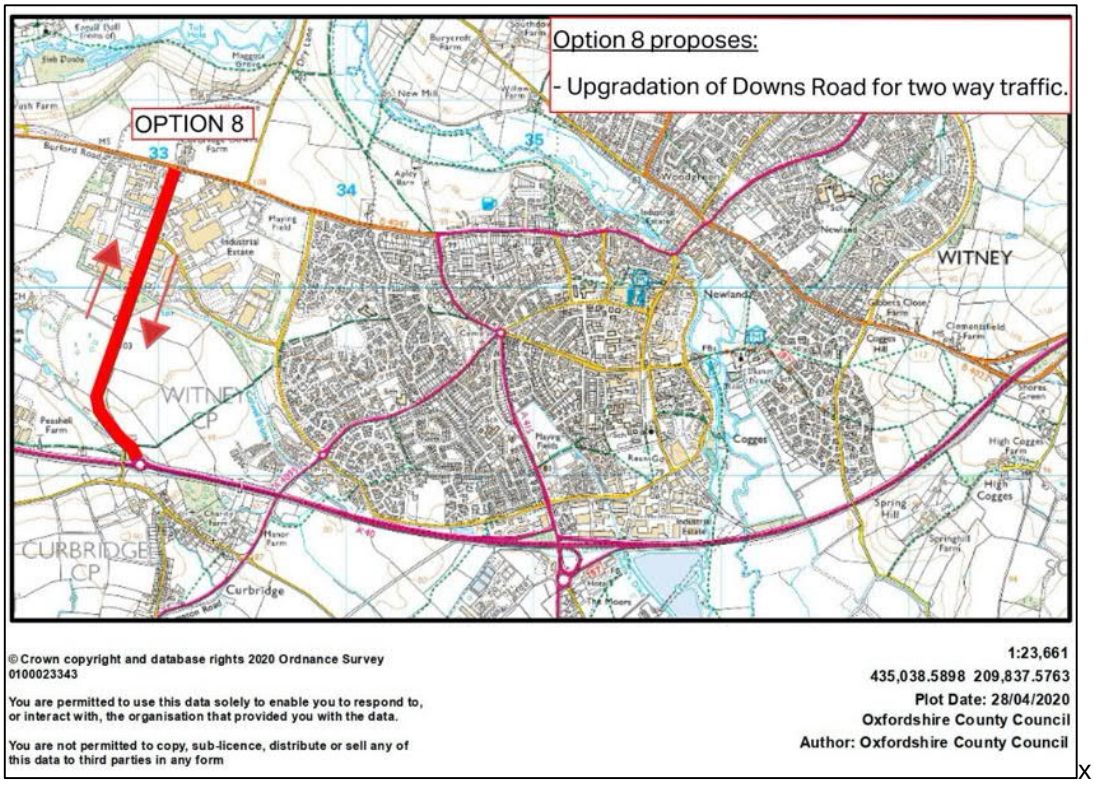
Table 4-13: Potential Benefits and Issues - Option 7

Potential Benefits	Potential Issues
Provides direct access to the A40 and an alternative to Bridge Street.	This option provides less direct access to the A40 from north and east Witney, and the attractiveness of this route versus Bridge Street is uncertain without further modelling.
Provides improved access to the A40 for the planned residential developments in Witney	This route is not identified within local plan proposals and would require significant land take as the option is on private land. Potential equality impacts associated with land take dependent on current use and land ownership It would require a new junction on the A40, creating another capacity constraint on the A40, and disrupting flow and increasing journey times for vehicles using this route. There are likely to be limited benefits in having two sets of east facing slip roads/ access points in such close proximity.

Potential Benefits	Potential Issues
Construction works could be combined into a package with the various other A40 corridor improvements potentially providing efficiencies and savings.	This design may not be consistent with the overall aims and objectives of the other A40 corridor improvements, and a large new junction on the A40 and additional link road would be a higher cost option. This option can be detrimental to existing traffic (to/ from Oxford) by introducing a junction and may lower the positive impacts of proposed dualling between Witney and the P&R site.

4.12 Option 8: Upgrading Downs Road to improve access to the A40

4.12.1 Option 8 proposes upgrading the existing Downs Road and roundabout on the A40. The option is shown in Figure 36. The potential benefits and issues associated with this option are summarised in Table 4-14.



Source: Map provided by OCC- © Crown copyright and database rights 2020 Ordnance Survey

Figure 47: Option 8: Upgrading Downs Road to improve access to the A40

Table 4-14: Potential Benefits and Issues - Option 8

Potential Benefits	Potential Issues
This option will predominantly make use of the existing infrastructure in Witney which is expected to reduce scheme costs.	Does not provide a direct new access route from north and east Witney to the A40. As the Downs Road/A40 scheme was only just delivered, it is unlikely there is a strong case for further upgrades or capacity enhancements unless associated with significant expansion of existing or new developments.
Limited land acquisition required in this option due to the use of existing infrastructure.	Does not directly support strategic development sites proposed in north and east Witney. There would be limited equality impacts resulting from this option except for any equality impacts resulting from land acquisition, although these are likely to be limited given the scale of acquisition required.
It will provide improved access to the commercial areas in west Witney.	Would not deliver benefits on Bridge Street as traffic to/from north and east Witney still must go via the town centre.
It could be delivered with other improvements, such WEL2 (Option 5) or a new link road connecting the B4022 with the B4047 (Option 9), to provide a route bypassing the town centre.	As part of a packaged option, there would be increased costs, as well as risks to overall feasibility and deliverability, and it would be dependent on other schemes going ahead.

4.13 Option 9: New Link Road Connecting B4022 with B4047

4.13.1 This option connects the B4047/A4095 roundabout with the B4022/Crawley Road roundabout or other suitable sections of Witney Road/Crawley Road. This option would provide a bypass to traffic wishing to travel west from Bridge Street. The option is shown in Figure 48. The potential benefits and issues associated with this option are summarised in Table 4-15.

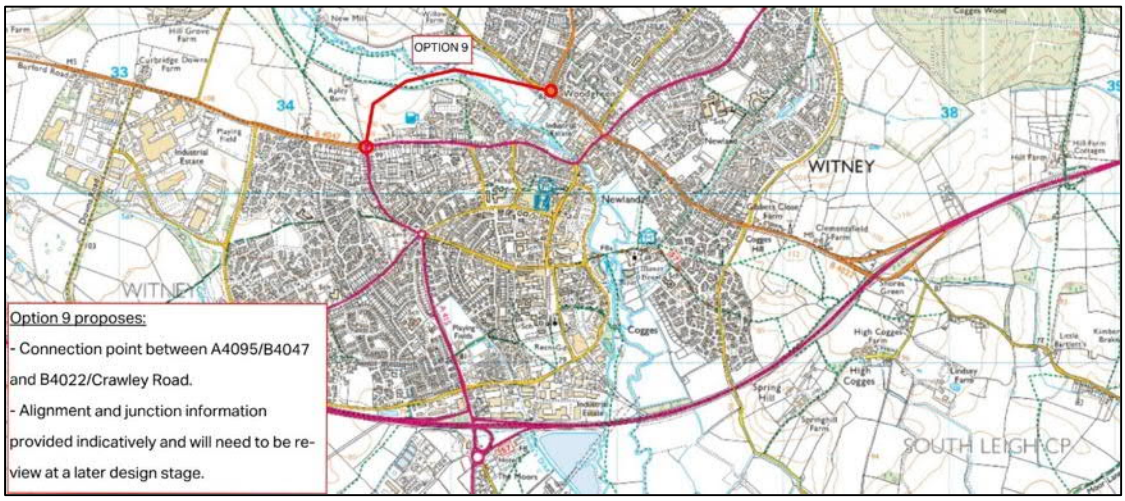


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Figure 48: Option 9: New Link Road Connecting B4022 with B4047

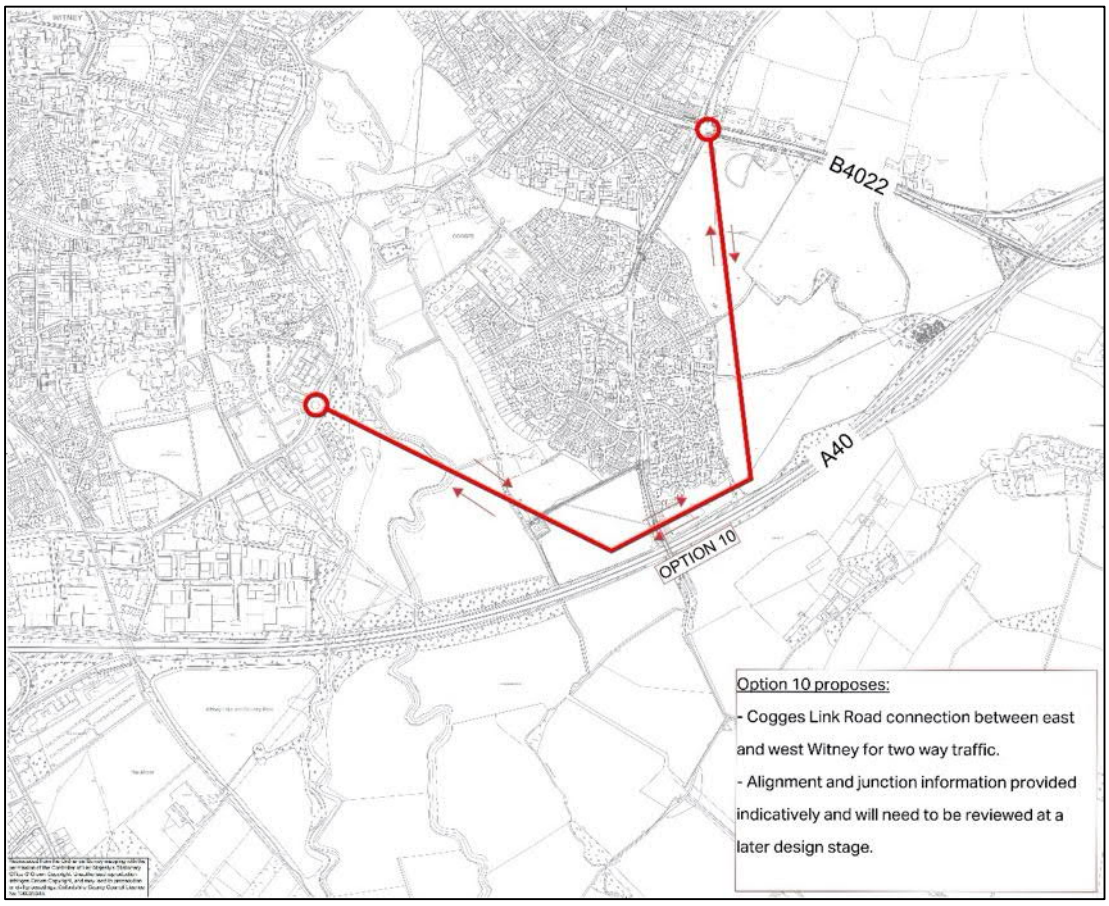
Table 4-15: Potential Benefits and Issues - Option 9

Potential Benefits	Potential Issues
Improvement in traffic conditions on Bridge Street, (assuming impacts would be similar to West End Link, Option 5), and therefore air quality improvements likely. Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic.	May have similar impacts to WEL2. It may induce more traffic by in effect introducing an outer ring road / northern distributor road to the A4095.
The additional crossing point provides the flexibility of converting Bridge Street to one-way operation, and potentially public transport, cycle or pedestrian only to encourage sustainable forms of transport and additional environmental benefits. Potential beneficial equality impacts in terms of safety and accessibility through the provision of crossing points and improved walking, cycling and public transport provision This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics	Potential environmental impacts of proposing a new bridge over the River Windrush and potential flood impacts would need to be taken into account.

Potential Benefits	Potential Issues
Provides the residents of north-east Witney with an alternative route to access west and south Witney and the A40 west and can be used to access the A40 through the improved junction with Downs Road.	Residents from the East Witney strategic development site may still route via Bridge Street to access the A40 West or commercial areas in south Witney.
Connects existing routes to provide a new outer / distributor road and supports strategic development sites at North Witney proposed in the local plan.	A longer link road than WEL2, implying higher construction costs, as well as the construction of a new bridge over the River Windrush. Significant land take and CPO will be required as the route goes through private property. It could face significant opposition and difficulty securing planning consents. Potential equality impacts associated with land take dependent on current use and land ownership.

4.14 Option 10: Cogges Link Road

4.14.1 This is the Cogges Link Road option originally proposed by OCC to provide an alternative connection between west and east Witney. The route proposed connecting Witan Way roundabout with a proposed roundabout at Cogges Hill Road/Jubilee Way/B4022 with a bypass. At the Stanton Harcourt Road bridge, the bypass would form an underbridge, at grade with the A40. The option is shown in Figure 49. The potential benefits and issues associated with this option are summarised in Table 4-16.



Source: OS Base information provided by Oxfordshire CC- © Crown copyright and database rights 2020 Ordnance Survey.

Figure 49: Option 10: Cogges Link Road

Table 4-16: Potential Benefits and Issues - Option 10

Potential Benefits	Potential Issues
Improves air quality and traffic congestion at Bridge Street, as demonstrated in previous evidence and modelling work for the scheme. Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic.	Local environmental impacts are likely to be significant. This route is not identified within local plan proposals as the option has been rejected once already as a part of a CPO hearing (with Shores Green Slip Roads being highlighted as a better alternative by the Planning Inspector). Significant objections by stakeholders and residents would be expected and it would struggle to obtain political support.
Provides the residents of east Witney with an alternative route to access the west and south of Witney.	The design layout would require considerable land purchase, and there are significant construction costs associated with the scheme design. Potential equality impacts associated with land take dependent on current use and land ownership.

Potential Benefits	Potential Issues
	It would be contrary to the conclusions of the Planning Inspector, the latest local plan and the strategic development site proposed for East Witney.

4.15 Option 11: New PT link between Witney and Oxford

4.15.1 A Baseline Statement for the A40 Witney-Oxford Corridor Route Strategy (2014) identified that the demand on the A40 would continue to grow for the foreseeable future. The potential longer-term measures included:

- *Bus lanes*
- *Tidal Flow bus lane*
- *Rail line re-opening*
- *Guided busways*
- *Train/tram*
- *Non-conventional rapid transit (people movers/automatic light rail/monorail)*
- *Dual Carriageway*
- *Tidal Flow lanes*
- *Additional Traffic lanes*

4.15.2 An Engineering Feasibility Study (2015) was undertaken on re-opening the rail line, together with public transport options for tram operation along the former rail line and the introduction of bus lanes along the A40. Initial sifting was undertaken and options such as tidal flow/ tidal flow bus lanes were screened out based on safety and value for money criteria.

4.15.3 An initial public consultation into the long-term A40 Strategy (between Witney and Oxford) was undertaken which received 800 responses. The following 5 conceptual options were presented:

- *A40 Bus Lanes;*
- *Guided busway;*
- *A40 Dual Carriageway;*
- *Train; and*
- *Tram.*

4.15.4 The dual carriageway option had the greatest level of support (66%), followed by train (51%), bus priority lanes (47%), tram (41%) and guided busway (26%). Following the consultation, the Council adopted the A40 Strategy to extend the dual carriageway east from Witney to a new Park & Ride at Eynsham, and bus priority in both directions from the P&R to Oxford.

4.15.5 The A40 Science Transit Phase 2 - Option Assessment Report (2017) undertook the option assessment of the 5 conceptual options using the Early Assessment and Sifting Tool (EAST) approach[25]. The composite scores of the options were:

- *4 for dual carriageway*
- *23 for bus lane*
- *3 for guided busway*
- *2 for heavy rail*
- *-1 for light rail.*

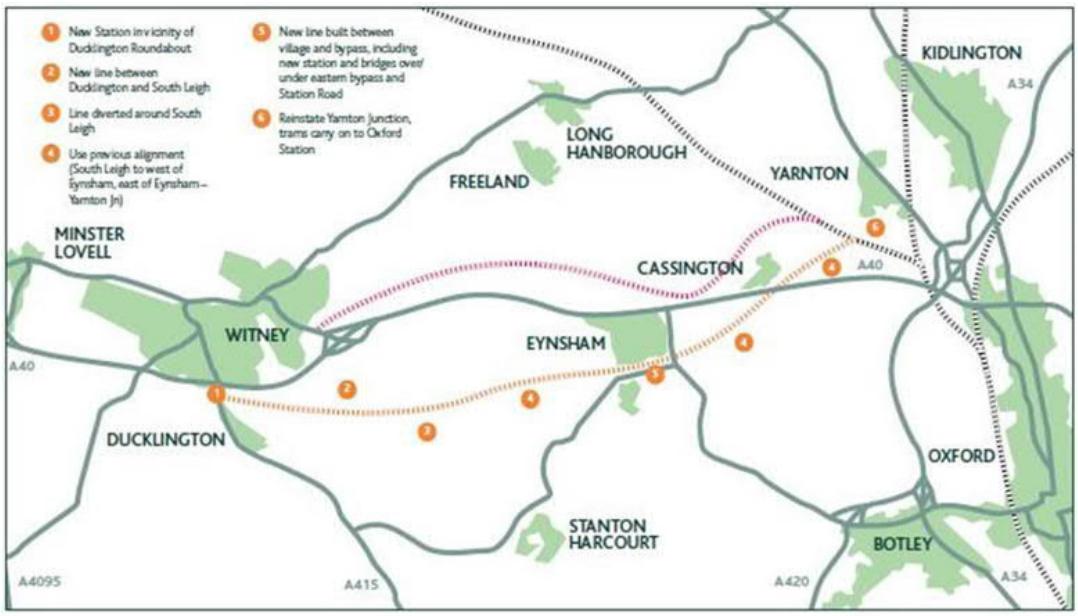
4.15.6 Train, bus rapid transit, tram and bus network improvement options have been considered based on the A40 Strategy and have been discussed in the following sub-sections.

Option 11A: Rail link between Witney and Oxford

4.15.7 This option proposes a rail link between Witney and Oxford, as shown in Figure 50 (indicative route), starting from Witney to the railway station in Oxford. It would broadly follow the A40. This was considered in the A40 Corridor Strategy and was sifted out (largely due to its high cost). It would cater mainly for commuters between Witney – Eynsham – Oxford, but also other trip purposes. The potential benefits and issues associated with this option are summarised in

4.15.8

4.15.9 Table 4-17.



Source: OCC. A40 Science Transit Phase 2 - Option Assessment Report

Figure 50: Option 11A: Rail link between Witney and Oxford

[25] Early Assessment and Sifting Tool (EAST): This is a decision support tool aimed at providing decision makers with relevant, high level, information to help them form an early view of how options perform and compare. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/4475/east-guidance.pdf

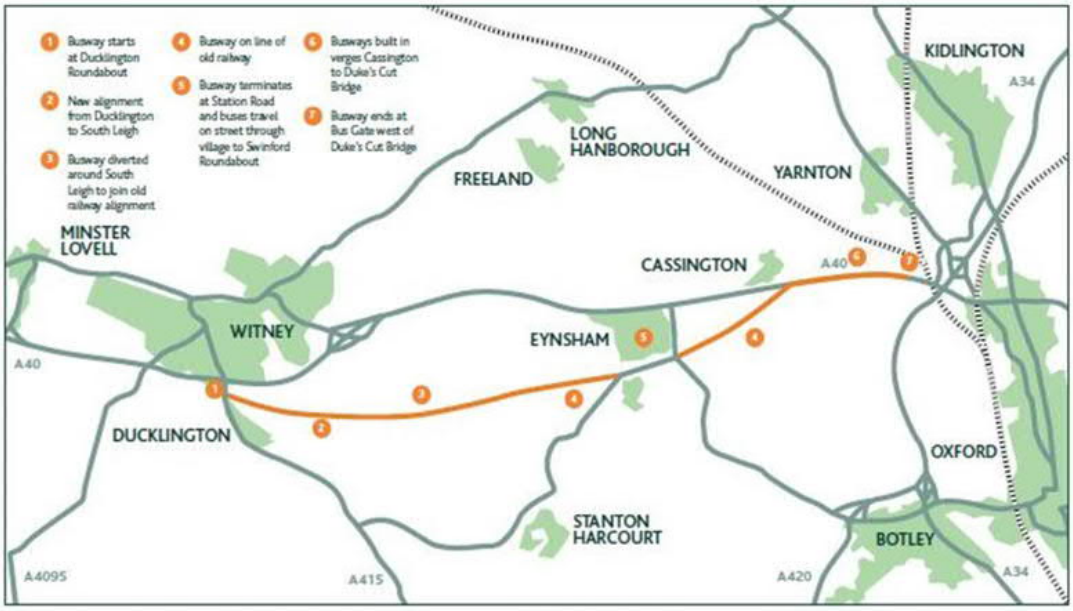
Table 4-17: Potential benefits and issues: Witney to Oxford – proposed railway

Potential benefits	Potential issues
Improved connectivity between Witney – Eynsham – Oxford and the wider UK rail network	Very high capital and operating costs. Would most likely require land acquisition. Potential equality impacts associated with land take dependent on current use and land ownership.
Potential agglomeration and wider economic benefits (such as land value uplift)	Potential disruption while construction takes place. Demand may not be enough to justify its costs or bring about wider impacts.
Would support/encourage development and use of sustainable modes	Witney already has a bus service connection to Oxford via the A40, and the A40 corridor schemes (A40 Smart Corridor and Science Transit 2) already make significant provision for bus priority as well as a new park and ride site.
May reduce traffic and improve air quality at Bridge Street and through the town centre, if associated with other sustainable transport measures, including access to the station. Potential beneficial equality impacts in terms of air quality due to a reduction in traffic.	Given current trip patterns within Witney and to/ from Oxford, impact on traffic through the town centre is likely to be minimal. Does not improve local accessibility within the town.

Option 11B: Bus Rapid Transit (BRT) between Witney and Oxford

4.15.10 This option proposes a Bus Rapid Transit (BRT) link between Witney and Oxford, parallel to or along the A40, as shown in Figure 51.

4.15.11 This option would be less expensive than rail for the same route but more expensive than a bus-based transit system. This was considered in the A40 Corridor Strategy but was sifted out; it would require land take and would disbenefit other highways users. The potential benefits and issues associated with this option are summarised in Table 4-18.



Source: OCC. A40 Science Transit Phase 2 - Option Assessment Report

Figure 51: Option 11B: BRT link between Witney and Oxford

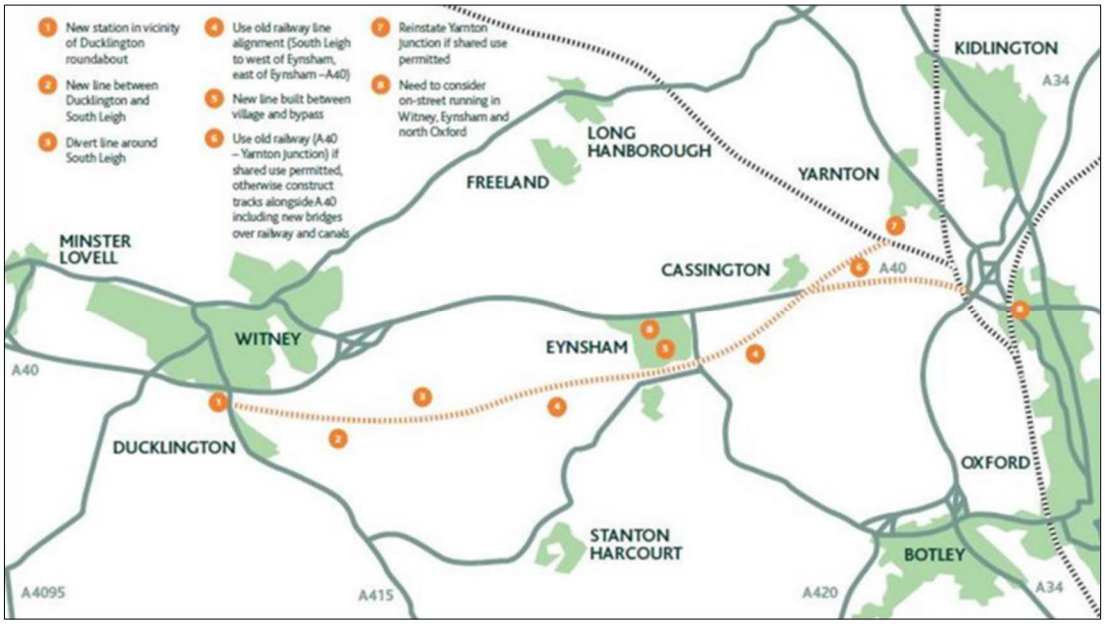
Table 4-18: Potential benefits and issues: Witney to Oxford – proposed BRT

Potential benefits	Potential issues
Improved connectivity between Witney – Eynsham – Oxford	High capital and operating costs. Would most likely require land acquisition. Potential equality impacts associated with land take dependent on current use and land ownership.
Potential agglomeration and wider economic benefits (such as land value uplift)	Potential disruption while construction takes place. Demand may not be enough to justify its costs, and some evidence that BRT does not have as significant an impact as heavy rail or tram without careful implementation and planning. Potential disbenefit to highway users.
Would support/encourage development and use of sustainable modes	Witney already has a bus service connection to Oxford via the A40. Local bus service improvements may be more cost effective and offer greater flexibility. Limited highways capacity to accommodate a full BRT and stops. The A40 corridor schemes (A40 Smart Corridor and Science Transit 2) already make significant provision for bus priority as well as a new park and ride site.

Potential benefits	Potential issues
May reduce traffic and improve air quality at Bridge Street and through the town centre, in particular if stops are placed in convenient locations. Potential beneficial equality impacts in terms of air quality due to a reduction in traffic.	Given current trip patterns within Witney and to/ from Oxford, impact on traffic through the town centre may be minimal without other measures. Regular stops or routes including east Witney would increase demand, but negate the journey time benefits and abstract demand from existing bus services if those were not replaced. Unlikely to make a significant improvement to local accessibility within the town.

Option 11C: Tram between Witney and Oxford (from A40 strategy option assessment work)

4.15.12 This option proposes a tram link between Witney and Oxford, parallel to or along the A40, as shown in Figure 52. This option would be less expensive than rail for the same route but more expense than a BRT. This option was considered in the A40 Corridor Strategy but was sifted out; it would require land take and disbenefit other highways users. The potential benefits and issues associated with this option are summarised in Table 4-19.



Source: OCC. A40 Science Transit Phase 2 - Option Assessment Report

Figure 52: Option 11C: Tram link between Witney and Oxford

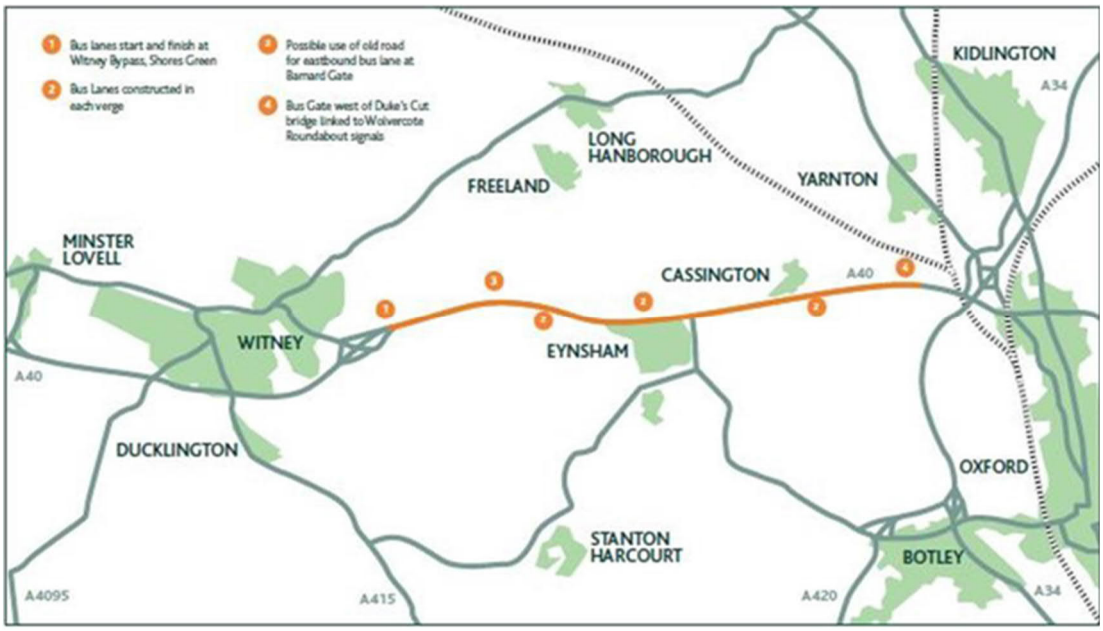
Table 4-19: Potential benefits and issues: Witney to Oxford – proposed tram

Potential benefits	Potential issues
Improved connectivity between Witney – Eynsham – Oxford	High capital and operating costs. Would most likely require land acquisition. Potential equality impacts associated with land take dependent on current use and land ownership.

Potential benefits	Potential issues
Potential agglomeration and wider economic benefits (such as land value uplift)	Potential disruption while construction takes place. Demand may not be enough to justify its costs or bring about wider impacts. Potential disbenefit to highway users.
Would support/encourage development and use of sustainable modes	Witney already has a bus service connection to Oxford via the A40. Local bus service improvements may be more cost effective and offer greater flexibility. Limited highways capacity to accommodate a tram and stops. The A40 corridor schemes (A40 Smart Corridor and Science Transit 2) already make significant provision for bus priority as well as a new park and ride site.
May reduce traffic and improve air quality at Bridge Street and through the town centre, in particular if stops are placed in convenient locations. Potential beneficial equality impacts in terms of air quality due to a reduction in traffic.	Given current trip patterns within Witney and to/ from Oxford, impact on traffic through the town centre may be minimal without other measures. Regular stops or routes including east Witney would increase demand, but negate the journey time benefits and abstract demand from existing bus services if those were not replaced. Unlikely to make a significant improvement to local accessibility within the town.

Option 11D: Bus Lanes and Bus Service Improvements on A40 from Witney to Oxford

4.15.13 This option proposes bus lanes and bus service improvements between Witney and Oxford, along the A40 shown in Figure 53. This option would be less expensive than rail, tram and BRT for the same route. A similar proposal was considered in the A40 Corridor Strategy work and A40 bus lanes were recommended (between Eynsham and Oxford) as part of the final corridor strategy and are now being taken forward. The potential benefits and issues associated with this option are summarised in Table 4-20.



Source: OCC. A40 Science Transit Phase 2 - Option Assessment Report

Figure 53: Option 11D: Bus link between Witney and Oxford

Table 4-20: Potential benefits and issues: Witney to Oxford – proposed Bus Lanes and Service Improvement

Potential benefits	Potential issues
Improved connectivity between Witney – Eynsham – Oxford	Likely lower potential agglomeration and wider economic benefits (such as land value uplift) compared to rail and BRT options
Low capital and operating costs. May not require significant land acquisition	Would need to determine how best to work with the bus operating companies to deliver enhancements needed to improve demand e.g. bus priority, improved stops and waiting facilities, improved buses, including low emission vehicles etc. Proposals should ensure that any short-term disruption to bus routes including relocation of bus stops could potentially adversely impact on people with mobility issues.
Would increase sustainable transport use, and provides greatest flexibility to adapt/ amend services	Potentially reduced capacity for other highway users.
The A40 corridor schemes (A40 Smart Corridor and Science Transit 2) already make significant provision for bus priority as well as a new park & ride site.	Given current trip patterns within Witney and to/from Oxford, impact on traffic through the town centre may be minimal without other measures. Need to identify Witney-specific schemes that can make the most of the proposed A40 Corridor schemes (see Options 12 – 15).

4.16 Option 12: New PT link between Witney and Long Hanborough

Option 12A: Railway line between Witney and Hanborough

4.16.1 A potential railway line running from Witney to Long Hanborough (the nearest railway station to Witney is Hanbourh station) is shown in Figure 54 (indicative route). The link would begin in Witney and travel north east following the A4095, joining the existing line at Hanborough station. The potential benefits and issues associated with this option are summarised in Table 4-21.

Source: AECOM – contains OS Data © Crown copyright and database right 2019.

Figure 54: Proposed railway or BRT link from Witney to Long Hanborough

Table 4-21: Potential benefits and issues: Witney to Hanborough station – proposed railway

Potential benefits	Potential issues
Improve connectivity from Witney to West Oxfordshire (north-west), and to Oxford and wider rail network	Very high capital and operating costs. Would most likely require land acquisition. Potential equality impacts associated with land take dependent on current use and land ownership.
Potential agglomeration and wider economic benefits (such as land value uplift)	Potential disruption while construction takes place. Demand may not be enough to justify its costs.

Potential benefits	Potential issues
Would support/encourage development and use of sustainable modes	Witney already has a bus service connection to Oxford via the A40. Local bus service improvements may be more cost effective and offer greater flexibility. The A40 corridor schemes (A40 Smart Corridor and Science Transit 2) already make significant provision for bus priority as well as a new park and ride site.
May reduce traffic and improve air quality at Bridge Street and through the town centre, if associated with other sustainable transport measures, including access to the station. Potential beneficial equality impacts in terms of air quality due to a reduction in traffic.	Given current trip patterns within Witney and to/ from Oxford, impact on traffic through the town centre is likely to be minimal without other measures. Does not improve local accessibility within the town.

Option 12B: Bus Rapid Transit (BRT) between Witney and Hanborough

4.16.2 This option proposes a BRT link between Witney and Hanborough, similar to the rail route shown in Figure 54 (indicative route). This option would be less expensive than rail for the same route. The potential benefits and issues associated with this option are summarised in Table 4-22.

Table 4-22: Potential benefits and issues: Witney to Hanborough – proposed BRT

Potential benefits	Potential issues
Improved connectivity from Witney to West Oxfordshire (north-west), and (via interchange at Hanborough) to Oxford and wider rail network	High capital and operating costs. Would most likely require land acquisition Potential equality impacts associated with land take dependent on current use and land ownership.
Likely agglomeration and wider economic benefits (such as land value uplift)	Potential disruption while construction takes place. Demand may not be enough to justify its costs. Passengers would need to interchange to rail at Hanborough for onward journeys to Oxford, and this will moderate demand further.
Would support/encourage development and use of sustainable modes	Witney already has a bus service connection to Oxford via the A40. Local bus

Potential benefits	Potential issues
	service improvements may be more cost effective and offer greater flexibility. The A40 corridor schemes (A40 Smart Corridor and Science Transit 2) already make significant provision for bus priority as well as a new park and ride site.
May reduce traffic and improve air quality at Bridge Street and through the town centre. Potential beneficial equality impacts in terms of air quality due to a reduction in traffic.	Given current trip patterns within Witney and to/ from Oxford, impact on traffic through the town centre may be minimal without other measures. Unlikely to make a significant improvement to local accessibility within the town, without regular stops and changing the proposed route, which would impact journey times.

4.17 Option 13: New PT links between Jubilee Way/A4095 junction – Windrush Industrial Park – Two Rivers Industrial Estate

Option 13A: Light rail link between Jubilee Way/A4095 junction, Windrush Industrial Park, and Two Rivers Industrial Estate

4.17.1 As seen in Figure 54 (indicative route), this option proposes a light rail link (or alternatively tram) linking Jubilee Way/A4095 junction – Windrush Industrial Park – Two Rivers Industrial Estate, through Witney town centre. This route would link major activity centres within Witney. The potential benefits and issues with this option are summarised in Table 4-23.

Table 4-23: Potential benefits and issues: Witney – proposed light rail link

Potential benefits	Potential issues
Increased connectivity within Witney	Very high capital and operating costs.
Serve planned developments such as at Jubilee Way	Potential disruption during construction. Demand may not be enough to justify its costs.
Would support/encourage development and use of sustainable modes	May require land acquisition. Potential equality impacts associated with land take dependent on current use and land ownership. Existing and modified bus services may provide a more cost-effective option.
May reduce car journeys through Bridge Street and potentially round Witney as a whole	May need to consider other measures to encourage uptake and mode shift from highways for local trips.

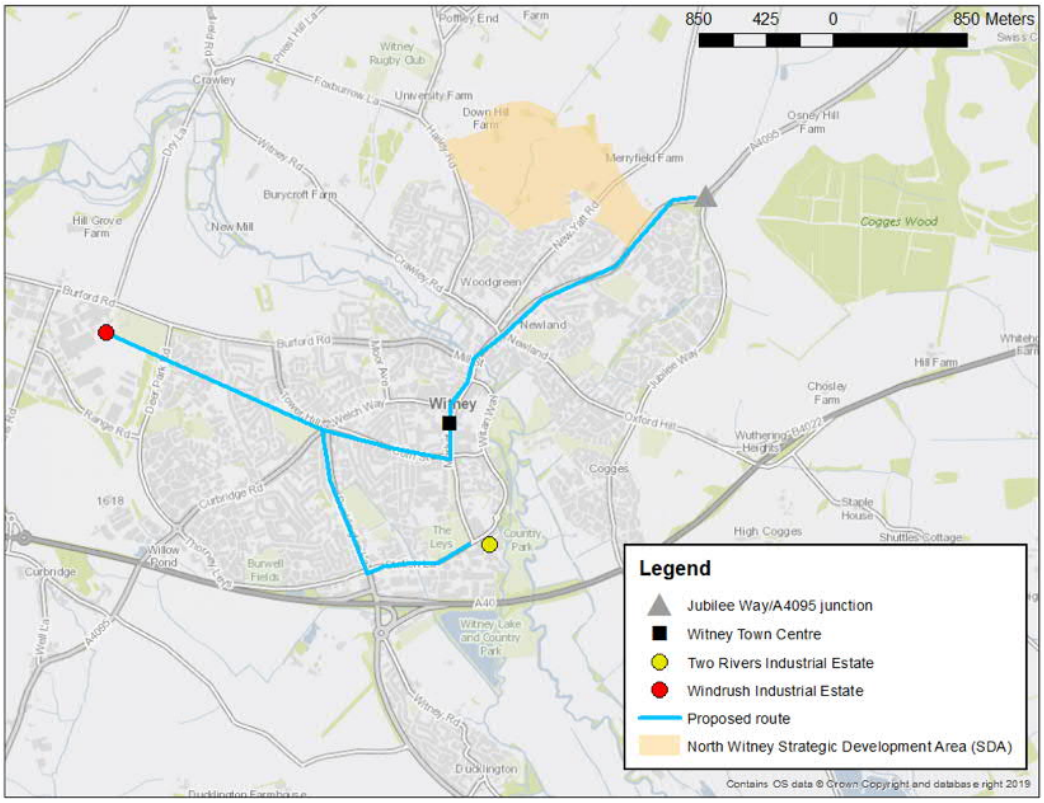
Potential benefits	Potential issues
	The reduction in highways capacity to deliver this route is likely to have a significant disbenefit to existing users, including bus serving other areas. Potential impacts on highways and bus services (especially if the option involved relocation of bus stops) could potentially adversely impact on people with mobility issues.

Option 13B: Bus Rapid Transit (BRT) link between Jubilee Way/A4095 junction, Windrush Industrial Park, and Two Rivers Industrial Estate

4.17.2 This option proposes a BRT link from Jubilee Way/A4095 junction to Windrush Industrial Park and to the Two Rivers Industrial Estate, through Witney town centre (similar to the Option 13A route; Figure 55 [indicative route]). The potential benefits and issues are summarised in Table 4-24.

Table 4-24: Potential benefits and issues: Witney – proposed BRT

Potential benefits	Potential issues
Increased connectivity within Witney	High capital and operating costs
Serve planned developments such as at Jubilee Way	Potential disruption during construction. Demand may not be enough to justify its costs.
Would encourage use of more sustainable modes	May require land acquisition and/or disbenefit. Potential equality impacts associated with land take dependent on current use and land ownership. Existing and modified bus services may provide a more cost-effective option.
May reduce car journeys through Bridge Street and potentially round Witney as a whole	May need to consider other measures to encourage uptake away from highways for local trips. The reduction in highways capacity to deliver this route is likely to have a significant disbenefit to existing users, including bus routes serving other areas. Potential impacts on highways and bus services (especially if the option involved relocation of bus stops) could potentially adversely impact on people with mobility issues.



Source: AECOM – contains OS Data © Crown copyright and database right 2019.

Figure 55: Proposed light rail or BRT link

4.18 Option 14: Improve/ build on PT and/ or demand responsive services

Option 14A: Increased bus frequencies/ routes within and to/from the wider Witney area

4.18.1 This option is based on improving or expanding existing bus services and routes, for example to allow for more frequent and reliable services, especially to serve employment/industrial areas and new development areas (such as improved bus services from the East and North Witney SDAs to Witney). This option may not in itself address the congestion issues in Witney without mode shift and some element of bus priority. However, the wider A40 corridor improvements include park & ride, bus lanes between the park & ride and Oxford, and enhanced bus services (including the Carterton and West Witney development areas, the East and North Witney SDAs, and between Witney and Oxford). As such, this option could focus on the level of enhancements to complement the wider A40 corridor improvements and to focus on specific challenges in Witney and the objectives identified in this study. The potential benefits and issues are summarised in Table 4-25.

Table 4-25: Potential benefits and issues: Witney – bus frequency

Potential benefits	Potential issues
Would increase connectivity within Witney and potentially connections to other centres, such as Oxford,	Potential study needed to understand exactly where the demand is to tailor services.

Potential benefits	Potential issues
making best use of the improvements being delivered by the A40 corridor schemes	Would need to determine how best to work with the bus operating companies to deliver enhancements needed to improve demand e.g. bus priority, improved stops and waiting facilities, improved buses, including low emission vehicles etc.
Would increase sustainable transport use, and provides greatest flexibility to adapt/ amend services, both within Witney and to/ from other centres. There may be potential beneficial impacts to groups with mobility issues.	Would need an increase in demand to justify additional services and running costs. Potentially reduced capacity for other highway users.
Reduce car journeys through Bridge Street and potentially Witney as a whole	Without a shift in demand to bus, the impacts would be minimal. May also need other measures targeting longer distance/ strategic traffic to/from Witney.

Option 14B: Demand responsive service within Witney

4.18.2 Another intervention could be a demand responsive service[26] within Witney, for example similar to or expanding on the offer available elsewhere (e.g. demand responsive taxi-buses). This service would work by for example passengers inputting their journey into an app, the service would then match up the journey with others close by going in the same direction. This option may not in itself address the congestion issues in Witney. Longer term, Mobility as a Service, driverless vehicles etc. may also have a role to play. However, it is still uncertain what impact these will have or what they could provide in the context of Witney. The potential benefits and issues are summarised in Table 4-26.

Table 4-26: Potential benefits and issues: Witney – demand response service

[26] A demand responsive option is being trialled by OCC elsewhere in the county to understand its feasibility and potential benefits. Depending on the outcomes, this could be considered further and rolled out elsewhere.

Potential benefits	Potential issues
May reduce car journeys through Bridge Street and potentially around Witney as a whole	Could be a technical barrier if an app needed to be used leading to social exclusion. Consider other options such as dialling in (Dial-a-Ride) etc, but more options increase the operating costs. May not be enough demand to make an impact on congestion at Bridge Street, but may provide other benefits addressing social exclusion and providing improved accessibility for those without a car.
Increase in sustainable transport use There may be potential beneficial impacts to groups with mobility issues who are unable to access public transport.	Uptake of demand responsive service may be low, and likely to cater best to specific segments of the community.
Could be part of a wider programme of demand responsive services in the county	Trials are taking place elsewhere in the county, and progress on similar services in Witney will be dependent on the outcome of those trials.

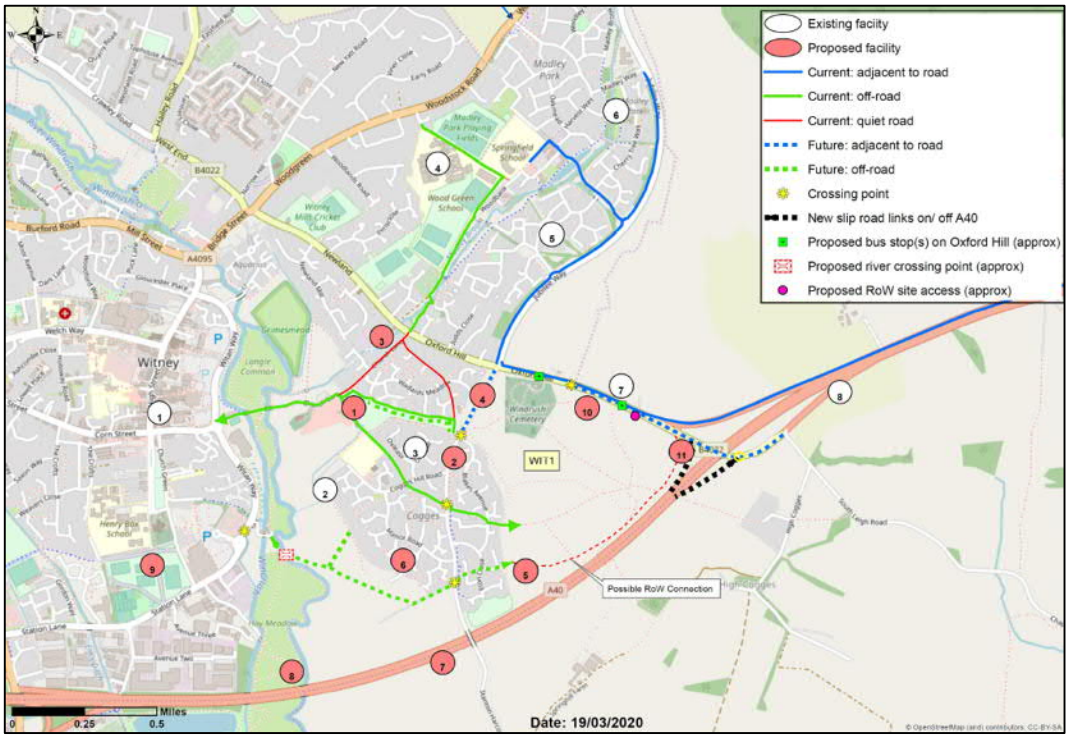
4.19 Option 15: Cycle network improvements in East Witney and across Witney

4.19.1 This option proposes improving and expanding the provision of cycle infrastructure in and around Witney and may play a role decreasing congestion in particular corridors, could support other measures, and improve safety for cyclists. It also has potential health benefits if it encourages greater uptake of cycling. The potential benefits and issues are summarised in Table 4-27. Figure 56 provides an example, identifying priority network improvements deemed vital for the delivery of East Witney SDA, from OCC's emerging cycling infrastructure strategy for Witney (*Identification of Selected Cycling Infrastructure Enhancements in East Witney Draft Report*, OCC, February 2020).

Table 4-27: Potential benefits and issues: Witney – cycle track

Potential benefits	Potential issues
Improved connectivity within Witney and improved accessibility for active modes Potential beneficial equality impacts in terms of safety and accessibility through the provision of improved cycling infrastructure.	Uptake of cycling may require other investments and encouragement to ensure demand is sufficient to justify investment. Segregated routes are likely to have the most impact, but with higher cost.

Potential benefits	Potential issues
This option could also have a beneficial impact on groups who are more vulnerable to road safety.	
Serve planned developments such as at Jubilee way	Would need to encourage cycling, and this may need other investment or maintenance costs e.g. secure cycle parking, shower facilities, CCTV and lighting etc. May also be dependent on investment and policies from local employers to cater for cyclists on commuting trips, and on other local initiatives to improve the public realm.
Would encourage use of sustainable modes and positive health impacts This option provides an increased opportunity for active travel and associated health benefits.	May need a programme of behaviour change. Likely to play a part in an overall package of measures but unlikely to cater for all trip purposes and trip patterns.



Source: Identification of Selected Cycling Infrastructure Enhancements in East Witney, OCC Draft Report (2020)

Figure 56: Potential network improvements related to delivery of the East Witney SDA (Source: OCC)

4.20 Option 16: Witney Car Parking Management Strategy and Policies

4.20.1 WODC's Adopted Local Plan (2011 – 2031) suggests the need to provide both increased public car parking to go with any significant new developments (but also

managing parking to try and reduce car use for short journeys) and to provide improvements to bus, pedestrian and cycle infrastructure.

4.20.2 This option considers an enhanced car parking management strategy and policies for Witney Town Centre. It would aim to achieve modal shift and improve town centre traffic management. It could potentially include measures such as parking restrictions and charging applied to on-street, off-street and workplace parking. It can further include real time information at car parks and on the surrounding road network which can potentially have positive effects on local traffic as it could mitigate rat running to find parking and reduce journey times and congestion. The potential benefits and issues are summarised in the following table.

Table 4-28: Potential benefits and issues: Witney Car Parking Management Strategy and Policies

Potential benefits	Potential issues
Parking management can help to deal with traffic, improve air quality, ensure better road safety and increase utility of land resources, and it can further encourage trips by public transport, active modes and manage/reduce travel demand	Managing demand for parking may have additional ongoing costs. If there is an overall decrease in demand for (and expenditure in) the town centre, this will impact on the town's economic performance.
Public revenue from parking fees can help cover parking management costs and potentially cross-subsidise non-car modes or public realm improvements	Stakeholders may oppose paid car parking, controlled parking zones and / or restrictions on parking
Flexibility can be provided in managing both supply and demand, for example the mix between on and off-street and time-limited parking or minimum charges that favour longer over shorter stay parking, to encourage the latter to use different modes. Yield management can help maximise revenues to invest in the public realm or other priority areas.	There may be objections from residents and stakeholders, alternative provision may be needed elsewhere, and overly complex or dynamic charging regimes will confuse people.

4.21 Option 17: At-grade roundabout at Shores Green – option A.1

4.21.1 This option turns the existing slip roads at Shores Green into an at-grade roundabout (similar to the recently constructed Downs Road junction). This option includes a three-armed roundabout which connects to the existing A40. The B4022 continues to connect with South Leigh Road. Westbound traffic traveling to South Leigh Road will need to detour via the junction which connects the B4022 and the on-slip road. The scheme will require alignment of the existing B4022 off slip road as well as the junction which connects the B4022 and the on-slip road. The eastbound slip road is

the access arm into the roundabout and therefore would provide access into Witney. Junction capacity modelling has been undertaken to assess the impact of this option[27]. The option is shown in Figure 57. The potential benefits and issues are summarised in Table 4-29.

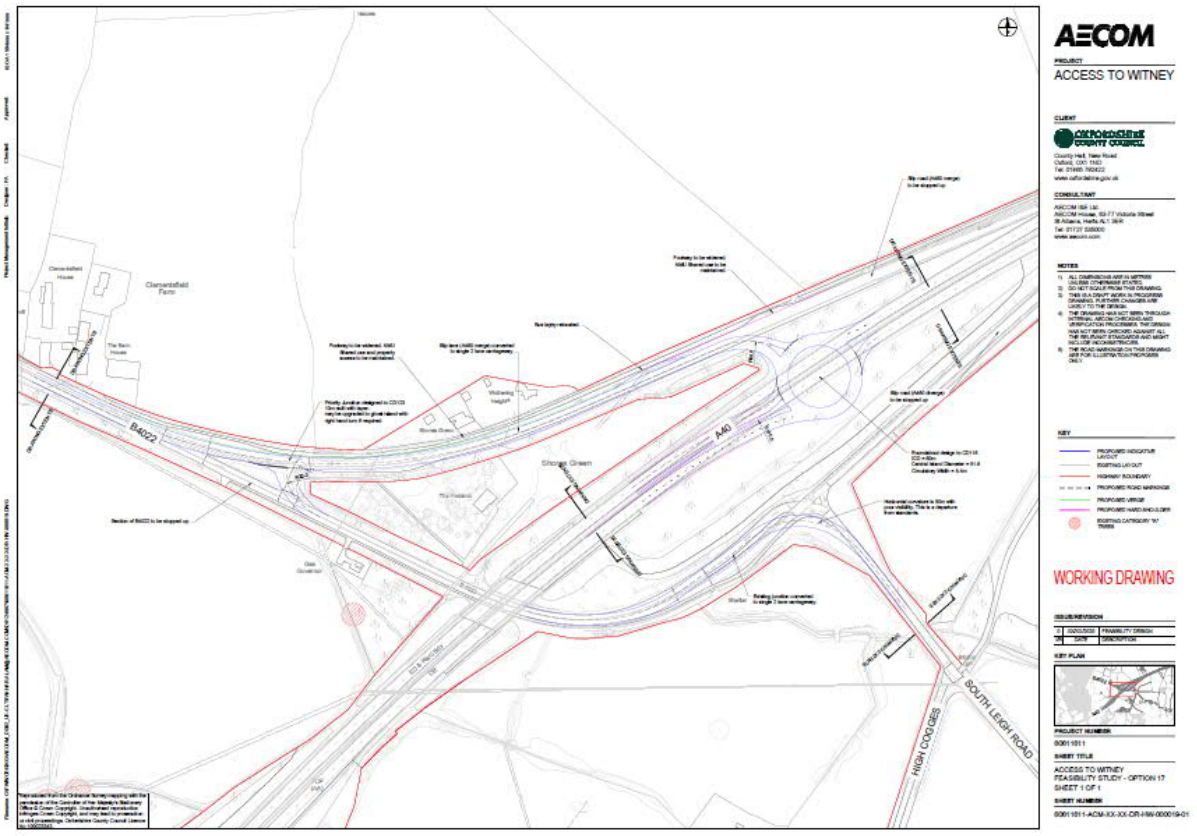


Figure 57: Option 17 (proposed layout at Shores Green)

Table 4-29: Potential benefits and issues: At-grade roundabout at Shores Green – option A.1

Potential benefits	Potential issues
Improved access into Witney as all movements would be possible. The at grade roundabout provides new connectivity to Witney for traffic approaching from the west, and in turn vehicles travelling from Witney to the west.	The scheme requires widening to the northwest and southeast of the current A40 corridor. The land between the existing slip roads and the A40 is currently densely vegetated with open ditches and may contain some protected species.
The existing slip road (eastbound merge) is converted to a single 2 lane carriageway on approach to the at grade roundabout. This standardises the route to the A40. In comparison the existing slip	Westbound slip road (diverge) is to be stopped up. This forces all traffic to enter/exit the A40 via the at grade roundabout from the north west arm. Vehicles entering the roundabout will need to give way to traffic on the roundabout

[27] Further information on the modelling undertaken can be found in the technical note "60611611 - Access to Witney - TNA02-B"

Potential benefits	Potential issues
road is non-compliant with DMRB design guidance, containing two-way traffic and private accesses	circulatory. This option is not as free flowing as the existing layout.
The existing eastbound slip road (merge) is currently non-standard in terms of its layout/cross-section. The farm access at the end of the taper is also a safety concern. Removing the slip road will remove this existing safety risk.	Due to land constraints the northwest approach horizontal curvature of the link road before the entry flare of the roundabout is lower than the permitted parameters in DMRB.
Land take is limited to the existing highway boundary.	To achieve the desirable stopping sight distance on the north west approach to the roundabout, large amounts of existing vegetation will need clearing/maintaining to keep visibility splays from obstruction. Removing a grade separated junction with an at-grade roundabout will increase journey times for some users and may not be supported.
	Due to land constraints and in order to provide compliant roundabout geometry, the roundabout was located to the southeast of the A40 corridor. This introduces an approach radius of 510m (two steps below desirable minimum) on the southwest arm. This mainline adjustment causes visibility issues for vehicles exiting the roundabout. Visibility splays through existing vegetation will need to be re-established
	South Leigh Rd will require realignment to avoid confusing drivers once the slip road is no longer in use. To avoid further land take, horizontal curvature and SSD of the realignment is below minimum requirements. It is noted that the horizontal curvature/SSD shown is similar to existing geometry on the A40. This would be a departure from standard.
	The roundabout is located within the A40 carriageway; the introduction of this junction will require significant temporary traffic management and delay to users.
	There is a big level difference between the likely roundabout level and the area to the south east of the roundabout. This solution is likely to require a retaining wall to manage

Potential benefits	Potential issues
	the difference. VRS will be required to protect vehicles.
	The traffic modelling for the roundabout against the predicted 2031 flows forecasts that the junction will be significantly overcapacity in both the AM and PM peaks. The modelling forecasts significant queueing on all the approaches across both the peaks. The extensive queues would have adverse network wide impacts. The model demonstrated that the traffic from the B4022 seeking to enter the roundabout would likely fail to find enough 'gaps' to join the roundabout safely due to the dominant A40 east-west traffic flow. This option can be detrimental to existing traffic (to/ from Oxford) by introducing a junction and may lower the positive impacts of proposed dualling between Witney and the P&R site.
	Early Contractor Involvement (ECI) study indicates that the construction of the option will incur a considerably higher cost with longer construction timescales as compared to a conventional slip roads arrangement.

4.22 Option 17a: At-grade roundabout at Shores Green option A.2

4.22.1 This option is very similar to Option 17 as it provides an at-grade roundabout at the Shores Green slip roads. This includes a three-armed roundabout which connects to the existing A40. The B4022 continues to connect with South Leigh Road, but as a result, westbound traffic traveling to South Leigh Road will need to detour via the junction which connects the B4022 and the on-slip road. It is likely to require alignment of the existing B4022 off slip road as well as the junction which connects the B4022 and the on-slip road. The eastbound slip road is the access arm into the roundabout and therefore would provide access into Witney. The key difference with Option 17 is that this option includes a larger roundabout to the maximum roundabout size allowed under DMRB. Junction capacity modelling has been undertaken to assess the impact of this option[28]. The option is shown in Figure 58. The potential benefits and issues are summarised in Table 4-30.

[28] Further information on the modelling undertaken can be found in the technical note "60611611 - Access to Witney - TNA02-B"

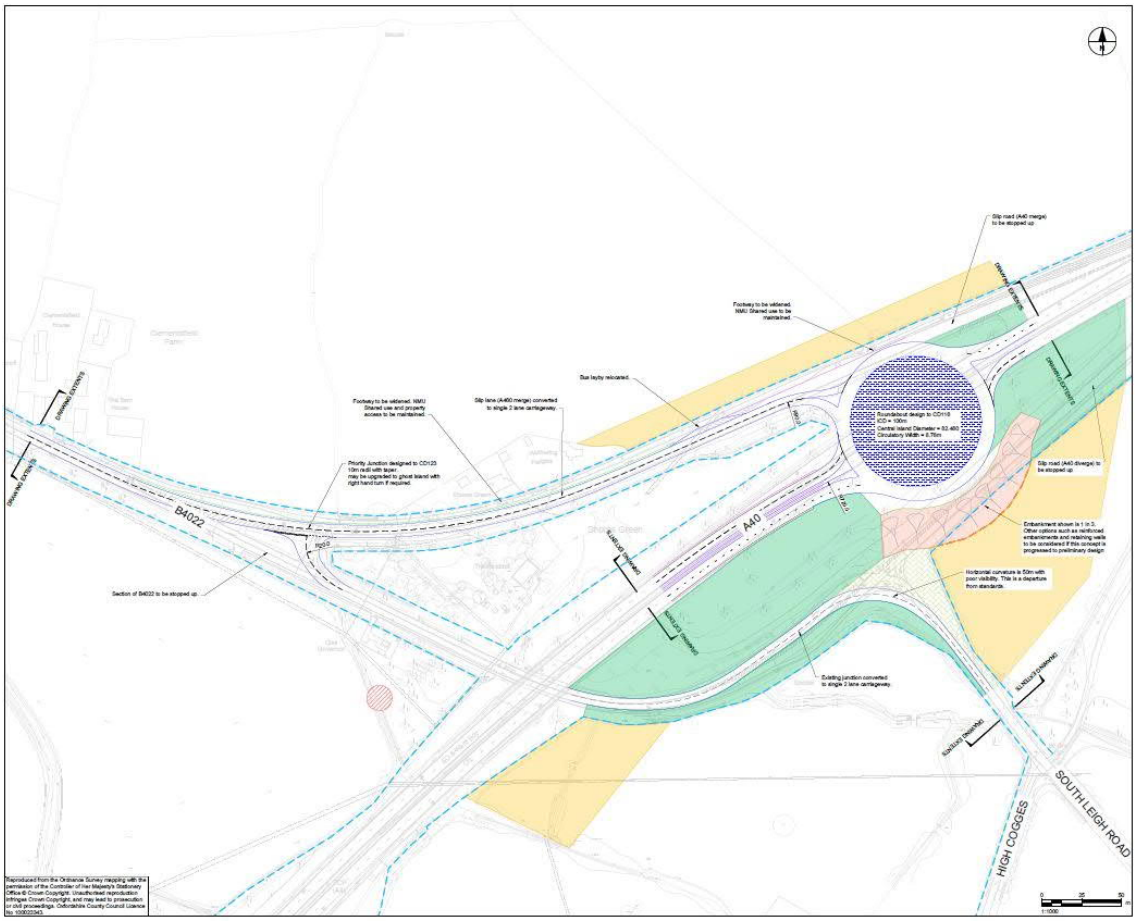


Figure 58: Option 17a (proposed layout at Shores Green)

Table 4-30: Potential benefits and issues: At-grade roundabout at Shores Green – option A.2

Potential benefits	Potential issues
Improved access into Witney as all movements would be possible. The at grade roundabout provides new connectivity to Witney for traffic approaching from the west, and in turn vehicles travelling from Witney to the west.	The roundabout size is 100m Inscribed Circle Diameter (ICD), and therefore this option requires some land take to the south of the roundabout.
The existing slip road (eastbound merge) is converted to a single 2 lane carriageway on approach to the at grade roundabout. This standardises the route to the A40. In comparison the existing slip road is non-compliant with DMRB design guidance,	The scheme requires widening to the northwest and southeast of the current A40 corridor. The land between the existing slip roads and the A40 is currently densely vegetated with open ditches and may contain some protected species.

Potential benefits	Potential issues
containing two-way traffic and private accesses.	
The existing eastbound slip road (merge) is currently non-standard in terms of its layout/cross-section. The farm access at the end of the taper is also a safety concern. Removing the slip road will remove this existing safety risk.	The westbound slip road (diverge) is to be stopped up. This forces all traffic to enter/exit the A40 via the at grade roundabout from the north west arm. Vehicles entering the roundabout will need to give way to traffic on the roundabout circulatory. This option is not as free flowing as the existing layout.
	Due to land constraints the northwest approach horizontal curvature of the link road before the entry flare of the roundabout is lower than the permitted parameters in DMRB.
	To achieve the desirable stopping sight distance on the north west approach to the roundabout, large amounts of existing vegetation will need clearing/maintaining to keep visibility splays from obstruction. Removing a grade separated junction with an at-grade roundabout will increase journey times for some users. Potential for queues and blocking back from the roundabouts in peak hours, limiting potential scheme benefits to mainly off peak or uncongested times.
	It requires substantial land outside the existing PRoW to accommodate a compliant geometry for the roundabout. The roundabout was therefore located to the southeast of the A40 corridor. This mainline adjustment causes visibility issues for vehicles exiting the roundabout. Visibility splays through existing vegetation will need to be re-established.
	South Leigh Rd will require realignment to avoid confusing drivers once the slip road is no longer in use. To avoid further land take, the horizontal curvature and SSD of the realignment would be below the minimum requirements. It is noted that the horizontal curvature/SSD shown would however be similar to existing geometry on the A40. This would nevertheless be a departure from standard.

Potential benefits	Potential issues
	The roundabout is located within the A40 carriageway; the introduction of this junction will require significant temporary traffic management and delay to users.
	There is a big level difference between the likely roundabout level and the area to the south east of the roundabout. This solution is likely to require a retaining wall to manage the difference. A Vehicle Restraint System (VRS) will be required to protect vehicles.
	The traffic modelling for the roundabout shows an improvement compared to Option 17, but the predicted 2031 flows forecast that the junction will be significantly overcapacity in both the AM and PM peaks. The modelling forecasts significant queueing on all the approaches across both the peaks. The extensive queues would have adverse network wide impacts. The model demonstrated that traffic from the B4022 seeking to enter the roundabout would likely fail to find enough 'gaps' to join the roundabout safely due to the dominant A40 east-west traffic flow. This option could be detrimental to existing traffic (to/ from Oxford) by introducing a junction and may lower the positive impacts of proposed dualling between Witney and the P&R site.

4.23 Option 18: At-grade roundabout at Shores Green – option B

4.23.1 This option turns the existing slip roads at Shores Green into an at-grade roundabout, just east of the current entrance/exit of the slip roads. Like Option 17, this option includes a three-armed roundabout and the B4022 continues to connect with South Leigh Road, but as a result, westbound traffic traveling to South Leigh Road will need to detour via the junction which connects the B4022 and the on-slip road. It will require alignment of existing the B4022 off slip road as well as the junction which connects the B4022 and the on-slip road.. What is different however is that the roundabout itself is slightly east of the existing slip roads, and as a result the existing eastbound slip road would need to be extended and curved to access the roundabout. Junction capacity modelling has been undertaken to assess the impact of this option[29]. Figure 59 shows the proposed layout of the scheme. The potential benefits and issues are summarised in Table 4-31.

[29] Further information on the modelling undertaken can be found in the technical note "60611611 - Access to Witney - TNA02-B"

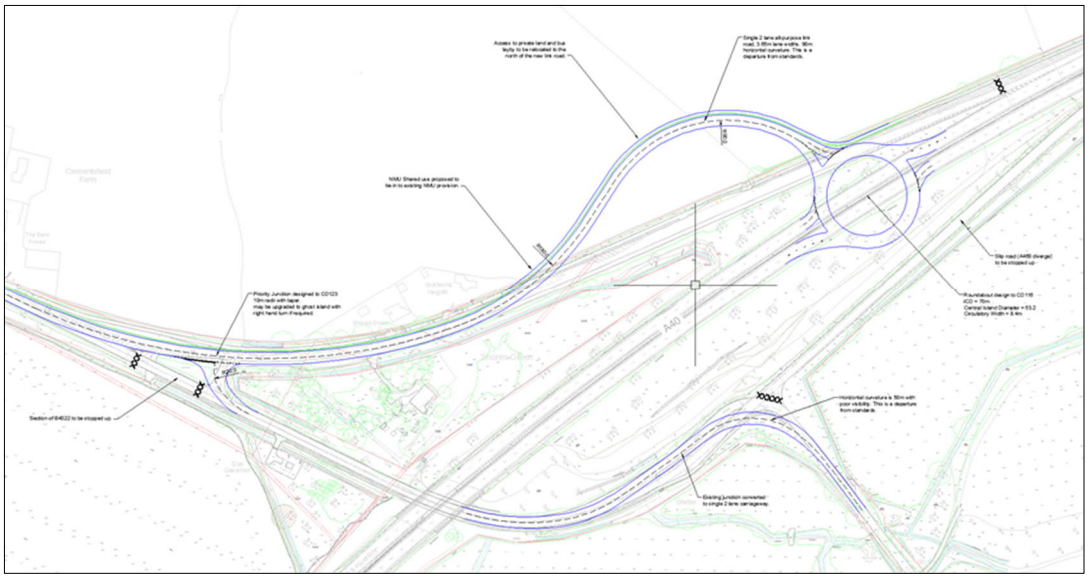


Figure 59: Option 18 (proposed layout at Shores Green)

Table 4-31: Potential benefits and issues: At-grade roundabout at Shores Green – option B

Potential benefits	Potential issues
The existing slip road (eastbound merge) is to be stopped up. The existing slip road is non-compliant with DMRB design guidance, containing two-way traffic and private accesses.	The scheme requires land outside the existing PRoW north of the current A40 corridor and eastbound slip road.
The existing eastbound slip road (merge) is currently non-standard in terms of its layout/cross-section. The farm access at the end of the taper is also a safety concern. Removing the slip road will remove this existing safety risk.	The proposed layout introduces one new roundabout where vehicles may be required to stop and give way to circulating traffic. The stop/start nature of the scheme and queuing during peak times are likely to increase vehicle emissions.
Improved access into Witney as all movements would be possible. The at grade roundabout provides new connectivity to Witney for traffic approaching from the west. And in turn vehicles travelling from Witney to the west.	Westbound slip road (diverge) is to be stopped up. This forces all traffic to enter/exit the A40 via the at grade roundabout from the north west arm. Vehicles entering the roundabout will need to give way to traffic on the roundabout circulatory. This option is not as free flowing as the existing layout.
	The link road approaching the northwest of the roundabout has horizontal radii much less than permitted for the design speed of the B4022. Removing a grade separated junction with an at-grade roundabout will increase

Potential benefits	Potential issues
	journey times for some users and may not be supported.
	South Leigh Rd will require realignment to avoid confusion for approaching vehicles. To avoid further land take, horizontal curvature and SSD of the realignment is below minimum requirements. It is however noted that the horizontal curvature/SSD downstream is also below standard. This would be a departure from standard.
	The roundabout is located within the A40 carriageway; the introduction of this junction will require significant temporary traffic management and delay to users.
	There is a significant level difference between the likely roundabout level and the area to the south east of the roundabout. This solution is likely to require a retaining wall to manage the difference. VRS will be required to protect vehicles from height.
	The traffic modelling for the roundabout against the predicted 2031 flows forecast that the junction will be significantly overcapacity in both the AM and PM peaks. The modelling forecasts significant queueing on all the approaches across both the peaks. The extensive queues would have adverse network wide impacts. The model demonstrated that traffic from the B4022 seeking to enter the roundabout would likely fail to find enough 'gaps' to join the roundabout safely due to the dominant A40 east-west traffic flow. This option can be detrimental to existing traffic (to/ from Oxford) by introducing a junction and may lower the positive impacts of proposed dualling between Witney and the P&R site.

4.24 Option 19: At-grade roundabout at Shores Green – option C

4.24.1 This option includes a set of interlinked roundabouts from Shores Green, across the East Witney SDA towards the B4022 and Jubilee Way. The roundabout accessing the A40 is a three-armed roundabout located at the current junction of Shores Green, but both slip roads are removed. The eastbound slip road is used for access only to the small number of existing properties. The B4022 continues to connect with South Leigh Road, but the westbound slip road is closed. The north-west arm of the

three arm roundabout connects via a link road to a smaller three arm roundabout in the middle of the East Witney SDA. From here the northbound arm of the roundabout connects to another link road to Jubilee Way, and the westbound arm provides a link road with slip roads onto the B4022. This is a much more complex junction arrangement. Junction capacity modelling has been undertaken to assess the impact of this option[30]. Figure 60 shows the proposed layout of the scheme. The potential benefits and issues are summarised in Table 4-32.

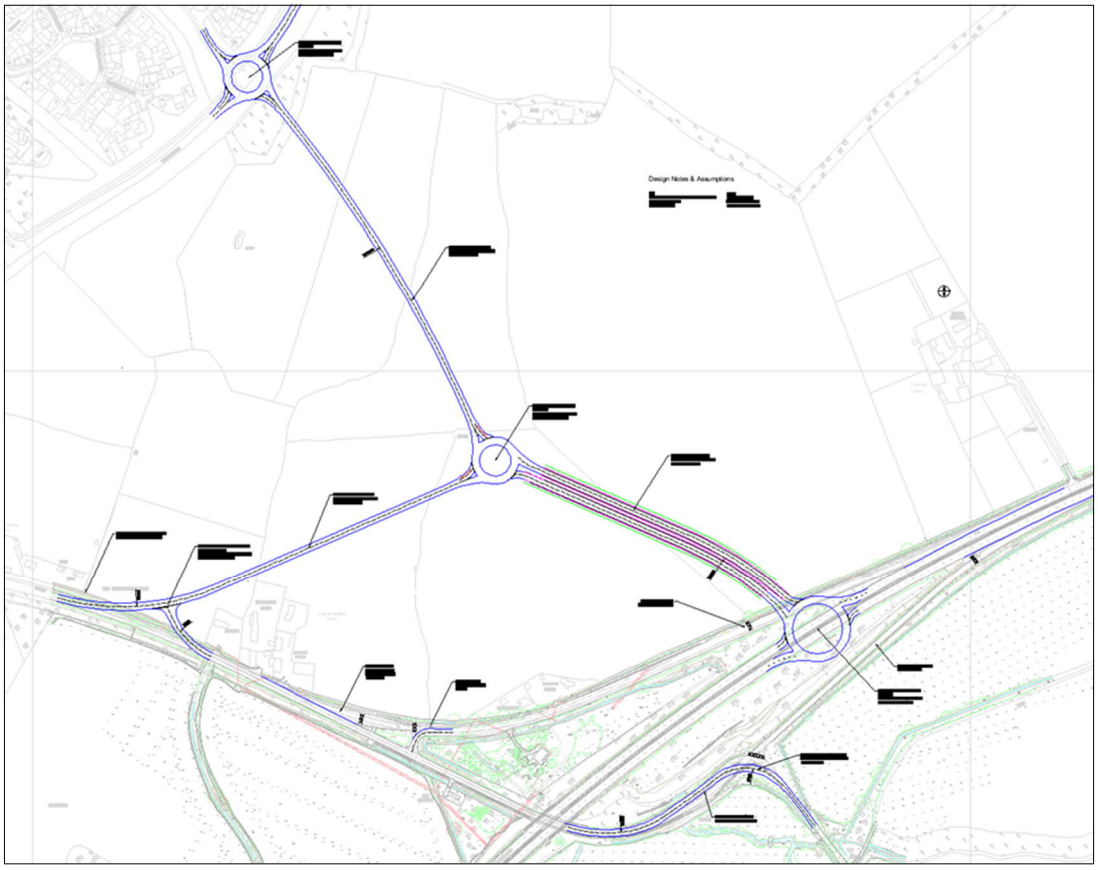


Figure 60 Option 19: proposed layout at Shores Green

Table 4-32: Potential benefits and issues: At-grade roundabout at Shores Green – option C

Potential benefits	Potential issues
The at grade roundabout provides new connectivity to Witney for traffic approaching from the west, and in turn vehicles travelling from Witney to the west.	To fulfil the entire scheme significant land take is required, passing through multiple land parcels. It will have concomitant negative visual and landscape impacts.
Private properties adjacent to the existing slip road (eastbound merge)	The scheme requires significant land take north of the current A40 corridor. The land is predominantly arable land

[30] Further information on the modelling undertaken can be found in the technical note "60611611 - Access to Witney - TNA02-B"

Potential benefits	Potential issues
have a dedicated single 2 lane carriageway.	with hedges and vegetation at the boundaries. Hedgerows may contain nesting birds.
Provides a direct connection from the east of Newland to the A40	The proposed layout introduces three new roundabouts where vehicles may be required to stop and give way to circulating traffic. The stop/start nature of the scheme and queuing during peak times are likely to increase vehicle emissions.
A large proportion of the works can be carried out offline, minimising disruption to traffic.	The magnitude of the scheme compared to others will result in a larger carbon footprint.
	South Leigh Rd will require realignment to avoid confusion for approaching vehicles. To avoid further land take, horizontal curvature and SSD of the realignment is below minimum requirements. It is however noted that the horizontal curvature/SSD downstream is also below standard. This would be a departure from standard. Removing a grade separated junction with an at-grade roundabout will increase journey times for some users and may not be supported.
	There is a significant level difference between the likely roundabout level and the area to the south east of the roundabout. This solution is likely to require a retaining wall to manage the difference. VRS will be required to protect vehicles from height.
	The traffic modelling for the roundabout against the predicted 2031 flows forecasts that the junction will be significantly overcapacity in both the AM and PM peaks. The modelling forecasts significant on all the approaches across both the peaks. The extensive queues would have adverse network wide impacts. This option can be detrimental to existing traffic (to/ from Oxford) by introducing a junction and may lower the positive impacts of proposed dualling between Witney and the P&R site.

Potential benefits	Potential issues
	The layout of the option with the network of junctions north-east of Shores Green will have a significantly negative impact on the visual landscape of the area.

4.25 Option 20a: At-grade roundabout at Shores Green – option D

4.25.1 This option includes a new, four-arm roundabout at the current Shores Green slip roads. There is also provision of a three-arm roundabout just past the current split of the slip roads, which provides a new two-way link road. From this link road there is a connection to the existing slip road which is to be truncated just past the existing properties, providing access to these. The southern arm of the proposed A40 roundabout will be a two-way link into the existing westbound slip road and provides access to South Leigh Road. Junction capacity modelling has been undertaken to assess the impact of this option[31]. The proposed layout is shown in Figure 61. The potential benefits and issues are summarised in Table 4-33.

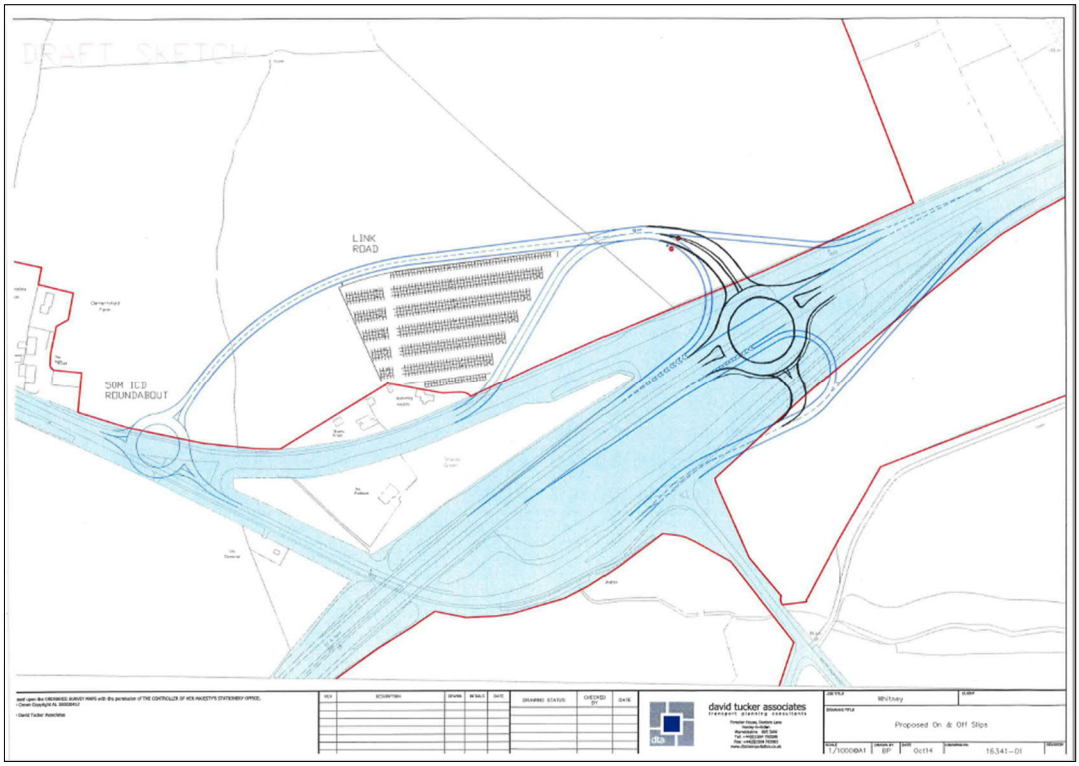


Figure 61: Option 20a and 20b proposed layout at Shores Green

Table 4-33: Potential benefits and issues: At-grade roundabout at Shores Green – option D

[31] Further information on the modelling undertaken can be found in the technical note "60611611 - Access to Witney - TNA02-B"

Potential benefits	Potential issues
The existing slip road (eastbound merge) is to be stopped up. The existing slip road is non-compliant with DMRB design guidance, containing two-way traffic and private accesses.	The scheme requires land take north of the current A40 corridor and eastbound slip road. The land is predominantly arable land with hedges and vegetation at the boundaries. Hedgerows may contain nesting birds.
The at grade roundabout provides new connectivity to Witney for traffic approaching from the west. And in turn vehicles travelling from Witney to the west.	The proposed layout introduces two new roundabouts where vehicles may be required to stop and give way to circulating traffic. The stop/start nature of the scheme and queuing during peak times are likely to increase vehicle emissions.
Private properties adjacent to the existing slip road (eastbound merge) have a dedicated single 2 lane carriageway.	Westbound slip road (diverge) is to be stopped up. This forces all traffic to enter/exit the A40 via the at grade roundabout from the north west arm. Vehicles entering the roundabout will need to give way to traffic on the roundabout circulatory. This option is not as free flowing as the existing layout.
The existing eastbound slip road (merge) is currently non-standard in terms of its layout/cross-section. The farm access at the end of the taper is also a safety concern. Removing the slip road will remove this existing safety risk.	The link road between the two proposed roundabouts has a design speed of 70kph (40mph). The horizontal curvature of the link road before the roundabout is two steps below desirable minimum.
	South Leigh Rd will require realignment to avoid confusion for approaching vehicles. To avoid further land take, horizontal curvature and SSD of the realignment is below minimum requirements. It is however noted that the horizontal curvature/SSD downstream is also below standard. This would be a departure from standard. Removing a grade separated junction with an at-grade roundabout will increase journey times for some users and may not be supported.
	The roundabout is located within the A40 carriageway, the introduction of this junction will require significant temporary traffic management and delay to users.
	There is a significant level difference between the likely roundabout level and the area to the south east of the roundabout. This solution is likely to require a retaining

Potential benefits	Potential issues
	wall to manage the difference. VRS will be required to protect vehicles from height.
	The traffic modelling for the roundabout against the predicted 2031 flows forecast that the junction will be significantly overcapacity in both the AM and PM peaks. The modelling forecasts significant queueing on all the approaches across both the peaks. The extensive queues would have adverse network wide impacts. This option can be detrimental to existing traffic (to/ from Oxford) by introducing a junction and may lower the positive impacts of proposed dualling between Witney and the P&R site.

4.26 Option 20b: Alternative slip roads arrangement at Shores Green

4.26.1 This option provides four slip roads at the Shores Green junction. It is an alternative to Option 20a, as it provides the same link roads but includes slip roads rather than a roundabout. The northern slip roads connect to a new link road which then connects to a new roundabout on the B4022. From this northern link road there is also a connection to the existing slip road which will be truncated just past the existing properties, providing access to these. The southern slip roads will have a new alignment, but link into the existing junction with South Leigh Road and connect onwards to the B4022. Junction modelling was not undertaken for this junction as the slip roads cannot be modelled by standard junction software, and would only be modelled in more detail (e.g. appropriate microsimulation) if taken past the initial sift. The potential benefits and issues are summarised in Table 4-34. The proposed layout is shown earlier in Figure 61 denoted by the dark blue lines.

Table 4-34: Potential benefits and issues: Alternative slip roads arrangement at Shores Green

Potential benefits	Potential issues
New connectivity to Witney for traffic approaching from the west, and in turn vehicles travelling from Witney to the west.	The scheme requires land take north and south of the current A40 corridor and slip roads. The land is predominantly arable land with hedges and vegetation at the boundaries. Hedgerows may contain nesting birds.
Private properties adjacent to the existing slip road (eastbound merge) have a dedicated single 2 lane carriageway.	Land between the slip roads and A40 is densely vegetated with open ditches and may contain protected species.

Potential benefits	Potential issues
A large proportion of the works can be carried out offline, minimising disruption to traffic.	The connector road loop layouts are non-standard compared to the loop layouts demonstrated within DMRB. This is a departure from design standards.
	Proposed eastbound merge horizontal radii is less than the minimum permitted.
	The SSD for the westbound diverge is one step below desirable minimum. The horizontal radius is two steps below desirable minimum. When combined, this is a departure from standard.
	The proposed eastbound slip road ties into the existing nose and taper to avoid further land take. The existing slip road is non-compliant with substandard nose and taper lengths. The farm access at the end of the taper is also a safety concern.
	Direct accesses to farmland north of the eastbound slip road currently sit within the slip road. Adopting this approach on the proposed slip road would be a departure.
	Due to connectivity and visibility requirements, the slip roads south of the A40 will sit much higher than existing ground levels. This will result in large embankments with additional land take.

4.27 Option 21: At-grade roundabout on A40 near Stanton Harcourt Road Bridge

4.27.1 This option includes a new roundabout across both carriageways near the Stanton Harcourt Road Bridge. It is proposed that this could be connected to a distributor road through the East Witney SDA, linking to the crossroads by the new cemetery on the Oxford Hill and on to Madley Park. This alternative would seek to incorporate the access road to the new housing development and provide access to the A40. This option could enable bus access to be provided directly from the A40 through the East Witney SDA site. Bus stops could be provided close to the A40 and along the distributor road. Due to this option being in the early stages of proposal, there has been no formal design of the proposed junction, and therefore traffic modelling was not possible for Option 21. It would be assessed in more detail only if taken past the initial sift. The option schematic is shown in Figure 62. The potential benefits and issues are summarised in Table 4-35.

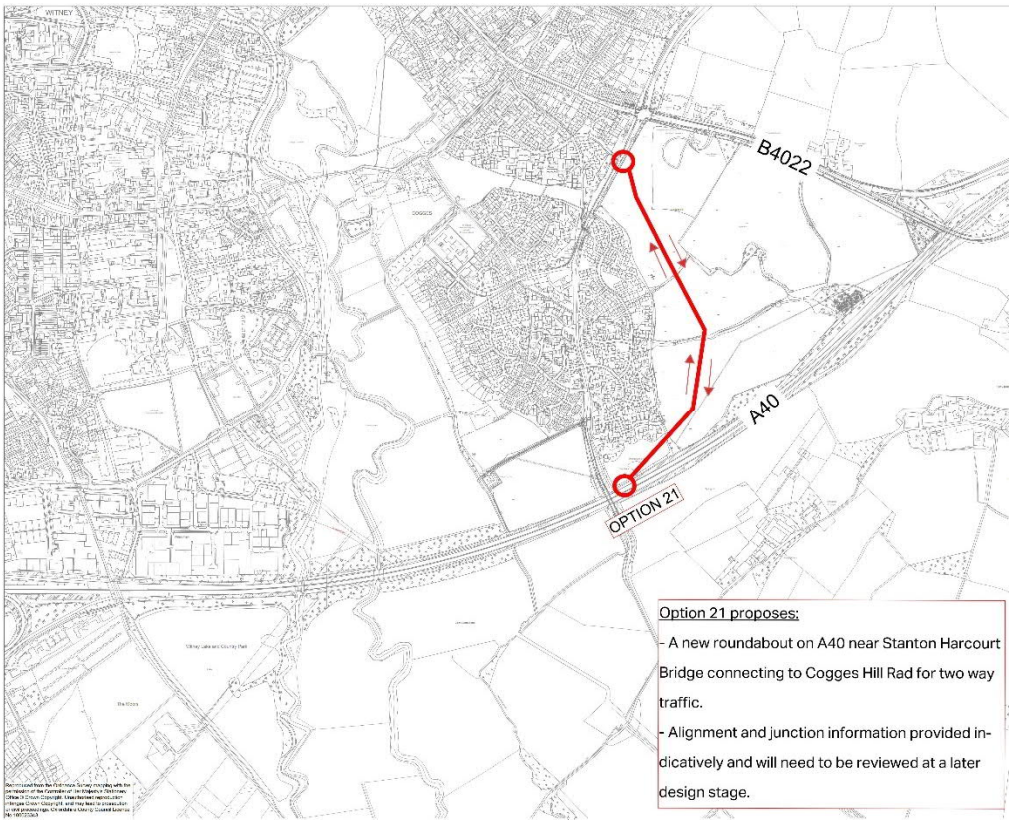


Figure 62: Option 21 schematic

Table 4-35: Potential benefits and issues: At-grade roundabout on A40 near Stanton Harcourt Road Bridge

Potential benefits	Potential issues
A smaller number of trees will be impacted from the proposed layout compared to options at Shores Green.	The presence of an at grade junction on the A40 will create a pinch point on the network increasing journey times and leading to delays and queues
Discourages rat-running through South Leigh and High Cogges	Air quality might be impacted due to the presence of slow-moving traffic on A40 from the at grade junction
	The bridge at Stanton Harcourt Road is likely to affect the visibility of the roundabout with the bend to the east of the bridge expected to cause issues with the stopping sight distance on a high-speed road, which would be a departure from standard.

4.28 Next Steps

4.28.1 The options derived as a part of the optioneering process have been discussed in this chapter, including an initial view and summary of their key characteristics, benefits and issues. These options were based on an analysis of identified challenges, took into account existing or previously proposed solutions and analysis (in part to provide an audit trail to demonstrate why such solutions have/ have not been taken further forward on the basis of the evidence), and new solutions based on workshops and iteration within the study team (both OCC Officers and AECOM).

4.28.2 The options can be broadly categorised as highway options (with varying provision for/ impacts on private modes, PT and active modes), PT options (rail, light rail, BRT and bus), and active modes. Spatially, the options mainly fall into two broad categories (with some exceptions) with one set looking to make use of existing link capacity on the A40[32] and another set looking to provide new or improved crossings over the River Windrush to supplement the existing Bridge Street crossing. These are summarised in Table 4-36.

Table 4-36: Access to Witney – Options Categorised

Option type and area	East Witney	E-W/ town centre link	West Witney	Town-wide	External links
New/ upgraded junctions	1, 2, 3, 4, 17, 17a, 21				
New/ upgraded links and junctions	7, 18, 19, 20a, 20b	5, 6, 9, 10			
New links			8		
PT				13, 14	11, 12
Active Modes				15	
Parking				16	

4.28.3 The potential role of technology and emerging trends in for example Mobility as a Service have not been specifically examined as part of this study, although it is recognised they could have a longer term impact on the options chosen, and may require county or region-wide initiatives and support.

4.28.4 Some options might prove beneficial if packaged together, and options are not necessarily mutually exclusive.

[32] It is recognised that further modelling is required to assess the A40 and its capacity to carry traffic diverted from Bridge Street.

4.29 Option Assessment – Adopted Method

4.29.1 Prior to discussion of the option assessment and results, this section gives a brief overview of the assessment and sifting process. The option assessment method consists of three stages, as shown in Figure 63.

- Stage 1 is an initial assessment of the options identified above, using high level criteria to sift out unviable/unsuitable options. The details and results of the Stage 1 assessment can be found in Chapter 5.
- Stage 2 is a more detailed assessment of the shortlisted options from Stage 1, including an assessment based on the five case business case approach (in line with DfT's EAST approach). The details and results of the Stage 2 assessment can be found in Chapter 6.
- Stage 3 is the final stage of assessment and focuses on refining the option or options identified in Stage 2 for further consideration, including exploring variations of the option, to lead to a preferred option. The details and results of the Stage 3 assessment can be found in Chapter 7.

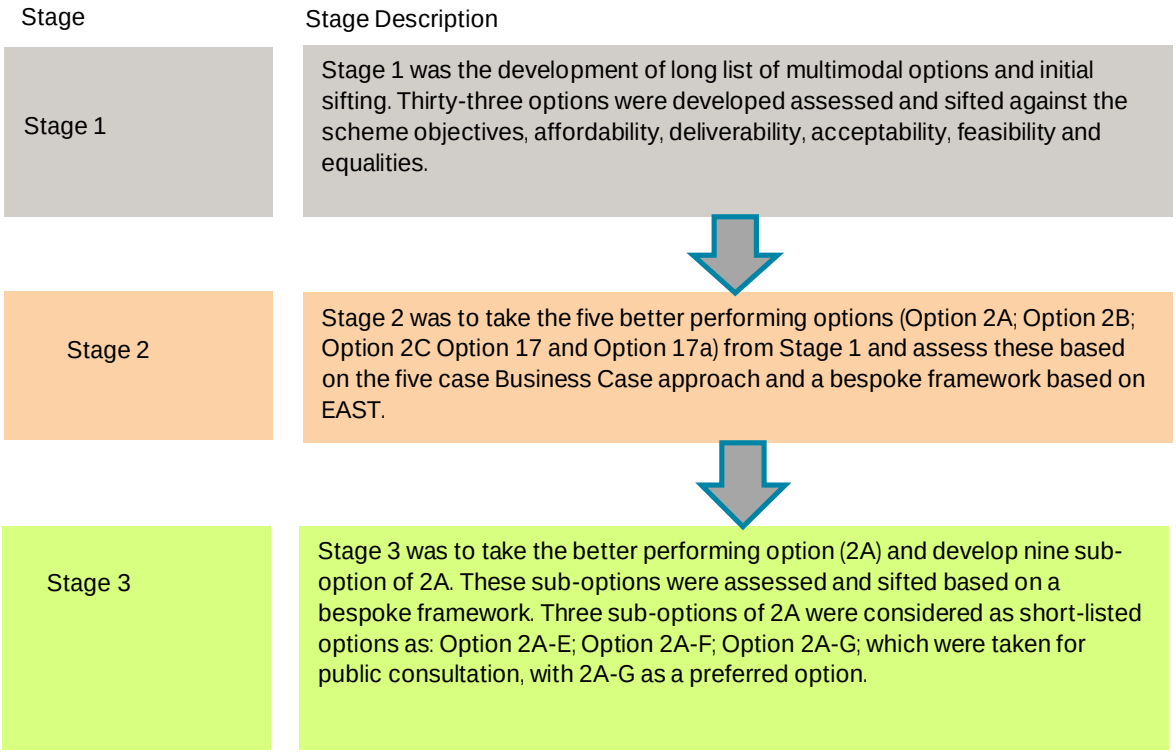


Figure 63 Option Assessment – Adopted Method

4.29.2 The aim of the assessment was to initially identify the better performing and feasible options which could then be taken forward for more detailed assessment and to then undertake more detailed design and modelling on those selected options[33]. This can then lead to further work and potential consultation or stakeholder engagement, to

[33] Please see this for more details on modelling – "60611611 - Access to Witney - TNA02 (AECOM)"

help determine a preferred option, and to inform the development of an overall business case of the preferred option.

4.29.3 It should be recognised that this is an iterative process, and more detailed assessment of better performing options or the feedback from stakeholder consultation may result in options being further refined.

5 Stage 1: Initial Option Sifting

5.1 Introduction

5.1.1 This chapter discusses the initial sift criteria and appraisal of the long list of options, sifting out those that do not address the objectives or are unlikely to pass key viability and acceptability criteria. Sifting out at this stage does not preclude options being considered as part of other studies e.g. to unlock development, or being included as part of a packaged programme/ portfolio. Realistically though, not all options to unlock all developments can be delivered in the next few years, and the AQMA and current congestion issues indicate a need to bring forward realistic and affordable options now.

5.1.2 The options in the long list were assessed against the following initial sift criteria:

- Objectives: comparing the long list against the nine Access to Witney objectives[34].
- Affordability: concentrates on the likely financial affordability of an option (its funding arrangements).
- Deliverability: concentrates on the dependency of the option and interface risk in relation to other projects, timescale of delivery (consruction and overall), and Compulsory Purchase Order (CPO) risks. Each of these were assessed to provide a rounded score.
- Acceptability: considers stakeholder acceptability of an option including public acceptability, local authorities, delivery partners, statutory bodies, landowners and utility companies.
- Feasibility: considers practical feasibility of an option in terms of engineering and complexity.
- Equalities: considers potential impacts of each option on Protected Characteristic Groups (PCGs). Further details on equalities impacts can be found in Appendix E.

5.2 Initial sift – long list of options

5.2.1 The long list has been scored against the scheme objectives, affordability, deliverability, acceptability and feasibility. They have been given a score against each criterion as follows (expect for Equalities impact, which has been scored as Red, Amber and Green):

- 2: very good impact;
- 1: good impact;
- 0: negligible/ neutral/ no or limited impact;
- -1: poor impact;

[34] For objectives 1 and 3 where local junction modelling has been undertaken but strategic modelling has not, professional judgement has been used to determine the impact at Bridge Street.

- -2: very poor impact.

5.2.2 Table 5-1 shows the summary of the total score for each option. The detailed scoring and sifting have been attached as Appendix C. These scores reflect the outcome of the strategic assessment including discussion and review by OCC Officers. Appendix C also includes the more granular scoring that was used to develop the weighted deliverability score.

Table 5-1: Scoring Summary of Long List of Options

#	Option	Total Score	Comments
1	Option 1: West facing slip roads at Stanton Harcourt Road	2	This option scores 'very good' on two of the objectives, including reduction of future traffic at Bridge Street and improving air quality. It is expected to have no or limited impact against the objectives focused on the town centre and enabling modal shift. It scores 'poor' on deliverability and 'very poor' on acceptability. This option has been rated Amber for potential equalities impacts. It is recommended this option is sifted out at this stage
2	Option 2A: West facing slip roads at Shores Green	15	This option scores 'very good' against acceptability and on some of the objectives, including reduction of future traffic at Bridge Street, improving access to the A40 and improving air quality. It scores 'good' on deliverability and some objectives including improving accessibility, making use of existing infrastructure and allowing the town to develop in line with the local plan. It scores 'good' on affordability due to its relative cost in comparison to other options and good potential for developer contributions. It also scored 'good' on feasibility based on previous work. This option has been rated Green for potential equalities impacts. It is recommended this option is shortlisted for further assessment
3	Option 2B: West facing slip roads at Shores Green	9	This option scores 'very good' against some of the objectives including reduction of future traffic at Bridge Street, improving access to the A40 and improving air quality. It scores 'good' on some objectives including improving

#	Option	Total Score	Comments
	- Alternative arrangement		accessibility, making use of existing infrastructure and allowing the town to develop in line with the local plan. It scores 'very poor' on feasibility, which will need to be considered further in the next stage of work. This option has been rated Green for potential equalities impacts. It is recommended this option is shortlisted for further assessment
4	Option 2C: West facing slip roads at Shores Green - D Link alternative arrangement	10	This option scores 'very good' against some of the objectives including reduction of future traffic at Bridge Street, improving access to the A40 and improving air quality. It scores 'very poor' on feasibility, which will need to be considered further in the next stage of work. This option has been rated Green for potential equalities impacts. It is recommended this option is shortlisted for further assessment
5	Option 2D: West facing slip roads at Shores Green - Grade Separated	1	This option scores 'very good' against some of the objectives including reduction of future traffic at Bridge Street, improving access to the A40 and improving air quality. It scores 'very poor' on affordability, feasibility and deliverability. This option has been rated Green for potential equalities impacts. It is recommended this option is sifted out at this stage
6	Option 3: Roundabout North and South of Shores Green	-5	This option will have no or limited impact against some of the objectives including reduction of future traffic at Bridge Street and improving air quality but score 'poor' in access to key locations such as Oxford due to its likely negative impact on A40 traffic. It scores 'very poor' on affordability and acceptability. The overall score is lower is than 2A, 2B and 2C, with this option likely to require significant land take/preparation for construction and significant design and civil works required to align the proposed option with the existing network.

#	Option	Total Score	Comments
			This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
7	Option 4A: Overbridge at Hill Farm, A40	-9	This option scores 'very poor' against affordability, feasibility, acceptability, and deliverability. As a new bridge over the A40 may be required, and as the option may not remove all relevant traffic from the town centre, it also scores 'poor' against making best use of existing infrastructure. It will have no or limited impact on future traffic at Bridge Street, access to the A40, air quality and other objectives related to the town centre. This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
8	Option 4B: Half or Full roundabout on the A40 to the east of Shores Green	-3	The option scores 'good' on some objectives, such as improving access to the A40 and improving air quality, but 'poor' against making best use of existing infrastructure. It scores 'very poor' against acceptability and deliverability. This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
9	Option 5: West End Link Road	5	This option scores 'very good' on some of the objectives, including reduction of future traffic at Bridge Street and improving air quality. It scores 'poor' against feasibility and deliverability at this stage due to the level of uncertainty surrounding it. Further feasibility work is proposed as part of the wider Witney Transport Strategy. This option has been rated Amber for potential equalities impacts. It is recommended this option is taken forward or assessed further as part of the wider Witney Transport Strategy

#	Option	Total Score	Comments
10	Option 6: Church Lane link from B4022 to Witan Way via Church Lane to general traffic	-3	This option scores 'very good' on some of the objectives, including reduction of future traffic at Bridge Street, access to the A40 and improving air quality. It scores 'very poor' against affordability, acceptability and deliverability, as well as making use of existing infrastructure. This option has been rated Amber for potential equalities impacts. It is recommended that this option is sifted out at this stage
11	Option 7: Jubilee Way to A40 - Bypass	-6	This option scores 'very poor' against affordability, feasibility, acceptability and deliverability. This option has been rated Amber for potential equalities impacts. It is recommended that this option is sifted out at this stage
12	Option 8: Upgrading Downs Road to improve access to the A40	-2	This option will have no impact on future traffic at Bridge Street, access to the A40, air quality and other objectives related to the town centre. It scores 'very poor' against acceptability. This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
13	Option 9: New Link Road Connecting B4022 with B4047	-3	This option scores 'very good' in reducing future traffic at Bridge Street and improving air quality, assuming similar impacts to WEL2. However, it scores 'very poor' against affordability, feasibility and deliverability. This option has been rated Amber for potential equalities impacts. It is recommended that this option is sifted out at this stage
14	Option 10: Cogges Link Road	-5	This option scores 'very good' in reducing future traffic at Bridge Street and improving air quality, assuming similar impacts to WEL2. As an expensive and previously rejected option (by the Planning Inspector) it scores 'very

#	Option	Total Score	Comments
			poor' against affordability, feasibility, acceptability and deliverability. This option has been rated Amber for potential equalities impacts. It is recommended that this option is sifted out at this stage
15	Option 11A: Rail link between Witney and Oxford	0	This option will have no or limited impact on future traffic at Bridge Street and air quality. It scores 'very poor' against affordability, feasibility and deliverability, however it is likely to be a highly acceptable option, if appropriate routing can be implemented, and increases the economic attractiveness of the town. This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
16	Option 11B: Bus Rapid Transit (BRT) between Witney and Oxford	0	This option will have no or limited impact on future traffic at Bridge Street and air quality. It scores 'poor' against affordability, feasibility and deliverability. This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
17	Option 11C: Tram between Witney and Oxford Option	1	This option will have no or limited impact on future traffic at Bridge Street and air quality. It scores 'poor' against affordability, feasibility and deliverability; however, it is likely to be an acceptable option, assuming links can be made into Oxford. This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
18	Option 11D: Bus Lanes and Bus Service Improvements on A40	12	This option scores 'good' against most of the criteria and does not score 'poor'/'very poor' against any criteria. Bus Lanes on the A40 between Eynsham and Oxford now form a core part of the A40 corridor strategy. Scheme proposals are funded and being brought forward for delivery.

#	Option	Total Score	Comments
	from Witney to Oxford		This option has been rated Green for potential equalities impacts. It is recommended this option is taken forward or assessed further as part of the wider Witney Transport Strategy
19	Option 12A: Railway line between Witney and Long Hanborough	-2	This option will have no or limited impact on future traffic at Bridge Street and air quality. It scores 'very poor' against affordability, feasibility and deliverability; however, it is likely to be a highly acceptable option, assuming links can be made into Oxford. This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
20	Option 12B: Bus Rapid Transit (BRT) between Witney and Hanborough	-2	This option will have no or limited impact on future traffic at Bridge Street and air quality. It scores poor against the feasibility and deliverability of the option. It would have only small wider connectively benefits, as interchange with rail would still be required at Hanborough, decreasing its attractiveness. It scores 'very poor' against affordability. This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
21	Option 13A: Rail link between Jubilee Way/A4095 junction – Windrush Industrial Park - Two Rivers Industrial Estate	0	This option scores 'very poor' against affordability, feasibility and deliverability. Depending on implementation it could also reduce capacity for other highways traffic (if tunnels were used to avoid highways, this option would be even more expensive). This option has been rated Amber for potential equalities impacts. It is recommended that this option is sifted out at this stage
22	Option 13B: Bus Rapid Transit (BRT)	0	This option scores 'poor' against feasibility and deliverability. It would also reduce capacity for other highways traffic, assuming it

#	Option	Total Score	Comments
	link from Jubilee Way/A4095 junction to Windrush Industrial Park and to Two Rivers Industrial Estate		makes use of the existing network, and unless there is significant mode shift could also increase congestion. It scores 'very poor' against affordability. This option has been rated Amber for potential equalities impacts. It is recommended that this option is sifted out at this stage
23	Option 14A: Increased bus frequencies/ routes within and to/from the wider Witney area	13	This option scores 'good' against most of the criteria and does not score 'poor' or 'very poor' against any criteria. It offers flexibility and would build on the bus service improvement to Witney already proposed as part of the A40 strategy schemes and park and ride. This option has been rated Green for potential equalities impacts. It is recommended this option is taken forward or assessed further as part of the wider Witney Transport Strategy
24	Option 14B: Demand responsive service within Witney	8	This option scores 'good' against most of the criteria and does not score 'poor' or 'very poor' against any criteria. This option is expected to have no impact on future traffic at Bridge Street and air quality, and potentially provides most value as part of a package of options. This option has been rated Green for potential equalities impacts. It is recommended this option is taken forward or assessed further as part of the wider Witney Transport Strategy
25	Option: 15 Cycle network improvements in East Witney and across Witney	16	This option scores 'good' against most criteria and does not score 'poor' or 'very poor' against any criteria. It scores 'very good' against affordability, deliverability and acceptability, although this would be dependent on level of segregation, proposed routes etc. Given existing mode share and travel patterns, it could have an important role to play as part of a wider package to deliver housing and employment growth in Witney.

#	Option	Total Score	Comments
			This option has been rated Green for potential equalities impacts. It is recommended this option is taken forward or assessed further as part of the wider Witney Transport Strategy
26	Option 16: Parking management strategy and policies	7	This option scores 'good' against impact on future traffic at Bridge Street and air quality, based on potential mode shift towards sustainable modes and better town centre traffic management due to improved parking and traffic management. This option has been rated Amber for potential equalities impacts. It is recommended this option is taken forward or assessed further as part of the wider Witney Transport Strategy
27	Option 17: At-grade roundabout at Shores Green – option A.1	5	The option scores 'good' on providing a safe pedestrian and cyclist environment as it will enhance the existing Shores Green Junction. It scores 'very good' against making best use of existing assets as it is entirely within the highway boundary; it will however impact existing utilities. Modelling[35] indicates queues form at the new roundabout and the A40. Whilst the scheme does provide additional access to the A40 it scores 'poor' for improving accessibility to key locations such as Oxford as the scheme will worsen journey time reliability on the A40. This will also reduce the benefits of the A40 Smart Corridor scheme. This option scores 'poor' for affordability (due to high relative costs), and feasibility (due to traffic impacts and delays). Deliverability is very good as there is no land take. This option has been rated Green for potential equalities impacts. This option has the potential to address many of the scheme objectives and requires no land take.

[35] Please see this for more details on modelling – "60611611 - Access to Witney - TNA02 (AECOM)"

#	Option	Total Score	Comments
			OCC has commissioned further assessment of this option.
28	Option 17a: At-grade roundabout at Shores Green – option A.2	2	The option scores 'good' on providing a safe pedestrian and cyclist environment as it will enhance the existing Shores Green Junction. Modelling[36] indicates queues form at the new roundabout. Whilst the scheme does provide additional access to the A40, it scores 'poor' for improving accessibility as the scheme will worsen journey time reliability on the A40. This will also reduce the benefits of the A40 Smart Corridor scheme. This option scores 'poor' for affordability (due to high relative costs), deliverability (some land take required) and feasibility (due to traffic impacts and delays). This option has been rated Green for potential equalities impacts. OCC has commissioned further assessment of this option.
29	Option 18: At-grade roundabout at Shores Green – option B	-1	This option scores 'good' on providing a safe pedestrian and cyclist environment as it will enhance the existing Shores Green Junction. Modelling indicates queues form at the new roundabout. It scores 'poor' on some categories such as improving accessibility, worsening journey time reliability on the A40 (this will also reduce the benefits of the A40 Smart Corridor scheme) and making best use of existing infrastructure. This option also scores 'poor' on affordability (due to high relative costs), deliverability (due to a long delivery programme), acceptability (due to construction impacts and landscape/visual impacts) and feasibility (due to traffic impacts and delays). This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage

[36] Please see this for more details on modelling – "60611611 - Access to Witney - TNA02 (AECOM)"

#	Option	Total Score	Comments
30	Option 19: At-grade roundabout at Shores Green – option C	-7	This option scores 'good' on providing a safe pedestrian and cyclist environment as it will enhance the existing Shores Green Junction. Modelling indicates queues form at the new roundabout. It scores 'poor' on some categories such as improving accessibility, worsening journey time reliability on the A40 (this will also reduce the benefits of the A40 Smart Corridor scheme). This option scores 'very poor' on making best use of existing infrastructure assets as it requires an extensive network of new roads. It scored 'very poor' on affordability (due to higher relative costs), deliverability (due to a longer delivery programme), acceptability (due to construction impacts and landscape/visual impacts) and feasibility (due to traffic impacts and delays). This option has been rated Amber for potential equalities impacts. It is recommended that this option is sifted out at this stage
31	Option 20a: At-grade roundabout at Shores Green – option D	-5	This option scores 'good' on providing a safe pedestrian and cyclist environment as it will enhance the existing Shores Green Junction. Modelling indicates queues form at the new roundabout. It scores 'poor' on some categories such as improving accessibility, worsening journey time reliability on the A40 (this will also reduce the benefits of the A40 Smart Corridor scheme). This option scores 'very poor' on affordability (due to higher relative costs), deliverability (due to a longer delivery programme), and feasibility (due to traffic impacts and delays). This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
32	Option 20b: Alternative slip roads	-5	This option scores 'good' on providing a safe pedestrian and cyclist environment as it will enhance the existing Shores Green Junction.

#	Option	Total Score	Comments
	arrangement at Shores Green		This option also scores 'good' for reducing traffic in the Bridge Street area, reducing the level of air pollution in the AQMA. Modelling however indicates queues form at the new roundabout. It scores 'poor' on some categories such as improving accessibility (and access to the A40) and making best use of existing infrastructure. This option scores 'very poor' on affordability (due to higher relative costs), deliverability (due to a longer delivery programme), and feasibility (due to traffic modelling impacts and delays). This option has been rated Green for potential equalities impacts. It is recommended that this option is sifted out at this stage
33	Option 21: At-grade roundabout on A40 near Stanton Harcourt Road Bridge	-7	This option scores 'good' on providing a safe pedestrian and cyclist environment. This option scores 'very poor' on making best use of existing infrastructure assets as it requires an extensive network of new roads. The option scores 'poor' on many categories, including reducing future traffic, improving accessibility (and access to the A40), enabling modal shift and reducing the level of air pollution as the modelling results have shown that large queues form as a result of the roundabout and therefore the A40 is not an attractive route compared to Bridge Street. As a result, vehicles continue to use Bridge Street for cross Witney trips. It scored 'very poor' on affordability (due to higher relative cost), deliverability (due to a longer delivery programme), acceptability (due to construction impacts and landscape/visual impacts) and feasibility (due to traffic impacts* and delays). This option has been rated Amber for potential equalities impacts. It is recommended that this option is sifted out at this stage

*Where modelling has not been undertaken, professional judgement including experience from similar schemes has been applied.

5.2.3 The better performing highway options include sub-options for Option 2 (specifically Option 2A) and Option 17, although the latter performs less well against the scheme objectives and appraisal criteria than Option 2A. Deliverability of these options is a critical consideration as part of the appraisal process, which is included in the Stage 1. Based on a discussion with OCC, following was considered whilst undertaking the deliverability criteria scoring:

- Option 2A will require some land take but Option 17 is likely to require no land take
- Option 2A and Option 17 will have no physical dependencies with other OCC schemes however Option 17 roundabout may lower the positive impacts of dualling between Witney and the Park and Ride site.
- Option 17 will require less interface with landowners as compared to Option 2, thus Option 17 will have lower interface risks.
- Option 2A is likely to take less time to construct as compared to Option 17.
- As Option 17 will not require CPO, the timescales to deliver the scheme will be less than the Option 2A.
- Further, Option 17 will have no CPO risk. Option 2A will have CPO risks.

5.3 Analysis

5.3.1 The five shortlisted highway options that are recommended in this chapter have been assessed further in Chapter 6 and are outlined below. This is based on discussion with OCC and their recommendations based on the analysis and findings summarised in this report.

5.3.2 The five shortlisted highway options are all junction improvements focused on the existing Shores Green Junction on the A40.

Option 2A: West facing slip roads to provide access to/from the A40 at Shores Green - Conventional Arrangement.

5.3.3 This option addresses many of the key challenges identified in Witney and would provide improved infrastructure for both highways traffic (private vehicles and PT) and active modes (cycle). Option 2A also scores well against the defined scheme objectives. An early review indicates that the construction timeframes for the option can be minimised by constructing both the slip roads and junctions at the top of the slips at the same time. Variations and option issues that will be considered include:

- alignment of the proposed slip roads so as to minimise impacts on key constraints and land take
- junction type at the top of the slips e.g. priority, roundabout, signals to provide safe and efficient operation for all road users (including pedestrians and cyclists)
- permitted junction movements to minimise rat-running traffic to avoid the A40
- providing cycle connectivity to South Leigh

Option 2B: West facing slip roads to provide access to/from the A40 at Shores Green - Alternative Arrangement 1 (D-Link/Roundabout for On-Slip)

5.3.4 This option also scored well against many of the scheme objectives. The same issues as identified for Option 2A apply. There are also significant technical design and safety concerns regarding this option. It will therefore be important quickly in the next phase of option development and assessment to demonstrate whether these issues can be addressed with design changes. If not, this option may have to be discounted.

Option 2C: West facing slip roads to provide access to/from A40 at Shores Green – Alternative Arrangement 2 (D-Links On and Off-Slip)

5.3.5 This option also scored well against many of the scheme objectives. This option benefits from potentially requiring no or very little land outside the highway boundary. However, as with Option 2B there are also significant technical design and safety concerns. It will therefore be important quickly in the next phase of option development and assessment to demonstrate whether these issues can be addressed with design changes. If not, this option may have to be discounted.

Option 17: At-grade roundabout at Shores Green – Option A.1

5.3.6 This option scored very well against making best use of existing infrastructure, specifically on land take requirements. Option 17 sits wholly within the highway boundary and therefore avoids land take. However, there are many areas Option 17 does not score well on including improving accessibility to key destinations, and affordability, acceptability and feasibility. The second stage of assessment will further identify if the issues can be limited through design refinements of the option. If these issues cannot be overcome, the option may have to be discounted.

Option 17a: At-grade roundabout at Shores Green – Option A.2

5.3.7 This option scores well against many of the scheme objectives such as reducing future traffic levels along Bridge Street, improving air quality and improving access to the A40. However, it should be noted that due to the increased size of the roundabout, the option does not sit wholly within the highway boundary and requires a small amount of land take. Option 17a does not score well on improving accessibility to key destinations, and affordability, deliverability, acceptability and feasibility. The second stage of assessment will further identify if the issues can be limited through design refinements of the option. If these issues cannot be overcome, the option may have to be discounted.

Option 14A (Increased bus frequencies/routes within and to/from the wider Witney area) and Option 15 (Cycle network improvements in East Witney and across Witney)

5.3.8 Both options scored well in the initial sifting exercise. These options both form part of the Witney Area Transport Strategy and are already being taken forward by OCC in either the wider A40 Corridor Improvement Programme and/or other delivery programmes or work with developers. These wider network improvements will

therefore be considered as part of the 'do-minimum' options where/ as appropriate and will therefore not be developed further as options as part of this project.

5.3.9 However, measures to ensure delays are minimised for buses travelling through the Shores Green area will be important, as will providing high quality bus stop infrastructure with good passenger waiting facilities, providing safe and good quality facilities for cyclists and providing good connectivity for cyclists through the Shores Green area to South Leigh Road and to the existing A40 cycle path. All these requirements will be considered part of the scope of the next stage of option design development.

Other Options

5.3.10 In addition, there is scope for Oxfordshire County Council to consider the role of Option 14B (Demand responsive services within Witney) to provide for particular travel needs and / or segments of the community. New demand responsive services are currently being trialled by OCC elsewhere in the county. Subject to the outcome of these trials, further roll out in other areas will be considered – it will however not be assessed further as an option as part of the scope of this project.

5.3.11 Option 5 (West End Link) is also part of the Witney Area Transport Strategy and further feasibility and viability work is planned by Oxfordshire County Council. It will not be developed further as an option as part of this project. However, its impact will be considered as part of any appraisal sensitivity cases. Option 16 (Parking management strategy and policies to manage town centre parking demand) is also part of the Witney Area Transport Strategy and Local Plan policies which will be taken forward by West Oxfordshire District Council working closely with OCC.

5.4 Next Steps

5.4.1 The long list of options and their sifting have been reviewed and confirmed by OCC Officers. The shortlisted or preferred option(s) will be subject to more detailed assessment, with the approach set out in an Appraisal Specification Report (ASR).

5.4.2 The five shortlisted options (Options 2A, 2B, 2C, 17 and 17a) have been assessed in Chapter 6 based on the five case Business Case approach and a framework based on DfT's Early Assessment Sifting Tool (EAST). The assessment is a qualitative appraisal of the five shortlisted options to identify the better performing and feasible option(s).

6 Stage 2: Assessment of the Shortlist

6.1 Introduction

6.1.1 Following the initial high-level sifting of the options, this chapter summarises the Stage 2 approach, assessing and sifting the shortlisted options, the results of this process, and the recommendations and next steps. This relates to Step 7 in DfT's Transport Appraisal Process, namely, to develop and assess the potential options that were selected after the initial sift.

6.1.2 As set out in Chapter 5, the following five options were taken forward to Stage 2 (see Figure 37 – Figure 39 and Figure 57 – Figure 58 for the high level designs):

- Option 2A: West facing slip roads to provide access to/from the A40 at Shores Green - Conventional Arrangement
- Option 2B: West facing slip roads to provide access to/from the A40 at Shores Green - Alternative Arrangement 1 (D-Link/Roundabout for On-Slip)
- Option 2C: West facing slip roads to provide access to/from A40 at Shores Green – Alternative Arrangement 2 (D-Links On and Off-Slip)
- Option 17: At-grade roundabout at Shores Green – option A.1
- Option 17a: At-grade roundabout at Shores Green – option A.2

6.2 Stage 2 Appraisal Method and Results

6.2.1 A robust option selection process following DfT guidance was undertaken to ensure that the shortlisted options represented the best way to meet the project objectives. The Stage 2 sift used a largely qualitative multi-criteria assessment, based on the five case Business Case approach and broadly using DfT's EAST to determine if there were any notable differences between the five shortlisted options or any showstoppers, so that only the better performing option(s) would be taken forward for more detailed assessment, design and modelling; or to help identify any common themes and issues within the options that might help refine them for further assessment and avoid having to test an extensive array of sub-options.

6.2.2 This stage involved a more detailed assessment of the options than Stage 1, broadening the scope to consider key aspects of the strategic, economic, management, financial and commercial cases of each option. This was broadly based on EAST, but adapted to suit the local context, key success criteria and key locally specific issues at Shores Green. As the five shortlisted options are all similar to each other, it was recognised that they would have similar scores, but specific local issues, if showstoppers, could help identify if an option could be sifted out; or if not, then these issues might help identify common themes to help limit the number of sub-options or variations that needed to be modelled for each of the three main options.

6.2.3 The framework used for the sift is summarised below, and largely follows the criteria expected in an EAST assessment. For most metrics, a five-point scoring system was

used, and this is set out in more detail in Appendix D. The Do Minimum was also scored to provide a benchmark for assessing the options and a counterfactual against which to assess their effectiveness and help identify any biases in the scoring.

- Strategic Case (in part to validate that the options should have been shortlisted from Stage 1):
  - 1.1: Identified problems and objectives - short description of what the identified problem is; what the option is trying to achieve; and whether the option aims to meet any specific transport, network or cross-cutting objectives.
  - 1.2: Scale of impact - to what extent does the option alleviate the identified problem? This metric in effect scored the options against the scheme objectives (similar to the Stage 1 sift), as these were specifically created to address the identified challenges.
  - 1.3: Fit with wider transport and government objectives. The scheme objectives were created to be consistent wider objectives, so the scoring here confirmed the degree of 'fit'.
  - 1.4: Fit with other objectives - The scheme objectives were created to be consistent District, County and LEP objectives, so the scoring here confirmed the degree of 'fit' and particular regional issues.
  - 1.5: Key uncertainties – This allowed for an assessment of uncertainties that might affect the Strategic Case for intervention.
  - 1.6: Degree of consensus over outcomes – This allowed an assessment of the extent to which there is or has been consensus on the need to do something and the potential outcomes.
- Economic Case:
  - 2.1: Economic Growth Impact – a high level view of impacts in terms of journey times and reliability.
  - 2.2: Carbon emissions – likely impact on carbon emissions due to the scheme.
  - 2.3: Social and distributional impacts – the likely winners and losers.
  - 2.4: Equalities Impacts – for example related to impacts in terms of air quality and noise due to an increase or reduction in traffic, increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics, and impacts associated with land take dependent on current use and land ownership.
  - 2.5: Safety – impact on accidents
  - 2.6: Local Access – consideration of how the scheme might affect local access to the highways network, either at the scheme itself, or as a result of changes in traffic levels or routing. This could be quite sensitive, as there are several properties near Shores Green, and which have access on the current eastbound on slip.
  - 2.7: Air quality – in particular whether the option would impact on the AQMA

  - 2.8: Noise – traffic levels and speed impact on noise
  - 2.9: Trees, biodiversity etc – this is a particular concern at Shores Green, as a large number of trees, including Category A trees, could be impacted.
  - 2.10: Well-being – in this context, it relates mainly to physical activity, accidents and injuries
  - 2.11: Health and active modes – this is focused on measures that promote, encourage or increase walking and cycling
  - 2.12: Expected value for money – a high level view on the extent to which the benefits will outweigh the disbenefits
- Management Case
  - 3.1: Implementation time – from inception to delivery
  - 3.2: Public acceptability – considering how acceptable the option will be to those affected (positively or negatively)
  - 3.3: Practical feasibility – this considers if the option has been tested and proven to be effective and practical
  - 3.4: Deliverability (land take and risks) – this is a particular issue or risk, as all the options have land take
  - 3.5: Design standards/ departures – this is partly dependent on land take, but the options also have the potential for very different alignments and designs, which may not be consistent with recommended design standards
  - 3.6: Quality of the supporting evidence – this indicates the extent to which there is evidence to assess the option. It is important to note that where this is poor the option may need to be reappraised at a later date if sifted out; conversely if an option is retained, later modelling and analysis may identify that it should subsequently be sifted out.
  - 3.7: Key risks and potential to mitigate – this takes into account that although an option may have a number of issues and risks, it may be possible to manage and mitigate these, especially earlier on the programme and design phase/
- Financial Case
  - 4.1: Affordability – this was not known at this stage. It allows options to be sifted out if there will not be the capital and / or revenue funds to deliver them and helps avoid abortive effort developing options that are unaffordable.
  - 4.2: Capital Cost – a high level view at this stage. It should be noted that where funds are available from developers/ the private sector, decreasing the capital costs to the public sector, this also decreases the scheme benefits by the amount (after removing inflation and discounting as appropriate) in the Economic Case.
  - 4.3: Revenue Cost – ongoing operating and maintenance costs.
  - 4.4: Cost profile – this relates to the overall cost profile and in addition any wider cost impacts e.g. to businesses

  - 4.5: Overall cost risk – the main risks may be around land take.
- Commercial Case
  - 5.1: Flexibility of option – this looks at how flexible the scheme design is to change, now or in the future.
  - 5.2: Where is funding coming from? – this is to be confirmed, but a developer contribution to the eastbound on-slip is likely; public sector funding source and allocation is to be determined.
  - 5.3: Is land take needed? – this may affect the Commercial Case and the complexity of commercial arrangements or negotiations to obtain the land, but can also be impacted by the flexibility of the option.

6.2.4 Using the above metrics, the options were assessed and scored as summarised in Table 6-1. The detailed scoring can be found in Appendix D.

Table 6-1: Scoring Summary of Short List

#	Criteria Category/ Criteria	DM	Do minimum	2A	West facing slip roads at Shores Green	2B	West facing off-slip road and a D-Link arrangement at Shores Green	2C	West facing D-Link roads at Shores Green	17	At-grade roundabout at Shores Green – option A.1	17a	At-grade roundabout at Shores Green – option A.2
		Score	Notes	Score	Notes	Score	Notes	Score	Notes	Score	Notes	Score	Notes
1	**Identified problems and objectives**		Do minimum; current situation, accounting for limited planned improvements into the future, but assuming that already committed developments (housing, employment, infrastructure) go ahead (in Business Case terms these would be categorised as 'Near Certain' or 'More than Likely').		Option 2A proposes west facing slips at the B4022/ A40 junction, including an improved cycle link along the B4022 to South Leigh Road. This option is expected to provide an alternative to local traffic wishing to access west Witney or travel westbound on the A40. This option has been modelled in OCC's OSM model and has demonstrated benefits in reducing traffic at Bridge Street. Public transport provision can be improved with newly defined routes to make use of the slip roads and / or to make use of capacity freed up in the town centre and on Bridge Street.		Option 2B is a variation of Option 2A. The alignment of the west facing on-slip has been shifted to the east forming a roundabout with the A40 westbound off-slip / A4022 and South Leigh Road in a D-Link arrangement. The west facing on-slip has been shifted to the north while connecting to the A40.		Option 2C is a further variation of slip roads at Shores Green, with the proposed on-slip and off-slip connected to the A40 via a D-Link arrangement. The eastbound off-slip connection would be taken from the already existing A40 westbound on-slip whereas the westbound on-slip connection would be taken from the proposed junction at the B4022 / South Leigh / A40 off-slip, similar to Option 2B.		Option 17 is a new, three-armed, at-grade roundabout on the A40, similar to the recently constructed Downs Road Junction. The B4022 continues to connect with South Leigh Road, but the westbound slip road is closed. The eastbound slip road is the access arm into the roundabout and therefore would provide access into Witney.		Option 17a is a new, three-armed, at-grade roundabout on the A40, similar to the recently constructed Downs Road Junction. The roundabout has a larger ICD (100m) than Option 17. The B4022 continues to connect with South Leigh Road, but the westbound slip road is closed. The eastbound slip road is the access arm into the roundabout and therefore would provide access into Witney.
2	**Score - Strategic**	7	The DM scores poorly against the scheme objectives, not addressing the key challenges, providing no solution for the current AQMA in the short to medium term, and not addressing the current transport infrastructure constraints. On this basis, it is not an option that has been considered further, although it has been scored against Economic, Managerial, Financial, and Commercial metrics to provide a benchmark for assessing other options and a counterfactual against which to assess their effectiveness.	18	This option scores well against the scheme objectives, addressing most of the key challenges. Previous work, consultations and the Cogges Link Inquiry have indicated some consensus that this option (slip road at Shores Green) will be beneficial. There is high uncertainty regarding land take, with this option potentially requiring the most negotiation or Compulsory Purchase Orders. Nevertheless, the strong score against the objectives indicates that this scheme is worth assessing further, and hence it has been scored against Economic metrics.	18	This option scores well against the scheme objectives, addressing most of the key challenges. Previous work, consultations and the Cogges Link Inquiry have indicated some consensus that this option (slip road at Shores Green) will be beneficial. There is some uncertainty regarding land take, but potentially less land take requiring negotiation or CPO, compared to Option 2A. However, uncertainty is very similar for all options. The strong score against the objectives indicates that this scheme is worth assessing further, and hence it has been scored against Economic metrics.	18	This option scores well against the scheme objectives, addressing most of the key challenges. Previous work, consultations and the Cogges Link Inquiry have indicated some consensus that this option (slip road at Shores Green) will be beneficial. There is some uncertainty regarding land take, but potentially less land take requiring negotiation or CPO, compared to Option 2A. However, with less land take there may be a need for significant departures from standard. Also, uncertainty is very similar for all options. The strong score against the objectives indicates that this scheme is worth assessing further, and hence it has been scored against Economic metrics.	14	This option scores fair against the scheme objectives, addressing some of the key challenges. Previous work and consultations have indicated some consensus on this option. There is no land take required with this option but this may lead to constraints and the need for departures from standard. Uncertainty is very similar for all options. The lower score against the objectives indicates this option should not be considered for further assessment, if based on the Strategic Case.	13	This option scores fair against the scheme objectives, addressing some of the key challenges. Previous work and consultations have indicated some consensus on this option. There is a small amount of land take required for this option. Uncertainty is very similar for all options. The lower score against the objectives indicates this option should not be considered for further assessment, if based on the Strategic Case.
2.1	*Strategic Score Rank*	*N/A*	*If ranked, the DM would be poorest on the Strategic Case, and will not meet the scheme objectives and accordingly address any of the identified challenges*	*1*	*Options 2A, 2B and 2C all rank first in the Strategic Case. All options meet the objectives and accordingly help address the identified challenges. Option 2B may have marginally less risk than Option 2C with regard to departures from standard. All have very similar uncertainty around land but Option 2A may have greater uncertainty.*	*1*	*Options 2A, 2B and 2C all rank equally in the Strategic Case. All options meet the objectives and accordingly help address the identified challenges. Option 2B may have marginally less risk than Option 2C with regard to departures from standard. All have very similar uncertainty around land but Option 2A may have greater uncertainty.*	*1*	*Options 2A, 2B and 2C all rank equally in the Strategic Case. All options meet the objectives and accordingly help address the identified challenges. Option 2C may have marginally more risk than Option 2B with regard to departures from standard. All have very similar uncertainty around land but Option 2A may have greater uncertainty.*	*5*		*4*	*This option scores 4/5 for the strategic case reflecting that the option does not meet all the scheme objectives and some uncertainties remain*

#	Criteria Category/ Criteria	DM	Do minimum	2A	West facing slip roads at Shores Green	2B	West facing off-slip road and a D-Link arrangement at Shores Green	2C	West facing D-Link roads at Shores Green	17	At-grade roundabout at Shores Green – option A.1	17a	At-grade roundabout at Shores Green – option A.2
		Score	Notes	Score	Notes	Score	Notes	Score	Notes	Score	Notes	Score	Notes
3	**Score - Economic**	20	The DM scores poorly against economic objectives, with current transport infrastructure likely to act as a constraint on growth, with worsening travel times, and continuing poor air quality.	40	Option 2A scores well in the Economic Case, improving journey times and reliability, and concomitant positive impacts regarding social and distributional impacts and improved air quality in the AQMA. There may be other negative environmental impacts however, due to increased distances travelled / induced traffic (increasing carbon emissions), and land take impacting a number of Category A trees. Nevertheless, the economic case is strong and it is worth examining the option against the Management, Financial and Commercial Cases.	36	Option 2B scores well in the Economic Case, in terms of improving journey times and reliability, and concomitant positive impacts regarding social and distributional impacts and improved air quality in the AQMA. There may be other negative environmental impacts however, due to increased distances travelled / induced traffic (increasing carbon emissions), and land take impacting a number of trees. However, it scores poor on safety. The D-link arrangement on the westbound on slip may prove difficult to negotiate, especially for larger vehicles, and hence may not perform as well as Option 2A. The proposed merge layout (on-slip road) would not be DMRB compliant and would require significant departures from standard. The radius and uphill gradient are likely to make this difficult for HGVs to use and the limited merge area will make it unsafe to merge with traffic travelling at high speeds. Nevertheless, it is worth examining the option against the Management, Financial and Commercial Cases.	37	Option 2C scores well in the Economic Case, in terms of improving journey times and reliability, and concomitant positive impacts regarding social and distributional impacts and improved air quality in the AQMA. There may be other negative environmental impacts however, due to increased distances travelled / induced traffic (increasing carbon emissions), and land take, although the latter may impact fewer tress than Options 2A and 2B. However, it scores poor on safety. The D-link arrangement may prove difficult to negotiate, especially for larger vehicles, and hence may not perform as well as Option 2A. The proposed merge layout (on-slip road) would not be DMRB compliant and would require significant departures from standard. The radius and uphill gradient are likely to make this difficult for HGVs to use and the limited merge area will make it unsafe to merge with traffic travelling at high speeds. Nevertheless, it is worth examining the option against the Management, Financial and Commercial Cases.	20	Option 17 scores poorly in the economic case as it worsens journey times and reliability in and around Witney. There are likely to be negative impacts on air quality in the AQMA and the natural environment, due to increased congestion, delay and increased distances travelled. There are also likely to be negative social distributional impacts. The option scores poorly on safety due to the likelihood of collisions increasing. A roundabout increases the potential conflict points (at each arm on the roundabout and on the roundabout itself; and possible pedestrian or cyclist conflict points) compared to grade separated slip roads.	21	Option 17a scores poorly in the economic case as it worsens journey times and reliability in and around Witney. There are likely to be negative impacts on air quality in the AQMA and the natural environment, due to increased congestion, delay and increased distances travelled. There are also likely to be negative social distributional impacts. The option scores poor on safety but is likely to be safer than Option 17 as the ICD of the roundabout is larger and easier to negotiate. A roundabout increases the potential conflict points (at each arm on the roundabout and on the roundabout itself; and possible pedestrian or cyclist conflict points) compared to grade separated slip roads.
3.1	*Economic Score Rank*		*The DM scores poorly on the Economic Case. Although there are few costs associated with it, other than ongoing maintenance, its failure to deal with air quality and the existing AQMA (reliant on longer term vehicle emissions improvements) and failure to deal with existing congestion on inappropriate roads indicates there is a strong case for change.*	*1*	*This option scores best on the Economic Case, providing journey time and reliability improvements, a design that should work well for all vehicle types, safety based on a relatively straightforward design and hence also well-being.*	*3*	*This option ranks 3/5 on the Economic Case. It scores similarly to Option 2C, excepting it may impact more trees.*	*2*	*This option ranks 2/5 on the Economic Case. It scores similarly to Option 2B, excepting it may impact fewer trees.*	*5*	*This option scores the worst on the Economic Case in terms of journey time, reliability and environmental impacts. This option also provides disbenefits related to safety and social-distributional impacts.*	*4*	*This option scores 4/5 on the Economic Case in terms of journey time, reliability and environmental disbenefits. This option also provides disbenefits related to social-distributional impacts. There are safety disbenefits from this option, but these are not likely to be as large as Option 17.*
4	**Score - Managerial**	29	There are few implications for the DM in terms of the Management Case, excepting that public acceptability is likely to be very poor, given current routing and conditions in the town centre, and the implications for the planned development.	24	Option 2A has a mix of scores on the Management Case. It is likely to score well overall in terms of public acceptability in Witney given it will take traffic away from the town centre and improve accessibility to south Witney. The relatively standard design has a few complexities, but should be feasible; but the main issue will be around dealing with multiple land owners. However, this is a risk	21	Option 2B has a mix of scores on the Management Case. It is likely to score well overall in terms of public acceptability in Witney given it will take traffic away from the town centre and improve accessibility to south Witney. It scores poor on design standards/ departures compared to Option 2A as there will be significant departures from standard (in relation to CD122 para	17	Option 2C has a mix of scores on the Management Case, and scores joint lowest. Although it is likely to score well overall in terms of public acceptability in Witney (given it will take traffic away from the town centre and improve accessibility to south Witney), it scores less well than Options 2A and 2B as it will result in two-way A40 access/egress flow on the current east facing slip road, impacting a	19	Option 17 scores comparatively well on the Management case. This is due to the fact that no land take is required for this option, significantly reducing the complexity of the option. However, the constraints of the existing highway boundary lead to some design issues and departures from standard. Acceptability and feasibility are likely to have some issues due to the large queues which are forecast to form as a	17	Option 17 scores joint lowest on the Management case. A small amount of land take is required which leads to some complexity. The land take required is small but there are still likely to be departures from standard and design complexities due to the environmental constraints of the option. Acceptability and feasibility are likely to have some issues due to the large queues which are

#	Criteria Category/ Criteria	DM	Do minimum	2A	West facing slip roads at Shores Green	2B	West facing off-slip road and a D-Link arrangement at Shores Green	2C	West facing D-Link roads at Shores Green	17	At-grade roundabout at Shores Green – option A.1	17a	At-grade roundabout at Shores Green – option A.2
		Score	Notes	Score	Notes	Score	Notes	Score	Notes	Score	Notes	Score	Notes
					that can be foreseen and built into the mitigation strategy and programme at an early stage		5.10 and para 5.8 standards), and this will need to be built into the Programme for design and addressing any safety concerns raised.		number of residential properties. It scores poor on design standards/ departures compared to Option 2A as there will be significant departure from standard (in relation to CD122 para 5.10 and para 5.8 standards), and this will need to be built into the Programme for design and addressing any safety concerns raised.		result of the roundabout, and which would disbenefit current users..		forecast to form as a result of the roundabout, and which would disbenefit current users.
4.1	*Managerial Score Rank*		*The DM is straightforward, but would have low public acceptability, require further work on how to address current challenges in Witney and the impacts of planned developments, and in effect only postpone the need to deliver something to address the current and forecast problems.*	*1*	*Option 2A scores best of the options on the Management Case, but with recognition that the complexity of land take would need an appropriate strategy and mitigation in place at an early stage to address these and keep within programme*	*2*	*Option 2B ranks joint third, due mainly to potential significant departures from standard and further work required to understand the risks and mitigation required*	*4*	*Option 2C ranks joint last, reflecting the risks around delivering the design.*	*3*	*Option 17 ranks third on the Management Case as no land take is required for this option, significantly reducing the complexity of this option*	*4*	*Option 17a ranks joint last, due to both the design departures from standard and the land take required*
5	**Score - Financial**	20	There are no significant costs in the DM.	17	The option is likely to have a lower cost than the 2B and 2C options. Risks around design, land take etc have been included in the Management Case and Commercial Case, but it is recognised this could result in cost differences between options if they were assessed in more detail.	16	The option will have high costs due to significant civil works and alignment with the existing network compared to Option 2A. Risks around design, land take etc have been included in the Management Case and Commercial Case, but it is recognised this could result in cost differences between options if they were assessed in more detail.	16	The option will have a high cost due to significant civil works and alignment with the existing network compared to Option 2A. Risks around design, land take etc have been included in the Management Case and Commercial Case, but it is recognised this could result in cost differences between options if they were assessed in more detail.	16	Option 17 is expected to have a high cost due to the significant infrastructure which is required to construct the roundabout. This leads to the option having poor affordability. However, this option has the benefit of no cost associated with land take as no land take is required.	15	Option 17a is also expected to have a high cost due to the infrastructure required. This leads to the option having very poor affordability. The option does also require a small amount of land take which increases the cost of the option.
5.1	*Financial Score Rank*		*The DM has no additional cost to OCC unless any assets are life expired or will require major maintenance works soon.*	*1*	*Option 2A scores best in the Financial Case as the option is likely to be the most affordable. However, further work would be needed to estimate the costs and take into account any variation between sub-options.*	*2*	*Option 2B ranks joint second on the Financial Case.*	*2*	*Option 2B ranks joint second on the Financial Case.*	*2*	*Option 17 ranks joint second in the Financial Case due to low costs related to land take (despite a higher overall cost)*	*5*	*Option 17a ranks last in the Financial Case due to a higher overall cost.*
6	**Score - Commercial**	10	No land take needed/ no CPO needed	6	The Option 2A design has flexibility to change based on land negotiations and to adapt in future to other changes related to, for example, traffic flows.	4	Option 2B has some flexibility to change, although this may be limited for the D-Link slip arrangement without significant changes in design, alignment and land take.	3	Option 2C has more limited flexibility to change without significant changes in design, alignment and land take.	7	Option 17 requires no land take or CPO although there is limited flexibility with this option.	5	Option 17a only requires a small amount of land take although there is limited flexibility with this option.
6.1	*Commercial Score Rank*		*No land take needed/ no CPO needed.*	*2*	*Option 2A scores second in the Commercial Case as the option offers the greatest flexibility, which can also help to mitigate some of the risks around land take*	*4*	*Option 2B ranks fourth on the Commercial Case*	*5*	*Option 2C ranks fifth on the Commercial Case*	*1*	*Option 17 ranks best in the Commercial Case. No land take and hence potential CPO is required for this option.*	*3*	*Option 17a ranks third on the Commercial Case*
	Total Score	***86***		***105***		***95***		***91***		***76***		***71***	
	Total Score Rank			*1*		*2*		*3*		*4*		*5*	

6.3 Key findings

6.3.1 Overall the assessment indicates that the implementation of grade separated west facing slip roads would provide the preferred way forward. This will also provide consistency with the existing arrangement (grade separated east facing slip roads), although some changes to the exiting layout would be required. Of these grade separated options, Option 2A performed best; however further detail is provided below comparing Option 2A to Options 2B and 2C related to land take and departures from standard to help reinforce these findings.

6.3.2 Regarding Options 17 and 17A, these would require the removal of the current grade separated east facing slips and introducing an at grade roundabout. Whilst this may have an advantage in terms of land take (for Option 17), the modelling[37] indicates that the junction would perform worse than the slip roads. It would introduce more conflict points between vehicles (with safety implications), there would still be a number of departures from standard and, in the case of Option 17a, land take.

6.4 Departures from standard and land take – Options 2A, 2B, 2C

6.4.1 A key determinant to select and deliver a preferred option from the shortlisted options, amongst other criteria, will be the departures from standard (in highways design terms) and land take required to deliver the scheme. Option 2A performs better than Options 2B and 2C, as the latter options would require significant land take and/or departures from standard compared to Option 2A, as discussed below:

- Option 2A: minor departures from standard are expected which can be resolved through design interventions. Overall, no major design departure is known at this stage with all the available information, as this is a fairly conventional design for such a scheme.
- Option 2B: significant departures from standard are expected for the D-Link arrangement based on the designs developed in order to stay within the highway boundary, or significant land take if trying to keep within design standards:
  - Option 2B-A (D-Link *design is not within the highway boundary*): this will meet the CD122 (paragraph 5.10) standard, which specifies that a radius of 30m should be provided for loops on a D-Link on to an all-purpose carriageway; the Option 2B design will require significant land take and realignment of the existing A40 off-slip.
  - Option 2B-B (D-Link *design is constrained within the highway boundary*): a significant departure from standard would be required with a substandard radius on the D-Link. This substandard D-Link radius would pose challenges for the safe movement of heavy goods vehicles, road safety issues and pose maintenance issues for asphalt.
    - A further departure from standard would be required in order to accommodate the D-Link before the commencement of the bridge, as the CD122 (paragraph 5.8) recommends that the connector road

[37] For more details on modelling see "60611611 - Access to Witney - TNA02 (AECOM)"

should have a near straight at the back of the nose equal to the length of the nose. Provision of this near straight will increase the slip length which will impact the bridge requiring widening of the bridge. This would incur significant additional work and costs and cause disruption to the A40 during construction.

- Option 2C: significant departures from standard are expected for the D-Link arrangement based on the designs developed in order to minimise land take, or significant land take if trying to keep within design standards:
  - Option 2C-A (Off-Slip *design is not constrained to minimise land take*): if this Option is designed to standards it would require significant land take to accommodate the D-Link arrangements for the proposed slip roads.
  - Option 2C-B (Off-Slip *design is constrained to minimise land take*): the layout would require significant departures from standard:
    - minimising land take would require a substandard radius of the D-Link off-slip road which would connect to the existing on-slip road; this would not meet the CD122 (paragraph 5.10) recommendation of a 50m radius (to be provided for a D-Link loop off-slip for an all-purpose carriageway).
    - if the Option 2C design has be delivered with minimum land take it would lead to a reduced D-Link radius, which would be substandard and would pose challenges for the safe movement of heavy goods vehicles, road safety issues and pose maintenance issues for the asphalt. There also exist road safety concerns with opposing traffic on the on-slip and off-slip roads without physical separation.
    - The provision of a near straight behind the nose at the back of the nose, according to CD122 (paragraph 5.8), impacts the slip road lengths which conflicts with the bridge structure requiring widening of the bridge.

6.5 Departures from standard and land take – Options 17 and 17a

6.5.1 There is no land take required in Option 17 as it sits wholly within the highway boundary. There will be departures from standard as the northwest approach horizontal curvature of the link road before the entry flare of the roundabout is lower than the permitted parameters in DMRB.

6.5.2 There is some land take required in Option 17a as it does not sit wholly within the highway boundary. There will be departures from standard as the northwest approach horizontal curvature of the link road before the entry flare of the roundabout is lower than the permitted parameters in DMRB.

6.6 Next Steps

6.6.1 Overall, Option 2A was identified as the preferred way forward, based on the preceding analysis. Options 2B, 2C ,17 and 17a are recommended to be sifted out at this stage. Option 2A scored the highest and, based on discussion with OCC, was recommended for more detailed assessment and potential refinement. This is set out in the next chapter.

7 Stage 3: Preferred Option Identification

7.1 Introduction

7.1.1 Following Stage 2 and the identification of Option 2A as a better performing option, this Stage 3 analysis focused on additional development and refinement of Option 2A, including further modelling, design, road safety audit, preliminary ecological assessment and public consultation. This chapter summarises the Stage 3 approach, the results of this process, and recommendations and next steps.

7.2 Stage 3 Appraisal and Results

7.2.1 The Stage 3 sift involved the best performing option from Stage 2 (Option 2A) undergoing further design refinement and modelling to develop sub-options and optimise the option as far as possible at this stage. Nine sub-options were developed as part of Stage 3, and drawings of these options are shown below in Figure 64 to Figure 72. The sub-options are as follows:

- Option 2A-A: includes west facing slip roads at Shores Green with an unsignalised dumbbell roundabouts arrangement at the top of the slip roads. The two roundabouts would require realignment of the existing A40 diverge, South Leigh Road and B4022. The junction of South Leigh Road with Cogges Road would also require repositioning due to the alignment change (Figure 64). This option is not considered for further assessment due to land take and cost. No modelling was undertaken.
- Option 2A-B: includes west facing slip roads at Shores Green with an unsignalised T-junction on the Off-Slip and roundabout arrangement at the top of the On-Slip. In this design, the B4022 to the west of the junction with South Leigh Road would need to be realigned (Figure 65). This option is not considered for further assessment due to road safety concerns due to low visibility (east side due to the A40 bridge). No modelling was undertaken.
- Option 2A-C: includes west facing slip roads at Shores Green with an unsignalised dumbbell roundabouts arrangement at the top of the slip roads. The B4022 to the west of the junction with South Leigh Road would need to be slightly realigned connecting to the proposed roundabout (Figure 66). This option is not considered for further assessment due to land take (residential land take). No modelling was undertaken.
- Option 2A-D: is similar to Option 2A-C with the major difference being a proposed roundabout to replace the existing B4022 and South Leigh Road T-Junction and the existing A40 diverge (Figure 67). This option is not considered for further assessment due to land take (residential land take). No modelling was undertaken.
- Option 2A-E: includes west facing slip roads at Shores Green with an unsignalised dumbbell roundabouts arrangement at the top of the slips. The roundabout at the top of the west facing Off-Slip is proposed to be contained between the Gas Governor and the A40 overbridge. This would prevent the

requirement of realigning the existing On-Slip on the B4022 (Figure 68). This option is considered for further assessment due to the likelihood of less land take and cost compared to the other sub-options. Modelling was undertaken which showed that it performs within capacity.

- Option 2A-F: includes west facing slip roads at Shores Green with an unsignalised dumbbell roundabouts arrangement at the top of the slips. The roundabout at the top of the west facing Off-Slip is proposed to be located at the junction of the B4022 with the existing On-Slip. This would require the existing On-Slip to be realigned slightly (Figure 69). This option has been considered for further assessment as modelling suggested that it performs within capacity and it did not require residential land take (but it does require arable land take).
- Option 2A-G: includes west facing slip roads at Shores Green with signalised T- junctions at the top of the slip roads. The junctions would include a controlled cycle/pedestrian crossing located on the B4022 (east) on the proposed On-Slip junction. The west facing Off-Slip layout and the junction is proposed to be contained between the Gas Governor and the A40 overbridge (Figure 70). This option is considered for further assessment due to likely less land take and cost compared to the other sub-options. Modelling was undertaken which showed that it performs within capacity.
- Option 2A-H: includes west facing slip roads at Shores Green with unsignalised T- junctions at the top of the slip roads. The west facing Off-Slip junction is proposed to be contained between the Gas Governor and the A40 overbridge. The alignment of the junctions does not require the B4022 to be realigned (Figure 71). This option is not considered as modelling suggested that it does not perform within capacity for one of the on-slip junctions (north of the A40) and due to road safety concerns (low visibility, east side, due to an A40 bridge).
- Option 2A-I: includes west facing slip roads at Shores Green with an unsignalised Crossroads junction at the top of the proposed Off-slip and T-junction at the proposed On-Slip. The crossroads junction at the top of the west facing Off-Slip is proposed to be located at the junction of the B4022 with the existing On-Slip (Figure 71). This option is not considered as modelling suggested that it does not perform within capacity for one of the on-slip junctions (north of the A40) and due to road safety concerns (low visibility, east side, due to an A40 bridge).

7.2.2 Three sub-options of Option 2A – '2A-E', '2A-F' and '2A-G' – were assessed further, whilst the other 2A sub-options were sifted out.

7.2.3 These three options have been summarised in Table 7-1, Table 7-2 and Table 7-3, and assessed/ scored against a more refined EAST assessment approach to compare the sub-options (see Appendix D):

- Sub-option 2A-E scored '1' which was better than sub-option 2A-F but lower than 2A-G.
- Sub-option 2A-F scored '-8' which was lower than both sub-option 2A-E and 2A-G.

- Sub-option 2A-G scored '3' which was better than both sub-option 2A-F but lower than 2A-E.

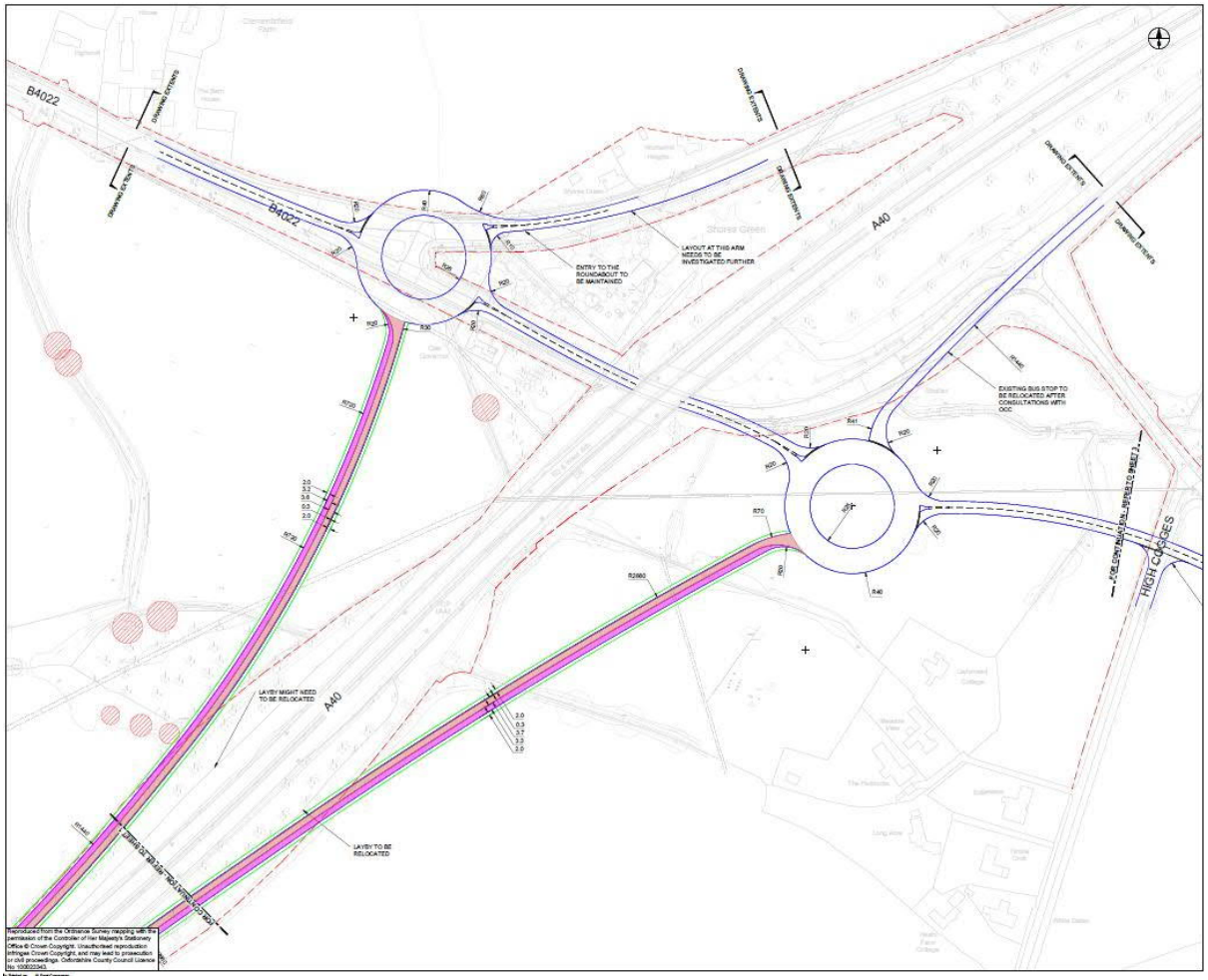


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Figure 64 Option 2A-A

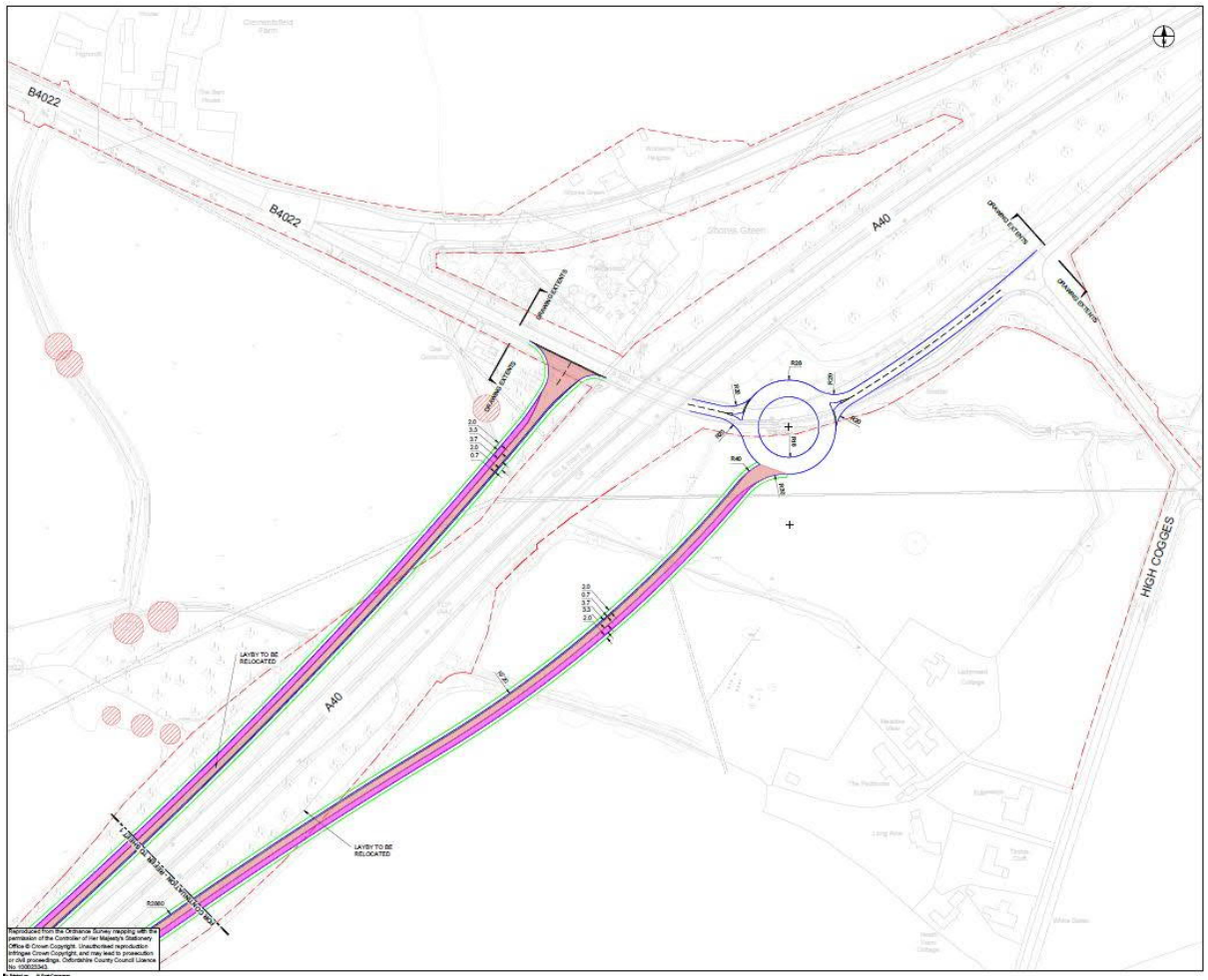

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Figure 65 Option 2A-B

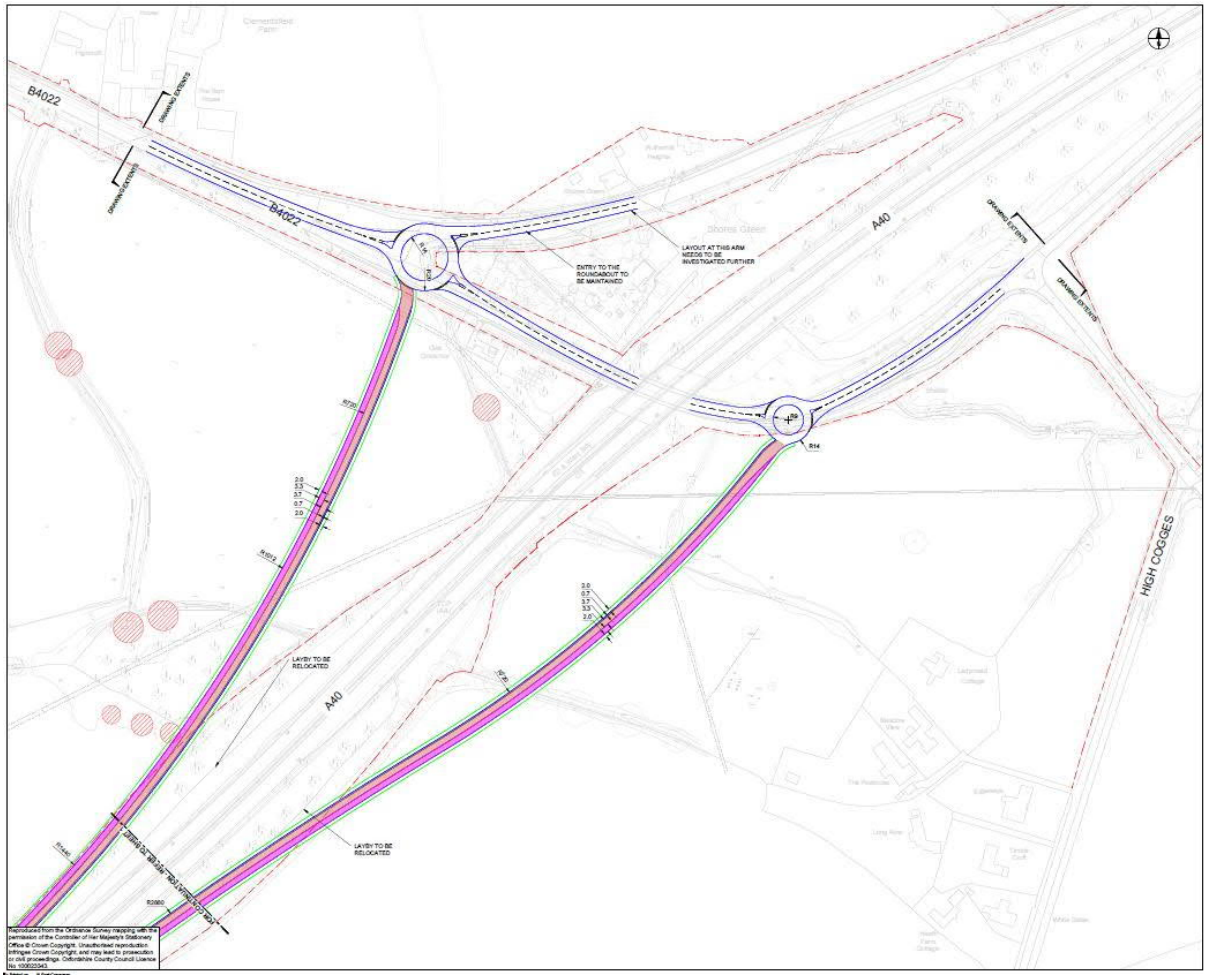

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Figure 66 Option 2A-C

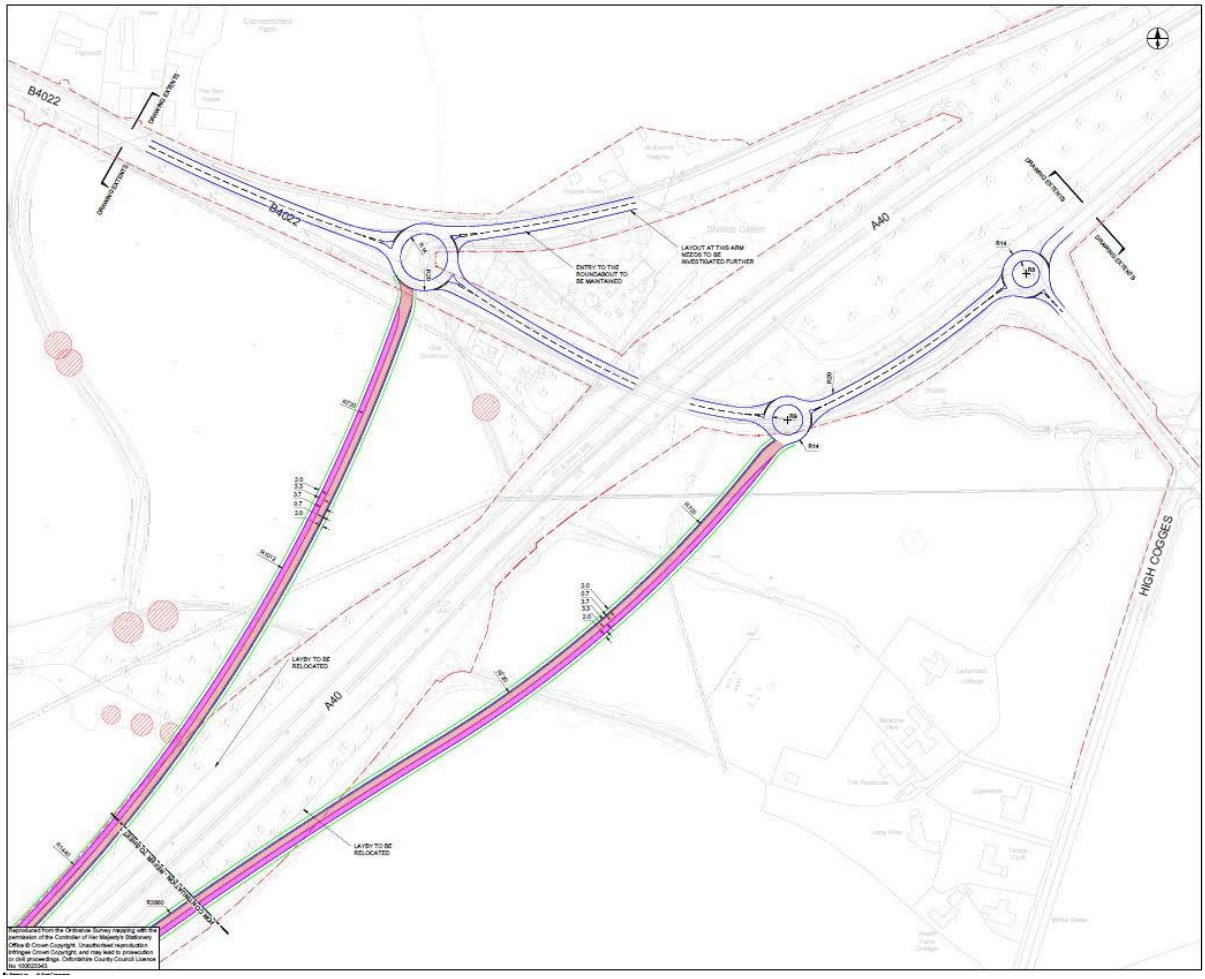

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Figure 67 Option 2A-D

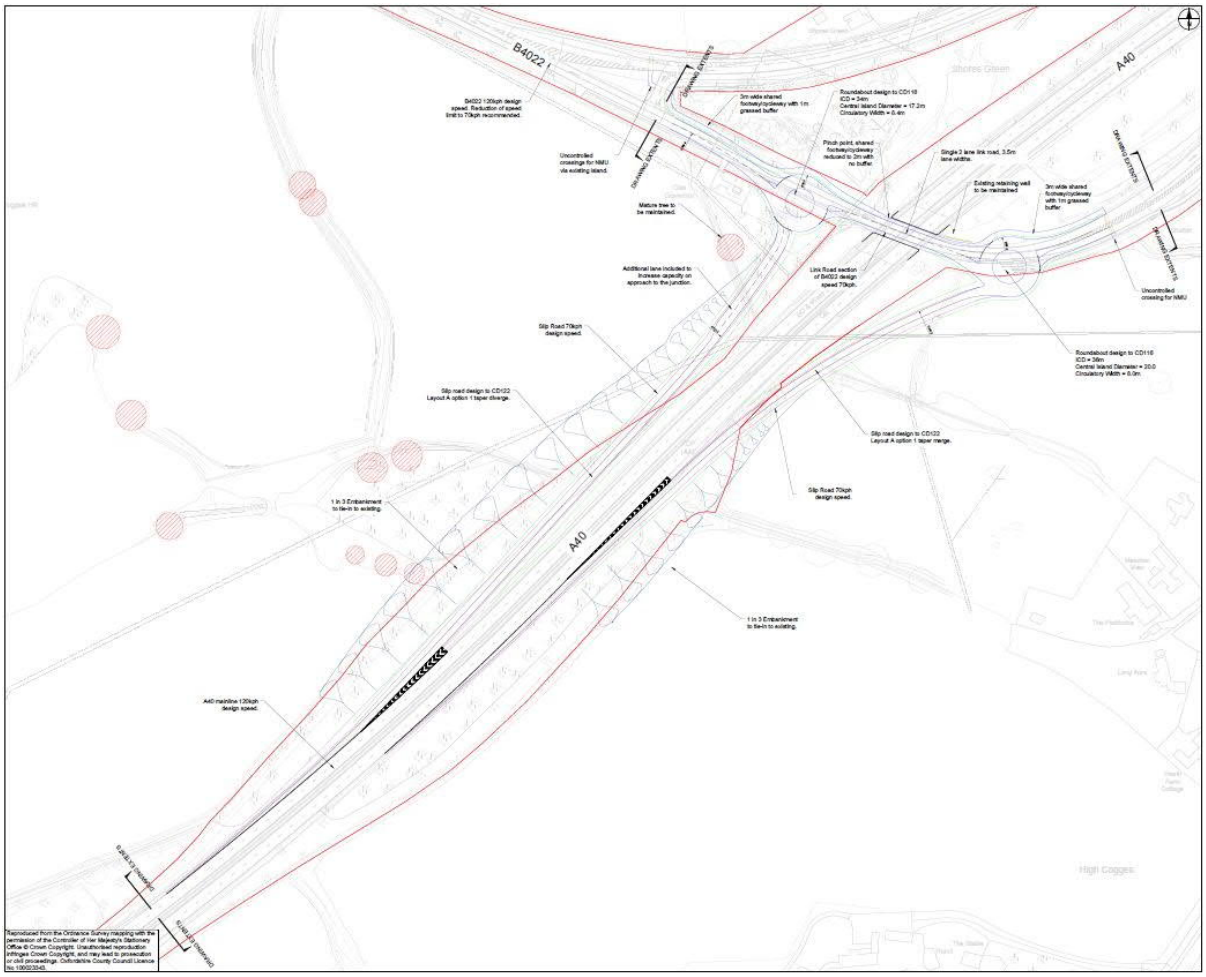

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Figure 68 Option 2A-E

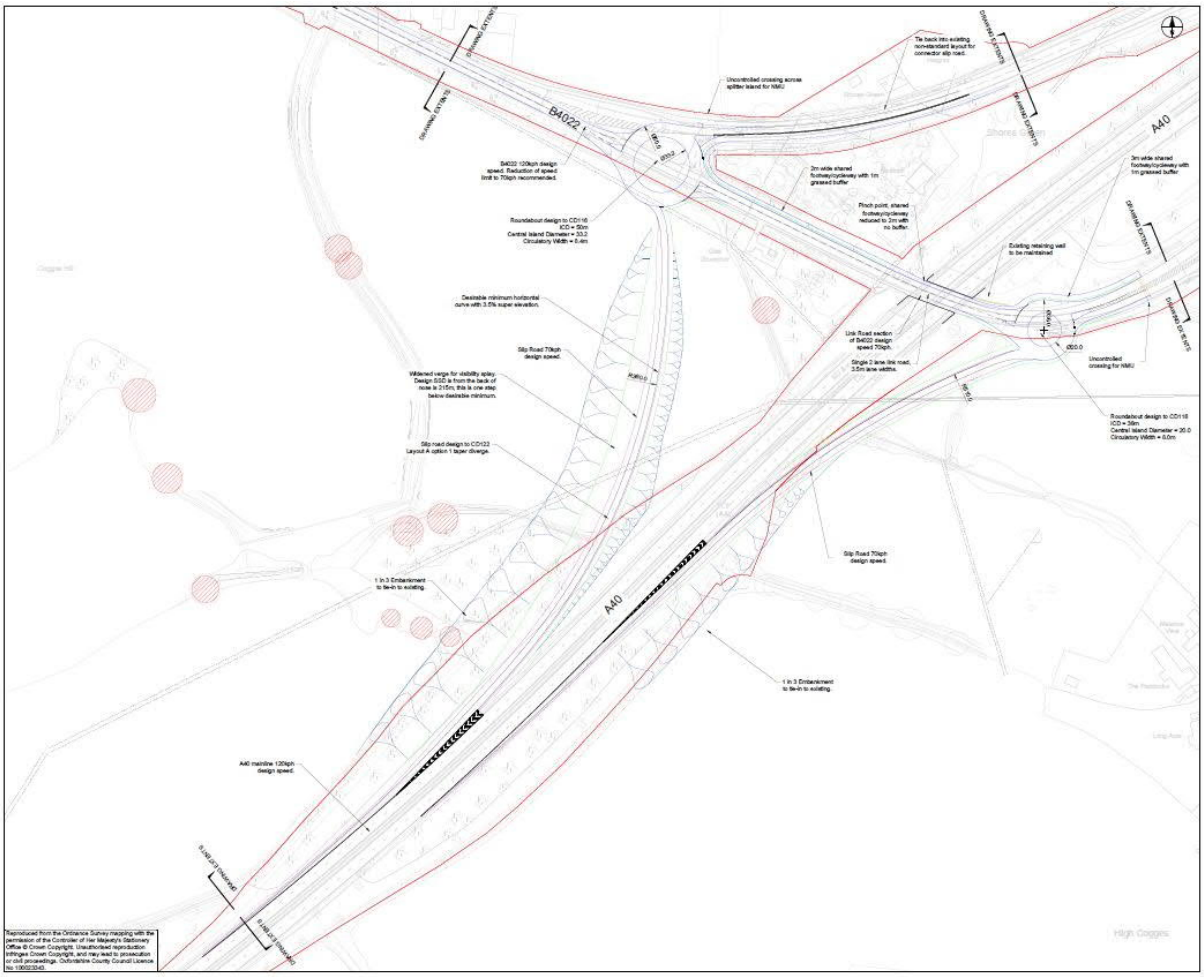

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Figure 69 Option 2A-F

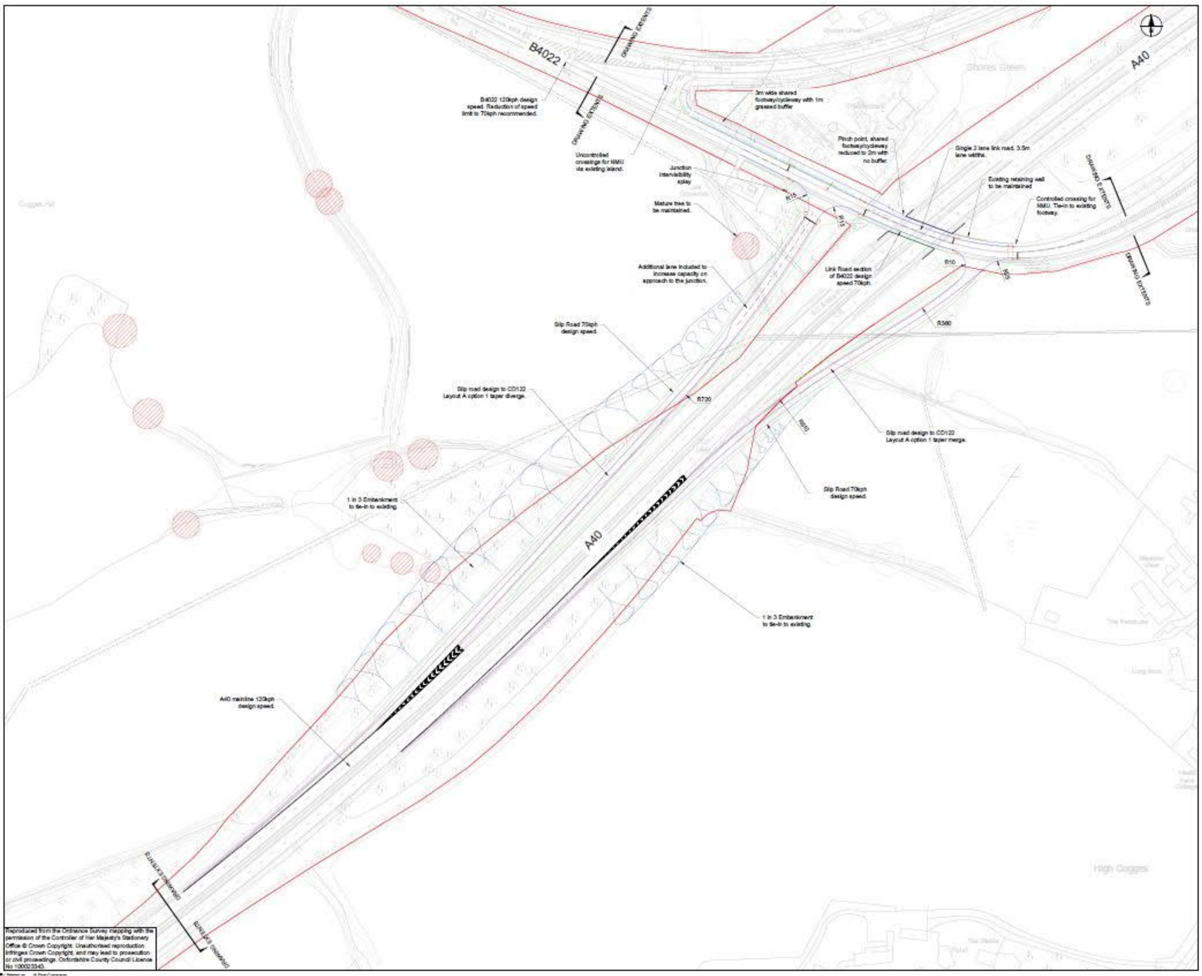

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Figure 70 Option 2A-G

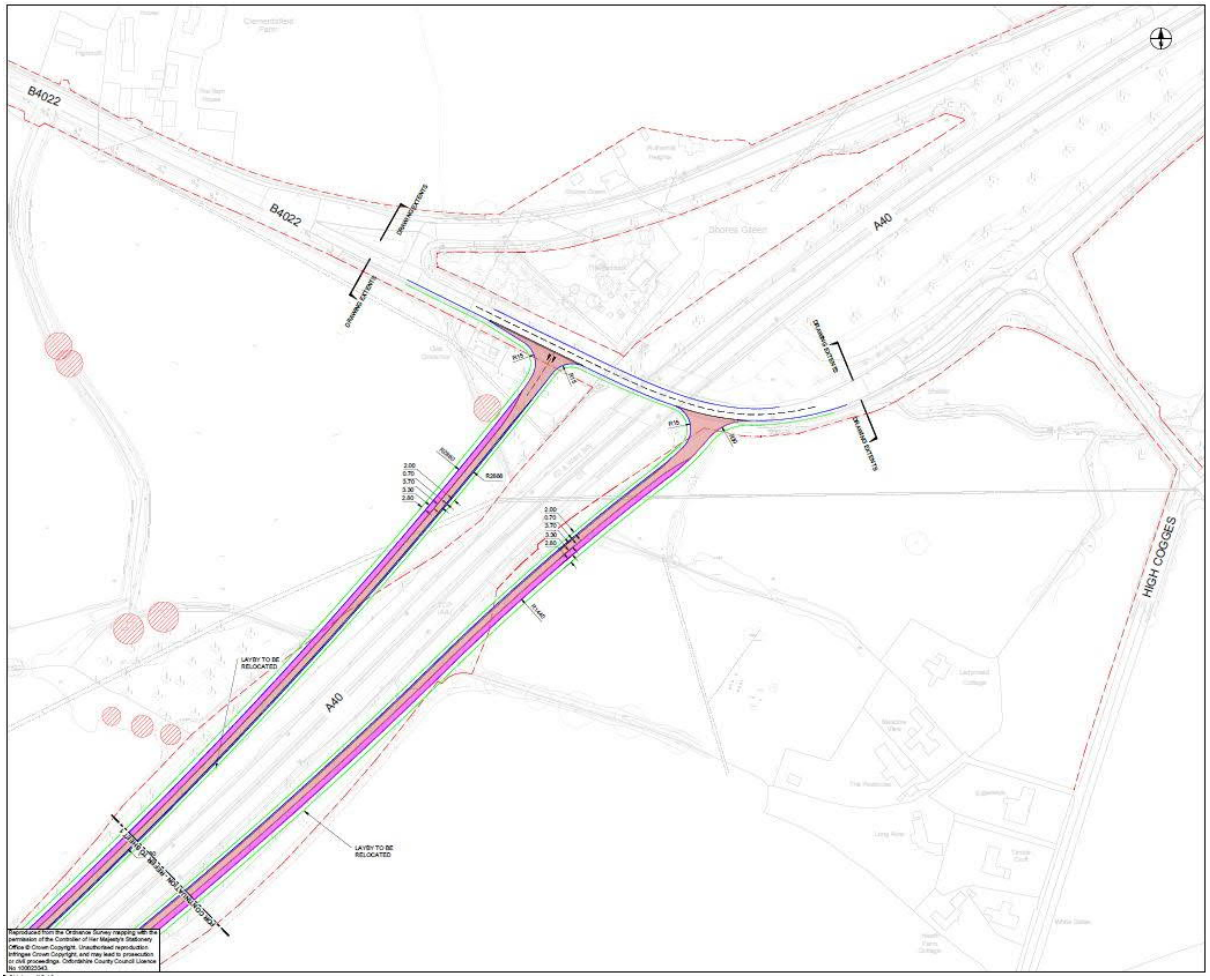

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Figure 71 Option 2A-H

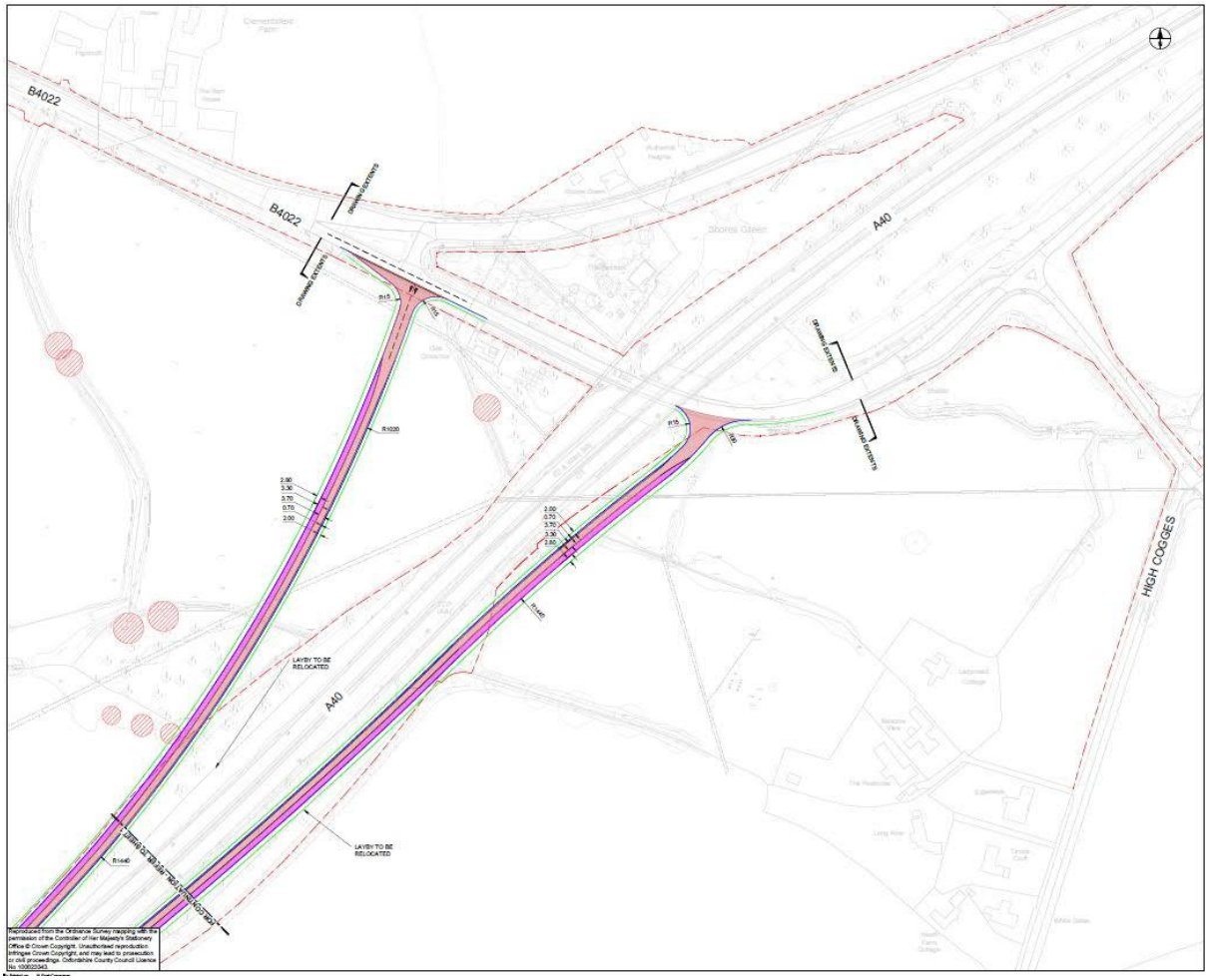

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Figure 72 Option 2A-I

Table 7-1: Potential benefits and issues: Option 2A-E

Potential benefits	Potential issues
Improved access to the A40 for the residents of north and east Witney and support for proposed local plan strategic sites in north and east Witney.	The proposed layout introduces two new junctions where vehicles are required to stop. Queuing during peak times is likely to increase local vehicle emissions.
An improved NMU route is provided connecting the existing shared footway north of the B4022 to South Leigh Road to enable safe NMU movements through the area.	Three new NMU crossings have been added to the network increasing the likelihood of NMU/motorist interaction, which has potential safety implications with the increase in NMU volume. This option will require a significant pedestrian right of way diversion for the existing path located along the south-west at Shores Green.
When compared to other options, land take is significantly reduced to limit	Some mature trees will be impacted by the eastbound diverge embankment based on the feasibility design layout.

Potential benefits	Potential issues
the impact on local landowners.	Hedgerows and open ditches impacted to the north and south of the A40 corridor. A network of open ditches i present in the land take; there may be peak flood levels to consider. The eastbound diverge passes through densely vegetated area immediately adjacent to the B4022. Tree removals and tree roots are an issue across all plans.
No departures have been identified at this stage. Checks have been completed within the relevant DMRB standards. This includes basic vertical geometry and visibility requirements based on the topographical survey provided.	The embankment is a typical 1 in 3 which can be reviewed as a part of the detailed design. The extent of the impact can be managed using reinforced embankments to limit the overall footprint.
An independent review of the option suggests that the construction timeframes for the option can be minimised by constructing both the slip roads and junctions at the top of the slips at the same time.	The existing eastbound slip road (merge) is currently non-standard in terms of its layout/cross-section. The farm access at the end of the taper is also a safety concern. The slip road is untouched for this proposal and remains a safety concern.
The compact layout minimises the scheme footprint and visual impact.	Utilities diversions or relocations expected at both roundabouts.
An independent review of the option suggests that the construction sequence can be carried out without completely blocking the A40 and B4022.	The B4022 will be severely disrupted during construction with complex traffic management expected.

Table 7-2: Potential benefits and issues: Option 2A-F

Potential benefits	Potential issues
Improved access to the A40 for the residents of north and east Witney and support for proposed local plan strategic sites in north and east Witney.	The proposed layout introduces two new junctions where vehicles are required to stop. The stop/start nature of the scheme and queuing during peak times are likely to increase local vehicle emissions.
An improved NMU route is provided connecting the existing shared footway north of the B4022 to the existing footway/bus stop east of the A40 overbridge.	Three new NMU crossings have been added to the network increasing the likelihood of NMU/motorist interaction, which is a safety concern. This option will require a significant pedestrian right of way diversion for the

Potential benefits	Potential issues
	existing path located along the south-west at Shores Green.
During construction, the impact to the A40 is limited to the areas surrounding the proposed tapers and nose of the slip roads.	Hedgerows and open ditches impacted to the north and south of the A40 corridor. A network of open ditches is present in the land take; there may be peak flood levels to consider. Tree removals and tree roots are an issue across all plans. Some mature trees may be impacted by the eastbound diverge embankment. The embankment is a typical 1 in 3. The extent of the impact can be managed using reinforced embankments to limit the overall footprint. Some utility diversions expected at both roundabout locations.
	A large section of arable land is separated by the eastbound diverge. Any existing habitat may become isolated. Due to embankments and visibility requirements, the overall footprint is significant which will have a negative visual impact.
	The north west roundabout is likely to have a number of relaxations and some departures present due to the land constraints and distribution of arms, specifically the proximity of the two arms to the east. Visibility when approaching the west roundabout from the north east arm is limited due to land/vegetation constraints. Visibility when approaching the east roundabout from the west is limited by the existing bridge structure. A design speed of 70kph is recommended on the link road between the roundabouts. The Stopping Sight Distance (SSD) is one step below what is desirable with the current layout. Near junctions this is considered a departure. Full SSD could be provided if the roundabout was

Potential benefits	Potential issues
	moved further to the south but with increased land take.
	The existing eastbound slip road (merge) is currently non-standard in terms of its layout/cross-section. The farm access at the end of the taper is also a safety concern. Although the approach speed is likely to be reduced due to the introduction of the roundabout, the existing layout will remain.
	A high level ECI review suggests that Option 2A-F would require considerably more earthworks and greater traffic management requirements which will have cost implications compared to Option 2A-E.

Table 7-3: Potential benefits and issues: Option 2A-G

Potential benefits	Potential issues
Improved access to the A40 for the residents of north and east Witney and support for proposed local plan strategic sites in north and east Witney.	The proposed layout introduces two new junctions where vehicles are required to stop. The stop/start nature of the scheme and queuing during peak times are likely to increase local vehicle emissions.
An improved NMU route is provided connecting the existing shared footway north of the B4022 to the existing footway/bus stop east of the A40 overbridge.	Three new NMU crossings have been added to the network increasing the likelihood of NMU/motorist interaction, which is a safety concern.
When compared to other options, land take is significantly reduced to limit impact on local landowners.	Risk of some mature trees being impacted by the eastbound diverge embankment. The embankment is a typical 1 in 3. The extent of the impact can be managed using reinforced embankments to limit the overall footprint. Hedgerows and open ditches impacted to the north and south of the A40 corridor. A network of open ditches is present in the land take; there may be peak flood levels to consider. The eastbound diverge passes through densely vegetated area immediately adjacent to the B4022. Tree removals and tree roots are an issue across all plans.
No departures have been identified at this stage. Checks	The existing eastbound slip road (merge) is currently non-standard in terms of its

Potential benefits	Potential issues
have been completed within the relevant DMRB standards. This includes basic vertical geometry and visibility requirements based on the topographical survey provided.	layout/cross-section. The farm access at the end of the taper is also a safety concern. The slip road is untouched for this proposal and remains a safety concern. Some utility diversions expected at both junction locations.
During construction the impact to the A40 is limited to the areas surrounding the proposed tapers and nose of the slip roads.	The B4022 will be severely disrupted during construction with complex traffic management expected.
Due to the signal arrangement, the junction footprint can be reduced compared to Option 2A-E which has a similar layout.	
Signal junction layout can react efficiently to the change in traffic providing better network control.	

7.3 Road Safety Audit

7.3.1 As part of the assessment, a Road Safety Audit (RSA) was undertaken for four options, and the full RSA is included in Appendix F. The audit comprised a review of the scheme drawings, and a site visit in early September 2020. Two of the options assessed are of interest to the Stage 3 assessment:

- Option 2A-E: a dumbbell roundabout layout, with a roundabout either side of the A40 Bridge;
- Option 2A-F: a new roundabout on the B4022 at its junction with the existing eastbound on slip road;

7.3.2 The RSA identified the potential issues and recommendations, and a full list of these can be found in Appendix F. The key issues identified are as follows:

- Option 2A-E (Forward visibility issue): lack of visibility of the roundabouts, potentially leading to failure to give-way collisions.
  - Recommended: new roundabouts should have larger Inscribed Circle Diameters (ICDs) and overall width of the circulatory carriageways should be increased in order to better accommodate the free turning movements.
- All options: junctions will also create additional conflict points on the road network.
  - Recommended: the Highway Authority may wish to see that the speed limit is reduced, at least within the extents of the scheme.

- Option 2A-E: small roundabout diameters can lead to lack of deflection at roundabout entry, which may encourage drivers to negotiate the roundabout at high speeds, lose control of the vehicle and lead to collisions.
  - Recommended: new roundabouts should have larger Inscribed Circle Diameters (ICDs) and the B4022 should be realigned to create some curvature on the south eastbound approach.
- Option 2A-E and Option 2A-F (eastern roundabout): the small roundabout proposed results in a lack of deflection, likely to result in higher vehicle entry speeds.
  - Recommended: new roundabouts should have larger Inscribed Circle Diameters (ICDs) and the roundabout to be relocated further to improve the approach to the roundabout.
- Option 2A-E & Option 2A-F: no proposals to improve the existing South Leigh Road junction; and introduction of a new B4022 roundabout could cause safety issues at the South Leigh junction between turning traffic and the westbound off-slip traffic.
  - Recommended: the Highway Authority may wish to see that the existing South Leigh Road junction is improved.
- All options: there is a lack of suitable provision for pedestrians and cyclists negotiating the proposed junctions.
  - Recommended: Provision of an off-carriageway route for pedestrians and cyclists, with uncontrolled crossings provided across the new slip roads.
- All options: There is no indication if street lighting will be included as part of the proposals.
  - Recommended: the use of street lighting at the proposed junctions.
- Option 2A-E & Option 2A-F: the small size of the roundabouts and splitter islands will make it difficult to provide road signs.

  Recommended: Larger roundabouts should be used to ensure an appropriate layout of road signs can be provided on the central islands. Nearside kerblines of the roundabout exits should be altered to improve exit alignment and provide larger splitter islands to accommodate direction signs.

7.3.3 Overall, the RSA found some issues with the currently proposed designs, such as roundabout sizes, which could lead to safety concerns. The RSA also recommended that street lighting be provided on all options. The RSA has provided recommendations to address each of these issues and to ensure the design is safe.

7.3.4 The RSA has recommended some design refinements for Options 2A-E and Option 2A-F, particularly the size of the roundabouts, to minimise any significant road safety concerns.

7.4 Preliminary Ecological Assessment

7.4.1 In addition, a Preliminary Ecological Assessment (PEA) has been undertaken as part of Stage 3. The PEA has assessed the scheme overall rather than considering distinct options, and no comment is made as to which of the options is preferred on the basis of the PEA.

7.4.2 A desktop study and an extended Phase 1 habitat survey were undertaken to identify any potential constraints on protected species and habitats as a result of the scheme. The Oxford Meadows SAC (an international statutory designated site for nature conservation) is located within 10km of the proposed scheme. It is likely that any Shores Green junction improvement scheme in combination with other highways improvements proposed along the wider A40 Corridor will impact:

- Ducklington Mead SSSI (Statutory Sites): The potential for impact on Ducklington Mead SSSI as a consequence of changes in air quality is considered minimal given that it is located more than 1km from the Scheme but will be confirmed following the completion of air quality modelling.
- Oxford Meadows SAC (Statutory Sites): increased traffic from higher capacity roads could lead to air quality impacts to the SAC habitats. Therefore, a Habitat Regulation Assessment (HRA) is recommended to be undertaken to screen for any likely significant effects as a result of changes in air quality resulting from the Scheme in combination with other proposed highway improvements on the A40.
- Six sites (non-statutory designations) are situated within 2km of the scheme, but assuming standard construction controls are incorporated there should be no adverse impacts to the sites as a result of the scheme.
- Habitats of Principal Importance: two Habitats of Principal Importance (as listed on Section 41 of the NERC Act 2006) were present within the Survey Area, namely 'hedgerows' and 'broadleaved woodland'. At present, the Scheme is likely to result in the loss and/or fragmentation of these habitats.
- Others: further survey work required with regard to bats, hazel dormice, badgers, widespread reptiles, great crested newts, breeding and wintering birds, barn owl and aquatic scoping surveys, as well as a further walkover survey. Once the Environment Bill becomes law a Biodiversity Net Gain assessment is required to identify and assess the biodiversity loss/gain for the scheme. Further information on requirements can be found in the full PEA document (September 2020).

7.4.3 The overall results from the PEA indicate the need to take into account a number of different impacts in further design work and more detailed impact assessments. However, none of these at this stage appear to be showstoppers or unusual for a scheme of this scale and size in this location.

7.5 Public Consultation

7.5.1 Public consultation of the preferred sub-option 2A-G (based on its highest score) and the other two shortlisted sub-options (2A-E and 2A-F) was undertaken. In addition, the consultation listed the long list for comparison. The consultation was held in May 2021. As part of the consultation, virtual exhibitions and a webinar were held. Respondents were asked to complete a questionnaire concerning their views on the sub-options. Over 34 responses were received from organisations, councillors and individuals.

7.5.2 Overall, west-facing slip roads at the A40/B4022 Shores Green Junction (option 2A option) was supported by the respondents to help achieve some of the key Access to Witney scheme objectives. The consultation asked:

- if respondents agree that west-facing slip roads at the A40/B4022 Shores Green Junction will help reduce congestion and improve air quality in central Witney? To this:
  - 59% supported the statement that west-facing slip roads at the A40/B4022 scheme will help to reduce congestion and improve air quality in central Witney, whilst an additional 13% partially supported this scheme
- if respondents agree that new footways and cycle paths (as part of 2A) can help more people choose walking and cycling for local journeys in the area? To this:
  - 38% agreed that new footways and cycle path will help more people to choose walking and cycling for local journeys in the area, whilst an additional 36% partially agreed
- for the overall view of the respondents on the proposal to install west-facing slip roads at the A40/B4022 Shores Green Junction. To this:
  - 69% supported west-facing slip roads at the A40/B4022 Shores Green Junction scheme, whilst 18% had concerns about the scheme

7.5.3 Sub-option 2A-G received slightly higher support from respondents than 2A-E and 2A-F:

- 54% supported sub-option 2A-G, whilst 33% had concerns about the scheme
- 49% supported sub-option 2A-E/F, whilst 31% had concerns about the scheme

7.6 Conclusions and Next Steps

7.6.1 Option 2A scored the highest amongst the shortlisted options. The evidence set out in this report and recommendations from the Road Safety Audit indicated that Option 2A be considered for a more detailed assessment. Further assessment was undertaken for several sub-options, which was narrowed down to three sub-options: 2A-E, 2A-F and 2A-G. Public consultation showed support for Option 2A, with more support for sub-option 2A-G.

7.6.2 On the basis of the analysis presented in this report, based on existing data and modelling and iteration with OCC, sub-option 2A-G should be taken forward for more detailed assessment and design. This option is considered for further assessment due to likely less land take and cost compared to the other sub-options. Junction modelling was undertaken which showed that it performs within capacity.

7.6.3 Consideration should be given to packaging options along with the 2A-G sub-option (e.g. including those suggested as part of a wider Witney Transport Strategy) to help maximise value for money and address the objectives and challenges identified in this Study.

7.6.4 Further baseline surveys (ecological, noise, air quality, traffic, topographical etc.) will need be undertaken to inform the next stage of design work, traffic modelling and impact appraisals. Additional road safety audits of sub-option 2A-G may be needed, and other assessments required to inform the following design stages.

7.6.5 For ongoing monitoring and evaluation of the scheme, if required, a logic map should be developed to set out the short to medium term outcomes (such as decreased congestion in the town centre, improvement in air quality, uptake of active travel) and longer term impacts (such as improvements to public health, delivery of homes, and improved vitality of the town), and appropriate approaches to surveys, monitoring and data collection set out.

7.6.6 The high-level Appraisal Specification Report (ASR) should be updated if necessary, including both junction and microsimulation modelling. If economic impacts and a business case are needed, strategic modelling will be required. For all modelling it may be necessary to consider a range of demand scenarios and sensitivity testing, in particular in light of updated Government (May 2021) economic forecasts and updated guidance on assessing uncertainty.

7.6.7 As the design is refined, it will be possible to develop more detailed scheme cost estimates and take into account potential construction impacts and the programme for delivery.

7.6.8 This should be developed alongside a list of risks and mitigation measures to reduce the risk impact severity and/or probability of occurrence. This will include risks on design, land take, cost estimates, COVID-19 on travel patterns/ demand and the underpinning modelling, and other key components.

7.6.9 As the study progresses, design and refinement of the preferred option will be undertaken; as evidence, for example from updated modelling/ sensitivity testing, becomes available, it may be necessary to iterate and refine the design; unless however there are major changes in assumptions, growth forecasts, scheme costs, or local/ regional/ national policy, it is not expected this would impact on the option choice. Nevertheless, some of the wider area options sifted out at this stage, such as the West End Link Road and cycle network improvements across Witney, may still have a strong case to form part of an overarching packaged approach, funds permitting, in support of the preferred option (2A-G).

Appendix A - Details of Bus Routes

Table 7-4. Bus services, Witney[38]

#	Route No	Service	Provider	Stops	Frequency
1	15	Witney-Abington	Stagecoach Oxfordshire	Witney Market Square (Stop B), Witney, opp Bus Garage, Ducklington, o/s The Green, Standlake, o/s The Bell PH, Newbridge, o/s Rose Revived PH, Southmoor, adj Beggars Lane, Kingston Bagpuize, opp Frax Close, Frilford Millets Farm (inside), Marcham, opp Duffield Place, Abingdon, adj Fairacres, Abingdon Stratton Way (Stop A1)	Monday to Saturday, Roughly every 2 hours between 7.30am-4.30pm
2	19	Witney-Carterton	Stagecoach Oxfordshire	Carterton, opp Broadshires Health Centre, Carterton, o/s Town Hall, Alvescot, o/s Memorial, Black Bourton Station Road (SE-bound), The Clanfield Tavern (o/s), Bampton, on Market Square, Aston High Street (E-bound), Brighthampton, opp Chervil Cottage, Standlake, adj Woodlands, Ducklington, opp The Green, Witney Market Square (Stop B)	Monday to Saturday, roughly every 2 hours from 06.36am-6.55pm
3	210	The Wychwoods-Witney	West Oxfordshire community transport	Milton-under-Wychwood The Hare PH (NE-bound), Shipton-under-Wychwood, opp Post Office, Ascott-under-Wychwood, opp The Green, Lower End, adj Hatching Lane, Crawley, opp The Lamb PH, Witney, adj Chedworth Drive, Witney Market Square (Stop A), Witney Sainsburys (inside), Witney, o/s Fernleigh	Monday to Saturday, alternating timetables
4	213	Witney Town service (Madley Park-Cogges)	West Oxfordshire community transport	Witney Market Square (Stop C), Witney Quarry Road (NE-bound), Witney Farmers Close (SE-bound), Witney, opp Woodgreen School, Madley Park, adj Beech Grove, Cogges Manor Road (NW-bound), Cogges Wadards Meadow (E-bound), Witney Market Square (Stop A)	Monday to Friday, hourly between 8.55am to12.55pm
5	214	Witney Town service (Cogges and Madley Park)	West Oxfordshire community transport	Witney Market Square (Stop C), Cogges Manor Road (NW-bound), Cogges Wadards Meadow (E-bound), Madley Park, adj Co-op, Witney Woodgreen	Monday to Saturday, hourly from 9.20am to

[38] Bus Times (2020) Witney: https://bustimes.org/localities/witney; https://bustimes.org/services/15-witney-abingdon

#	Route No	Service	Provider	Stops	Frequency
				School (entrance), Witney Farmers Close (NW-bound), Witney Quarry Road (SW-bound), Witney Market Square (Stop A)	12.20pm, then 2.20pm to 5.20pm
6	215	Witney Town service (Smiths Estate)	West Oxfordshire community transport	Witney Market Square (Stop A), Witney, opp Bus Garage, Witney Apley Way (opp 89), Witney Lancut Road (E-bound), Witney Springfield Oval (S-bound), Witney Market Square (Stop A)	Monday to Saturday, roughly every 30 mins from 8.55am to 12.55p, then hourly until 5.55pm
7	233	Woodstock-Witney-Burford	Stagecoach Oxfordshire	Woodstock, Marlborough Arms, Woodstock, Blenheim Palace, Bladon Church, Long Hanborough, Hanborough Station, North Leigh, Masons Arms PH, Witney Market Square (Stop B), Witney, Bus Garage, Minster Lovell, The White Hart PH, Burford primary school	Monday to Saturday, roughly every 30 mins from 6.45am to 7.55pm
8	444	London-Hereford	National Express	Hereford Country Bus Station, Ledbury High St, Market Stop, Corse (for Staunton) Gloucester Road, School Crescent, Bus shelter, Ross-on-Wye Cantilupe Road, Newent by Kings Arms, Gloucester Transport Hub, Gloucester (Longlevens) Elmbridge Road, Arle Court opp, Cheltenham Royal Well Bus Station, Burford Oxford Road Layby, WitneyA40 Flyover, Cheltenham (Charlton Kings) Bradley Road, Cirencester by Beeches Car Park, Swindon Bus Station, Swindon (Walcot East) Sussex Square, Swindon (Coate) Sun Inn, Swindon (Stratton Park) Sainsburys, London (Heathrow Airport) Heathrow Central Bus Station, South Kensington (Earls Court) West Cromwell Road Tesco, London (Victoria)Coach Station Arrivals	Every day, 12.30am then hourly from 7am to 6pm then every 1.5hours till 23.59pm
9	853	Gloucester-Cheltenham-Oxford	Swanbrook Coaches	Gloucester Market Parade (Stand N), Churchdown, opp Hare & Hounds, Benhall, nr GCHQ, Cheltenham Royal Well Bus Station (Bay B), Charlton Kings, opp Six Ways Shops, Andoversford, opp Cattle Market, Northleach, by Market Square, Burford Oxford Road Layby (SE-bound), Minster Lovell, opp The White Hart PH, Witney Market Square (Stop D),	Every day with alternating timetables.

#	Route No	Service	Provider	Stops	Frequency
				Cassington Turn (adj), Summertown Wolvercote Roundabout (just after), Oxford Magdalen Street East (Stop C6)	
10	NS1	Oxford-Eynsham-Witney-Carterton	Swanbrook Coaches	Oxford Gloucester Green Bus Station (Bay 8), Botley, o/s Elms Parade Shops, Eynsham Church (o/s), Witney Market Square (Stop A), Witney Market Square (Stop A), Witney, opp Bus Garage, Witney Thorney Leys (SW-bound), Curbridge, adj Well Lane, Brize Norton Roundabout (NW-bound), Carterton, opp Broadshires Health Centre, Carterton Crossroads (NE-bound)	Every day with alternating timetables
11	OX3	Oxford United-Witney-Carterton	Thames Travel	Carterton, opp Teasel Way, Carterton Crossroads (NE-bound), Brize Norton, nr Church, Curbridge, opp Well Lane, Witney Market Square (Stop C), Eynsham Church (opp), Botley, opp Elms Parade Shops, Littlemore, o/s Kassam Stadium	Every day, 3 times a day
12	S1	Oxford-Eynsham-Witney-Carterton	Stagecoach Oxfordshire	Oxford City Centre George Street (A3), Botley, Elms Parade Shops, Eynsham, Eynsham Church, Witney Market Square, Witney Bus Garage, Witney Thorney Leys, Curbridge Well Lane, Carterton, Bovingdon Road	Every day, roughly every 15 to 30 mins
13	S2	Oxford-Witney-Carterton	Stagecoach Oxfordshire	Oxford Magdalen Street (Stop C4), Oxford Gloucester Green Bus Station (Bay 8), Summertown, opp South Parade west, Eynsham, o/s The Evenlode PH, Witney Market Square (Stop A), Witney, opp Bus Garage, Carterton, opp Broadshires Health Centre, Carterton, adj Stanmore Crescent, Carterton Crossroads (NE-bound)	Monday to Saturday, roughly every 30 mins
14	S7	Headington-Eynsham-Witney-Minster Lovell-Carterton	Stagecoach Oxfordshire	Headington Gipsy Lane Campus (Stop B6), John Radcliffe Hospital JR Hospital Main Entrance (Stand J3), Summertown, opp South Parade west, Eynsham, o/s The Evenlode PH, Witney Market Square (Stop B), Witney Market Square (Stop B), Witney, opp Bus Garage	Monday to Friday, 5 times a day
15	V20	Kingham-Shipton under Wychwood-Witney	Villager community bus Oxon	Bledington, by The Green, Kingham, adj Cozens Lane, Kingham, opp The Green, Churchill, adj Memorial, Shipton-under-Wychwood, o/s Post Office, Milton-under-Wychwood The Hare PH (NE-	Thursday, once a day

#	Route No	Service	Provider	Stops	Frequency
				bound), Shipton-under-Wychwood High Street (SE-bound), Swinbrook, opp The Swan Inn PH, Asthall Turn (adj), Minster Lovell, opp The White Hart PH, Witney, adj Moorland Road, Witney Market Square (Stop A), Witney Sainsburys (inside)	
16	V21	Oddington-Stow-Bourton-Burford-Witney	Villager community bus Oxon	Upper Oddington, by Horse and Groom, Lower Oddington Village Hall (Stop), Broadwell, opp Chapel Street, Broadwell, nr The Forge, Stow-on-the-Wold, o/s Library, Lower Swell, opp War Memorial, Lower Slaughter, by St Mary's Church, Bourton-on-the-Water, opp War Memorial, Little Rissington, opp Village Hall, Upper Rissington, in Farman Crescent East, Church Westcote, by St Francis House, Nether Westcote, opp Field Farm, Idbury, o/s Bus Shelter, Fifield, opp Stow Road, Milton-under-Wychwood The Hare PH (NE-bound), Shipton-under-Wychwood High Street (SE-bound), Leafield, o/s The Fox PH, Lower End, adj Greenwich Lane, Leafield, opp Witney Lane Garage, Crawley, opp The Lamb PH, Witney, o/s Marriotts Walk, Witney Market Square (Stop A), Witney Waitrose Supermarket (inside)	Wednesday, Once a day
17	V23	Evenlode-Churchill-Shipton Under Wychwood-Leafield	Villager community bus Oxon	Evenlode, after The Green, Lower Oddington, opp Village Hall, Upper Oddington, opp Horse and Groom, Bledington, by The Green, Lyneham, opp High Street, Shipton-under-Wychwood High Street (SE-bound), Ascott-under-Wychwood, opp The Green, Leafield, o/s The Fox PH, Lower End, adj Greenwich Lane, Leafield, opp Witney Lane Garage, Crawley, opp The Lamb PH, Witney, adj Moorland Road, Witney Market Square (Stop A), Witney Sainsburys (inside), Witney Market Square (Stop C), S Leigh, opp Lymbrook Close, Witney Market Square (Stop A)	Thursday, once a day

#	Route No	Service	Provider	Stops	Frequency
18	V25	Kingham-Belington-Churchill-Burford-Carterton	Villager community bus Oxon	Bledington, by The Green, Kingham, opp The Green, Churchill, adj Memorial, Shipton-under-Wychwood, o/s Post Office, Milton-under-Wychwood The Hare PH (NE-bound), Shipton-under-Wychwood High Street (SE-bound), Fulbrook, o/s War Memorial, Burford, adj Church Lane, Bradwell Village Hall (inside), Filkins War Memorial (NE-bound), Carterton Crossroads (NE-bound), Carterton, o/s Broadshires Health Centre, Brize Norton Roundabout (SE-bound), Minster Lovell, o/s Brize Norton Road Shops, Witney, adj Moorland Road, Witney Market Square (Stop A), Witney Sainsburys (inside)	Wednesday, once a day
19	V26	Chipping Norton-Charlbury-Combe-Leafield-Witney	Villager community bus Oxon	Upper Oddington, by Horse and Groom, Lower Oddington Village Hall (Stop), Broadwell, opp Aston House, Moreton-in-Marsh, nr Redesdale Place, Moreton-in-Marsh, by Wellington Inn, Little Compton Red Lion, Salford, opp Lower End Bus Shelter, Chipping Norton New Street (E-bound), Chipping Norton War Memorial Hospital (north entrance), Enstone Green (o/s), Combe, opp The Green, Stonesfield, adj Prospect Close, Fawler, o/s Main Street Rose Cottages, Lower End, adj Greenwich Lane, Leafield The Green (N-bound), Leafield, opp Witney Lane Garage, Crawley, opp The Lamb PH, Witney, adj Moorland Road, Witney Market Square (Stop A), Witney Sainsburys (inside)	Once a day
20	X9	Witney-Charlbury-Chipping Norton	Pulhams Coaches	Witney Sainsburys (inside), Witney Market Square (Stop C), Hailey, adj Church Lane, Ramsden Heath, opp Ramsden Turn, Finstock, opp Village shop, Finstock Station (adj), Charlbury, o/s The Bell Hotel, Spelsbury, opp Green, Chadlington, o/s Village shops, Chipping Norton West Street (Stop B), Chipping Norton West Street (Stop B), Kingham, adj New Road, Kingham, opp The Green	Oxfordshire school days only

Appendix B - Witney Highways Model Results

VoC maps of scenarios from the Witney Highways Model report[39] are shown below.

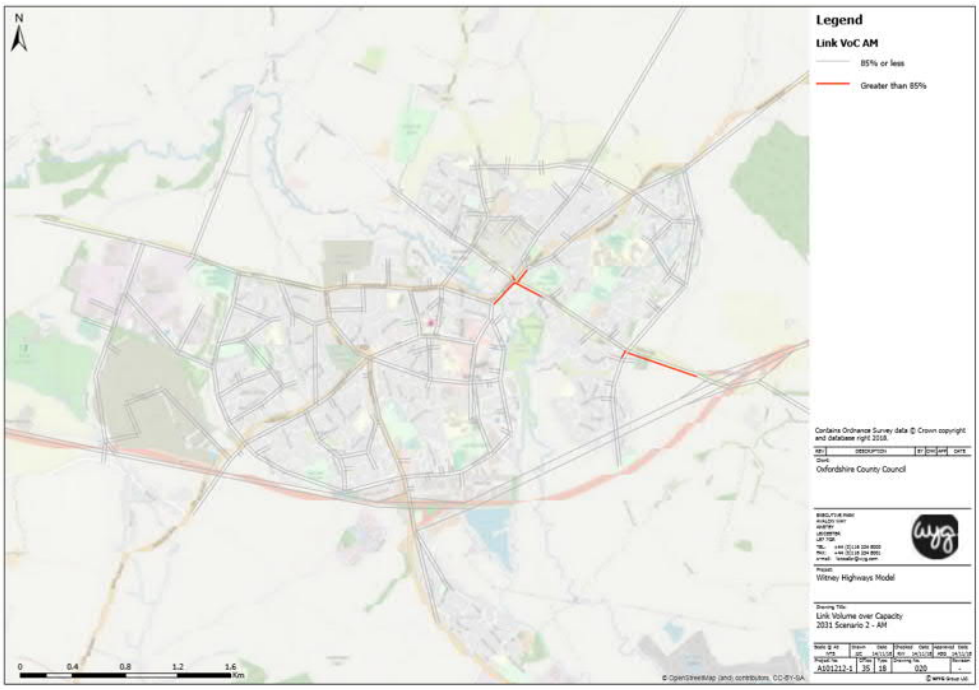
Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 73. 2031 modelled VoC for scenario 1 AM peak

Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

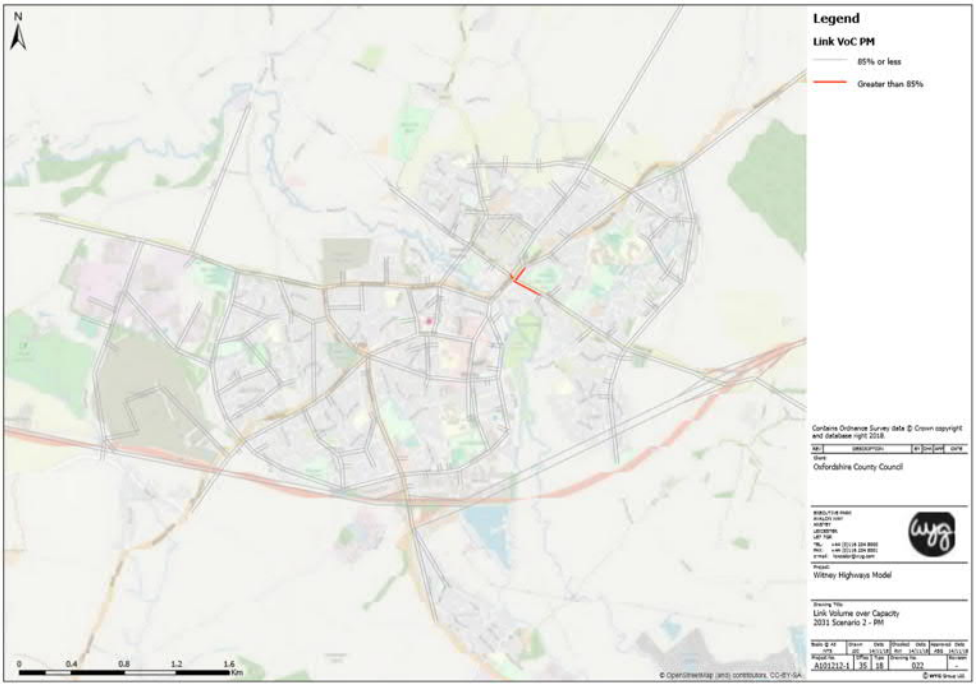
[39] WYG (2018) Witney Highways Model, Future Year Forecasting Report

Figure 74. 2031 modelled VoC for scenario 1 PM peak



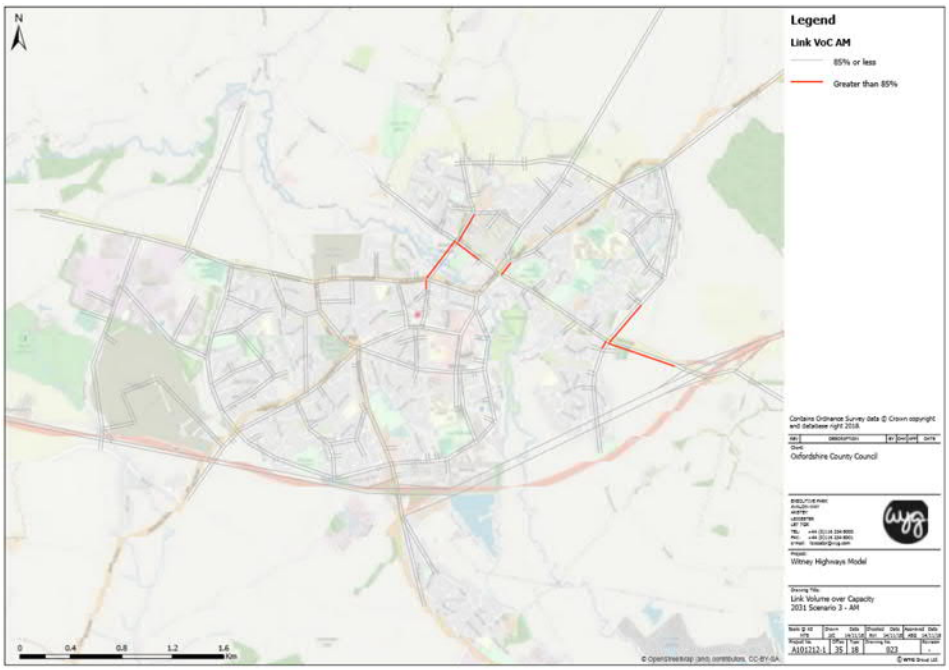
Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 75. 2031 modelled VoC scenario 2 AM peak



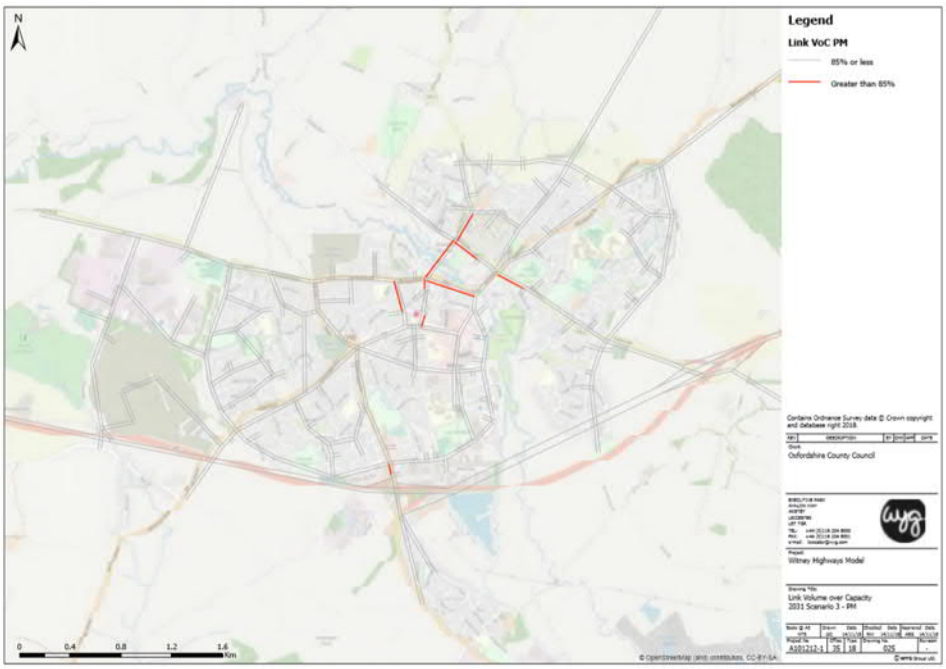
Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 76. 2031 modelled VoC scenario 2 PM peak



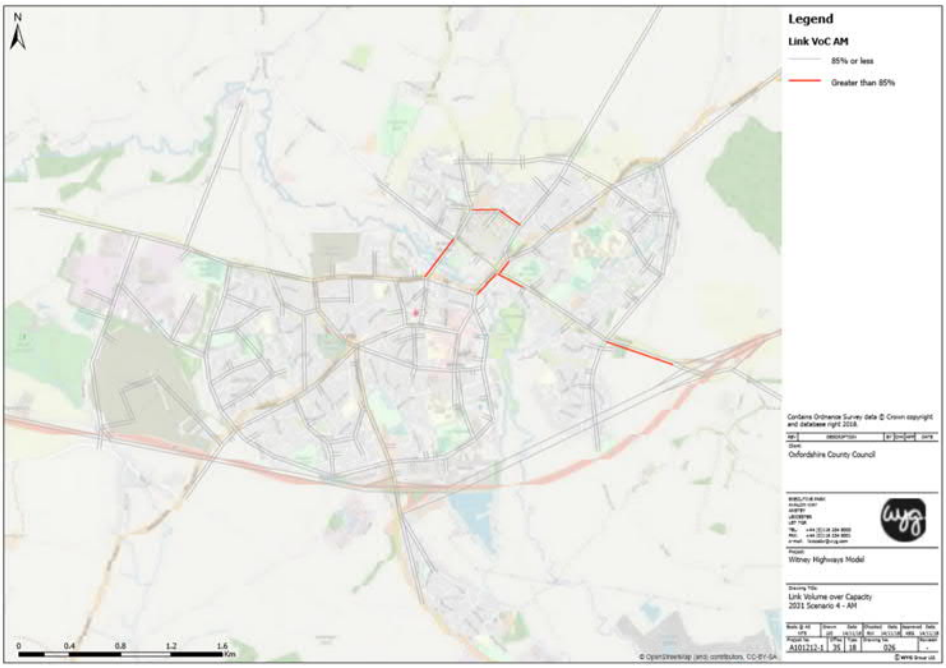
Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 77. 2031 modelled VoC scenario 3 AM peak



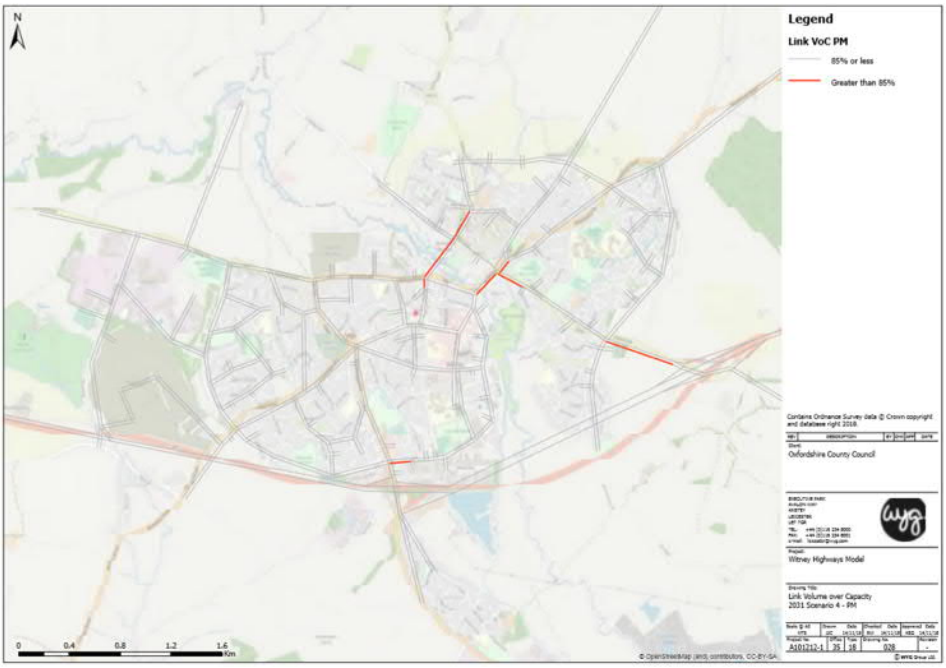
Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 78. 2031 modelled VoC scenario 3 PM peak



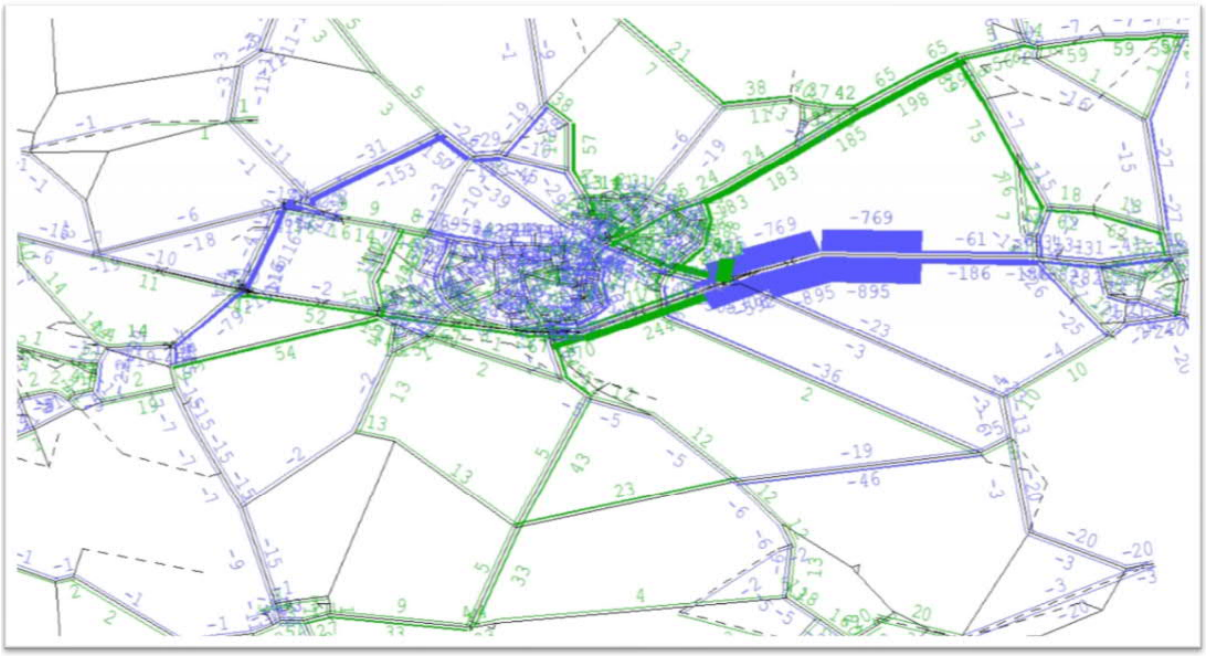
Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 79. 2031 modelled VoC scenario 4 AM peak



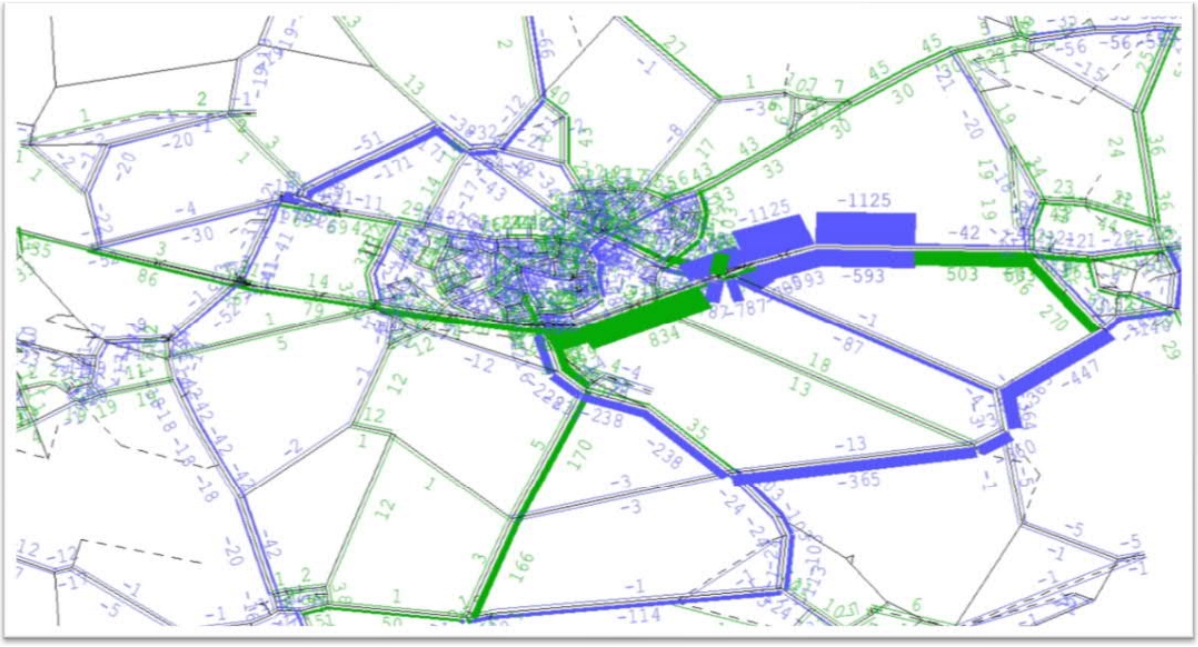
Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 80. 2031 modelled VoC scenario 4 PM peak



Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 81. 2031 modelled Flow Difference Plot, base year with A40 Improvement Schemes: AM Peak



Source: Witney Highways Model – Future Year Forecasting Report, 2018, Oxfordshire CC - Openstreet map and contains Ordnance Survey data © Crown copyright and database right 2018.

Figure 82. 2031 modelled Flow Difference Plot, base year with A40 Improvement Schemes: PM Peak

Key congested links in 2031

Link	*AM VOC > 85%*	*PM VOC > 85%*
Bridge St (along with adjacent approach links)	Yes	Yes
B4022 (between A40 and Jubilee Way)	Yes	Yes
Jubilee Way (between B4022 and Waterford Rd)	Yes	Yes

Appendix C - Sifting of the Long List

First two columns including the total score are coloured red (sifted out), yellow (take forward as part of wider strategy development, but not this study) and green (shortlisted)

Long List of Options	Total Score	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9	Affordability	Deliverability	Acceptability	Feasibility	EqIA
		Reduce future traffic flows in the Bridge Street area	Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.	Reduce the level of air pollution within the AQMA	Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.	Enable modal shift by improving public transport and the quality of service, reliability, or capacity.	Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre	Support the vitality, viability, performance and attractiveness of the town centre	Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.	Make best use of existing infrastructure assets *(including land/highway boundary)*					
Do Minimum	-9	-2	-2	-2	-1	-1	-2	-2	-2	1	2	2	-2	2	-
Option 1: West facing slip roads at Stanton Harcourt Road	2	2	1	2	0	0	1	0	0	-1	1	-1	-2	-1	A
Option 2A: West facing slip roads at Shores Green	15	2	1	2	1	0	2	0	1	1	1	1	2	1	G
Option 2B: West facing slip roads at Shores Green - Alternative arrangement	9	2	1	2	1	0	2	0	1	1	-1	1	1	-2	G

Long List of Options	Total Score	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9	Affordability	Deliverability	Acceptability	Feasibility	EqIA
		Reduce future traffic flows in the Bridge Street area	Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.	Reduce the level of air pollution within the AQMA	Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.	Enable modal shift by improving public transport and the quality of service, reliability, or capacity.	Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre	Support the vitality, viability, performance and attractiveness of the town centre	Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.	Make best use of existing infrastructure assets *(including land/highway boundary)*					
Option 2C: West facing slip roads at Shores Green – D-Link alternative arrangement	10	2	1	2	1	0	2	0	1	1	1	0	1	-2	G
Option 2D: West facing slip roads at Shores Green - grade separated	1	2	1	2	1	0	2	0	1	-1	-2	-2	-1	-2	G
Option 3: Roundabout North and South of Shores Green	-5	0	-1	0	1	0	1	0	1	-1	-2	-1	-2	-1	G
Option 4A: Overbridge at Hill Farm, A40	-9	0	0	0	0	0	0	0	0	-1	-2	-2	-2	-2	G
Option 4B: Half or Full roundabout to the east of Shores Green	-3	1	0	1	0	0	1	0	1	-1	-1	-2	-2	-1	G
Option 5: West End Link Road	5	2	1	2	1	0	0	1	1	-1	-1	-1	1	-1	A

Long List of Options	Total Score	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9	Affordability	Deliverability	Acceptability	Feasibility	EqIA
		Reduce future traffic flows in the Bridge Street area	Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.	Reduce the level of air pollution within the AQMA	Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.	Enable modal shift by improving public transport and the quality of service, reliability, or capacity.	Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre	Support the vitality, viability, performance and attractiveness of the town centre	Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.	Make best use of existing infrastructure assets *(including land/highway boundary)*					
Option 6: Church Lane link from B4022 to Witan Way via Church Lane upgraded to general traffic	-3	2	1	2	-1	0	2	0	0	-2	-2	-2	-2	-1	A
Option 7: Jubilee Way to A40 - Bypass	-6	1	-1	1	1	0	1	0	0	-1	-2	-2	-2	-2	A
Option 8: Upgrading Downs Road to improve access to the A40	-2	0	1	0	0	-1	0	0	0	0	0	0	-2	0	G
Option 9: New Link Road Connecting B4022 with B4047	-3	2	1	2	0	-1	0	1	0	-1	-2	-2	-1	-2	A
Option 10: Cogges Link Road	-5	2	1	2	0	-1	1	0	-1	-1	-2	-2	-2	-2	A
Option 11A: Rail link between Witney and Oxford	0	0	2	0	0	2	0	2	0	-2	-2	-2	2	-2	G

Long List of Options	Total Score	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9	Affordability	Deliverability	Acceptability	Feasibility	EqIA
		Reduce future traffic flows in the Bridge Street area	Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.	Reduce the level of air pollution within the AQMA	Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.	Enable modal shift by improving public transport and the quality of service, reliability, or capacity.	Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre	Support the vitality, viability, performance and attractiveness of the town centre	Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.	Make best use of existing infrastructure assets *(including land/highway boundary)*					
Option 11B: Bus Rapid Transit (BRT) between Witney and Oxford	0	0	2	0	0	1	0	1	0	-1	-1	-1	0	-1	G
Option 11C: Tram between Witney and Oxford Option	1	0	1	0	0	2	0	1	0	-1	-1	-1	1	-1	G
Option 11D: Bus Lanes and Bus Service Improvements on A40 from Witney to Oxford	12	1	1	0	0	1	0	1	1	2	1	2	1	1	G
Option 12A: Railway line between Witney and Long Hanborough	-2	0	1	0	0	2	0	1	0	-2	-2	-2	2	-2	G
Option 12B: Bus Rapid Transit (BRT) between Witney and Hanborough	-2	0	1	0	0	1	0	1	0	-1	-2	-1	0	-1	G

Long List of Options	Total Score	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9	Affordability	Deliverability	Acceptability	Feasibility	EqIA
		Reduce future traffic flows in the Bridge Street area	Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.	Reduce the level of air pollution within the AQMA	Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.	Enable modal shift by improving public transport and the quality of service, reliability, or capacity.	Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre	Support the vitality, viability, performance and attractiveness of the town centre	Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.	Make best use of existing infrastructure assets *(including land/highway boundary)*					
Option 13A: Rail link between Jubilee Way/A4095 junction – Windrush Industrial Park - Two Rivers Industrial Estate	0	1	1	1	0	1	0	2	0	-2	-2	-2	2	-2	A
Option 13B: Bus Rapid Transit (BRT) link from Jubilee Way/A4095 junction to Windrush Industrial Park and to Two Rivers Industrial Estate	0	1	1	1	0	1	0	1	0	-1	-2	-1	0	-1	A
Option 14A: Increasing bus frequencies/ route of existing buses within and to/from Witney	13	1	1	1	0	1	0	1	1	2	1	2	1	1	G

Long List of Options	Total Score	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9	Affordability	Deliverability	Acceptability	Feasibility	EqIA
		Reduce future traffic flows in the Bridge Street area	Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.	Reduce the level of air pollution within the AQMA	Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.	Enable modal shift by improving public transport and the quality of service, reliability, or capacity.	Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre	Support the vitality, viability, performance and attractiveness of the town centre	Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.	Make best use of existing infrastructure assets *(including land/highway boundary)*					
Option 14B: Demand responsive service within Witney	8	0	1	0	0	1	0	1	0	2	0	1	1	1	G
Option 15: Cycle network improvements in East Witney and across Witney	16	1	1	1	2	1	0	1	1	1	2	2	2	1	G
Option 16: Parking management strategy and policies	7	1	0	1	0	0	0	0	0	1	2	2	-1	1	A
Option 17: At-grade roundabout at Shores Green – option A.1	5	1	-1	1	1	0	1	0	1	2	-1	2	-1	-1	G
Option 17a: At-grade roundabout at Shores Green – option A.2	2	1	-1	1	1	0	1	0	1	0	-1	1	-1	-1	G

Long List of Options	Total Score	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9	Affordability	Deliverability	Acceptability	Feasibility	EqIA
		Reduce future traffic flows in the Bridge Street area	Improve accessibility to/ from key destinations, and the resilience of the transport network to maintain journey time reliability.	Reduce the level of air pollution within the AQMA	Provide a safe, secure and attractive environment for pedestrians and cyclists in Witney including easier access to and within the town centre.	Enable modal shift by improving public transport and the quality of service, reliability, or capacity.	Improve access to the A40 and the wider strategic road network, such as the A34 and M40, without having to travel through the town centre	Support the vitality, viability, performance and attractiveness of the town centre	Allow the town to develop in accordance with the current Local Plan, and in particular deliver housing developments in north and east Witney and in the strategic development areas.	Make best use of existing infrastructure assets *(including land/highway boundary)*					
Option 18: At-grade roundabout at Shores Green – option B	-1	1	-1	1	1	0	1	0	0	-1	-1	0	-1	-1	G
Option 19: At-grade roundabout at Shores Green – option C	-7	1	-1	1	1	0	1	0	0	-2	-2	-2	-2	-2	A
Option 20a: At-grade roundabout at Shores Green – option D	-5	1	-1	1	1	0	1	0	0	-1	-2	-2	-1	-2	G
Option 20b: Alternative slip roads arrangement at Shores Green	-5	1	-1	1	1	0	1	0	0	-1	-2	-2	-1	-2	G
Option 21: At-grade roundabout on A40 near Stanton Harcourt Road Bridge	-7	1	-1	1	1	0	1	0	0	-2	-2	-2	-2	-2	A

Deliverability Scoring

Long List Options	Deliverability						Comment
	Dependencies of options	Interface risk	Timescales – construction	Timescales – overall	CPO risk	Average (rounded) score	
Do Minimum	2	2	2	2	2	2	
Option 1: West facing slip roads at Stanton Harcourt Road	-1	-2	-1	-1	-1	-1	Some land take, and may need other measures given potential for large increase in traffic on a minor C road through a residential area. May need to strengthen the existing bridge, impacting timescales. There may also be an earthworks element to bring imported fill to form both slip roads. However, both the EB off-slip & WB on-slip could be constructed simultaneously and with minimal disruption to the A40.
Option 2A: West facing slip roads at Shores Green	1	1	2	1	-1	1	Some land take, although some on land earmarked by developer for a scheme. Should be relatively straightforward to construct, although may be dependent on utilities in the area.
Option 2B: West facing slip roads at Shores Green - Alternative arrangement	1	1	2	1	-1	1	Some land take, although some on land earmarked by developer for a scheme. Should be relatively straightforward to construct, although may be dependent on utilities in the area.
Option 2C: West facing slip roads at Shores Green - D-Link alternative arrangement	1	1	1	0	-1	0	Some land take, although some on land earmarked by developer for a scheme. More complex to construct than Option 2A, impacting timescales.
Option 2D: West facing slip roads at Shores Green - grade separated	-1	-1	-2	-2	-2	-2	Potential residential land take, and timescales likely to be relatively long, especially as there maybe impacts on the A40 embankment.
Option 3: Roundabout North and South of Shores Green	-1	-1	-2	-2	-1	-1	Potential impacts on residential properties, significant land take, and considerably high construction cost including preparation for construction and design and

Long List Options	Deliverability						Comment
	Dependencies of options	Interface risk	Timescales – construction	Timescales – overall	CPO risk	Average (rounded) score	
							civil work required to align the proposed option with the existing network alignment
Option 4A: Overbridge at Hill Farm, A40	-1	-2	-2	-2	-1	-2	May not be consistent with other A40 schemes (e.g. dualling) and there may be a need for a new bridge.
Option 4B: Half or Full roundabout to the east of Shores Green	-2	-2	-2	-2	-1	-2	Land take needed, and design may be complex given proximity to the existing slips, with likely impacts on timescales. May not be consistent with other A40 schemes (e.g. dualling)
Option 5: West End Link Road	0	-2	0	-1	-2	-1	Challenges connecting the B4022/Crawley Road with the A4095 due to the presence of residential properties in the area, which may increase timescales to agree a design and obtain local buy-in for the scheme.
Option 6: Church Lane link from B4022 to Witan Way via Church Lane upgraded to general traffic	-1	-2	-1	-2	-2	-2	Widening would require significant land take and objections are likely to have a significant impact on timescales and agreeing an acceptable design. May be inconsistent with town-wide plans for improved walking and cycling routes.
Option 7: Jubilee Way to A40 - Bypass	-1	-2	-2	-2	-2	-2	Significant land take. Design may be complex given proximity to the existing slips, with likely impacts on timescales. May not be consistent with other A40 schemes (e.g. dualling).
Option 8: Upgrading Downs Road to improve access to the A40	-1	-1	0	0	0	0	Risks to overall deliverability, as it would be dependent on other schemes going ahead in order to be of benefit e.g. such WEL2 (Option 5) or a new link road connecting the B4022 with the B4047 (Option 9), to provide a route bypassing the town centre.

Long List Options	Deliverability						Comment
	Dependencies of options	Interface risk	Timescales – construction	Timescales – overall	CPO risk	Average (rounded) score	
Option 9: New Link Road Connecting B4022 with B4047	-1	-1	-2	-2	-2	-2	In effect introduced an outer ring road / northern distributor road to the A4095, with higher costs than Option 5 (WEL2) to provide a new river crossing, with significant land take and potentially a lengthy process to secure planning consents and develop mitigation for potential environmental impacts.
Option 10: Cogges Link Road	-2	-2	-2	-2	-2	-2	Significant work would be needed to review and if necessary, update the design to take into account the findings from the previous CPO hearing to avoid the scheme being rejected again. Significant interfaces with current and planned developments and multiple landowners, likely leading to protracted timescales to develop the scheme.
Option 11A: Rail link between Witney and Oxford	-2	-2	-2	-2	-2	-2	Significant work required to design and deliver a new rail route, and would impact the demand for the A40 corridor schemes (A40 Smart Corridor and Science Transit 2) which already make significant provision for bus priority as well as a new park and ride site. Interfaces with Network Rail to take forward.
Option 11B: Bus Rapid Transit (BRT) between Witney and Oxford	-2	-2	-1	-1	-1	-1	Similar to Option 11A, but with the potential for more flexibility in the design and lower cost, and potential to use part of the A40, although this would also impact the current A40 corridor schemes.
Option 11C: Tram between Witney and Oxford Option	-2	-2	-1	-1	-1	-1	Similar to Option 11B.
Option 11D: Bus Lanes and Bus Service	2	1	2	1	2	2	Scheme can be designed flexibly to suit budget and timescales, although there may be objections to proposed bus lanes and delays obtaining agreement/

Long List Options	Deliverability						Comment
	Dependencies of options	Interface risk	Timescales – construction	Timescales – overall	CPO risk	Average (rounded) score	
Improvements on A40 from Witney to Oxford							stakeholder support for these - although they could be proposed as complementary to the A40 Corridor schemes. Would also be reliant on the bus companies.
Option 12A: Railway line between Witney and Long Hanborough	-2	-2	-2	-2	-2	-2	Significant work required to design and deliver a new rail route. Interfaces with Network Rail to take forward.
Option 12B: Bus Rapid Transit (BRT) between Witney and Hanborough	-2	-2	-1	-1	-1	-1	Similar to Option 12A, but with the potential for more flexibility in the design and lower cost.
Option 13A: Rail link between Jubilee Way/A4095 junction - Windrush Industrial Park - Two Rivers Industrial Estate	-2	-2	-2	-2	-2	-2	May require land acquisition, and likely to require significant time and effort to plan and design a route and stations in Witney.
Option 13B: Bus Rapid Transit (BRT) link from Jubilee Way/A4095 junction to Windrush Industrial Park and to Two Rivers Industrial Estate	-2	-2	-1	-1	-1	-1	Similar to Option 13A, but with the potential for more flexibility in the design and lower cost.
Option 14A: Increasing bus frequencies/ route of existing buses within and to/from Witney	1	2	2	2	2	2	Assuming agreement can be reached with the bus companies, this would be relatively straightforward to deliver. However, it may be dependent on other schemes to ensure that demand would be sufficient to justify the scheme.

Long List Options	Deliverability						Comment
	Dependencies of options	Interface risk	Timescales – construction	Timescales – overall	CPO risk	Average (rounded) score	
Option 14B: Demand responsive service within Witney	0	1	2	2	2	1	Relatively straightforward to deliver in principle, but likely to be highly dependent on developing a package or programme of measures to ensure there is sufficient demand uptake, and would need to be carefully targeted to be effective, with constant monitoring. Depending on how taken forward or funded, also needs to take into account potential impact on or interface with current bus and taxi services.
Option 15: Cycle network improvements in East Witney and across Witney	1	2	2	2	2	2	Relatively straightforward to deliver in principle. However, it may be dependent on other schemes to ensure that demand would be sufficient to justify the scheme.
Option 16: Parking management strategy and policies	0	2	2	2	2	2	Relatively straightforward to deliver in principle, but likely to be highly dependent on developing a package or programme of measures to ensure it is effective and to understand potential impacts on residents and visitors.
Option 17: At-grade roundabout at Shores Green – option A.1	2	2	1	2	2	2	Requires no land outside the highway boundary, and no physical dependencies with other OCC schemes, although may not be consistent with other A40 schemes (e.g. dualling). Construction complexities mean longer construction times than some of the grade separated west-facing slip road options.
Option 17a: At-grade roundabout at Shores Green – option A.2	1	1	1	1	-1	1	Similar to Option 17, but with land take and likely increased time to deliver the scheme.

Long List Options	Deliverability						Comment
	Dependencies of options	Interface risk	Timescales – construction	Timescales – overall	CPO risk	Average (rounded) score	
Option 18: At-grade roundabout at Shores Green – option B	1	-1	1	1	-2	0	Similar to Option 17a, but more land take and interfaces with landowners and nearby residential properties.
Option 19: At-grade roundabout at Shores Green – option C	-1	-2	-2	-2	-2	-2	Although similar to Option 17 on the A40, it will have similar issues to Option 7 in terms of deliverability.
Option 20a: At-grade roundabout at Shores Green – option D	-1	-2	-2	-2	-2	-2	Requires land take and potentially complex design to implement, impacting timescales.
Option 20b: Alternative slip roads arrangement at Shores Green	-1	-2	-2	-2	-2	-2	Similar to Option 20a.
Option 21: At-grade roundabout on A40 near Stanton Harcourt Road Bridge	-2	-2	-2	-2	-2	-2	Significant land take, and will need to consider impacts on the A40 during construction, as well as design, given the bridge at Stanton Harcourt Road is likely to affect the visibility of the roundabout.

Appendix D - Sifting of the Short List

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This appendix is split over two tables: the first covers the DM and Options 2A, 2B and 2C and the second covers Options 17 and 17a

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
1	STRATEGIC												
1.1	Identified problems and objectives	Do minimum; current situation, accounting for limited planned improvements into the future, but assuming that already committed developments (housing, employment, infrastructure) go ahead (in Business Case terms these would be categorised as 'Near Certain' or 'More than Likely').			Option 2A proposes west facing slips at the B4022/ A40 junction, including an improved cycle link along the B4022 to South Leigh Road. This option is expected to provide an alternative to local traffic wishing to access west Witney or travel westbound on the A40. This option has been modelled in OCC's OSM model and has demonstrated benefits in reducing traffic at Bridge Street. Public transport provision can be improved with newly defined routes to make use of the slip roads and / or to make use of capacity freed up in the town centre and on Bridge Street.			Option 2B is a variation of Option 2A. The alignment of the west facing on-slip has been shifted to the east forming a roundabout with the A40 westbound off-slip / A4022 and South Leigh Road in a D-Link arrangement. The west facing on-slip has been shifted to the north while connecting to the A40.			Option 2C is a further variation of slip roads at Shores Green, with the proposed on slip and off-slip connected to the A40 via a D-Link arrangement. The eastbound off-slip connection would be taken from the already existing A40 westbound on-slip whereas the westbound on-slip connection would be taken from the proposed junction at the B4022 / South Leigh / A40 off-slip, similar to Option 2B.		
1.2	Scale of impact	1. Very small overall impact	1	Overall, maintaining the DM will fail to address nearly all the objectives.	4. Significant impact	4	Addresses most of the scheme objectives.	4. Significant impact	4	Addresses most of the scheme objectives.	4. Significant impact	4	Addresses most of the scheme objectives.
1.3	Fit with wider transport and government objectives	1. Poor fit	1	The current **AQMA** indicates that, in the short term at least, action is needed;	4. Good fit	4	Overall scheme objectives have already been aligned with wider policy and objectives. It does not directly invest in or improve PT	4. Good fit	4	Overall scheme objectives have already been aligned with wider policy and	4. Good fit	4	Overall scheme objectives have already been aligned with wider policy and

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				whilst the current capacity constraints will hinder delivery of more housing.			provision, but will help address congestion in the town centre which should have a positive benefit on PT.			objectives. It does not directly invest in or improve PT provision, but will help address congestion in the town centre which should have a positive benefit on PT.			objectives. It does not directly invest in or improve PT provision, but will help address congestion in the town centre which should have a positive benefit on PT.
1.4	Fit with other objectives	1. Poor fit	1	Local and regional policies and the LEP anticipate population and employment growth which will need to be supported by the provision of a large number of new homes. The DM/ committed schemes do little to assist in supporting	5. Excellent fit	5	This scheme fits with wider objectives for the Witney-Oxford corridor	5. Excellent fit	5	This scheme fits with wider objectives for the Witney-Oxford corridor	5. Excellent fit	5	This scheme fits with wider objectives for the Witney-Oxford corridor

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				this planned growth in West Oxfordshire, by either significantly improving reliability or connectivity, or by providing better accessibility to existing and new communities.									
1.5	Key uncertainties	2. Moderate - uncertainties	2	Impact of new developments and demand on the local and wider route and network. Future developments may also be uncertain given the current transport constraints	1. Significant - uncertainties	2	Some uncertainties regarding the nature and extent of planned developments, land take for this option, and how these will interact. The land take needed may require the most negotiation or CPO of all the options, introducing uncertainty to the programme for delivery and potential objections.	2. Moderate - uncertainties	2	Some uncertainties regarding the nature and extent of planned developments, land take for this option, and how these will interact. There is potentially less land take that requires negotiation or CPO, compared to Option 2A.	2. Moderate - uncertainties	2	Some uncertainties regarding the nature and extent of planned developments, land take for this option, and how these will interact. There is potentially less land take that requires negotiation or CPO, compared to Option 2A,

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
													but less land take may require more departures from standard, and there may be iteration and delays in obtaining approval for a design.
1.6	Degree of consensus over outcomes	2. Little consultation and / or outcomes considered controversial	2	Some consultation completed, but general consensus is that DM has negative impacts, given current problems are likely to be exacerbated in the future, and the AQMA remains an issue.	3. Some consultation with some agreement	3	Previous consultation over the last ten years has indicated the need to address congestion between east-west Witney and deliver housing in East Witney. The EiP in 2012 rejected the Cogges Link preferred option with a recommendation from the Inspector to look at slip roads at Shores Green as a potentially better option	3. Some consultation with some agreement	3	Previous consultation over the last ten years has indicated the need to address congestion between east-west Witney and deliver housing in East Witney. The EiP in 2012 rejected the Cogges Link preferred option with a recommendation from the Inspector to look at slip roads at Shores Green	3. Some consultation with some agreement	3	Previous consultation over the last ten years has indicated the need to address congestion between east-west Witney and deliver housing in East Witney. The EiP in 2012 rejected the Cogges Link preferred option with a recommendation from the Inspector to

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
										as a potentially better option			look at slip roads at Shores Green as a potentially better option
	Score - Strategic		7			18			18			18	
2	ECONOMIC												

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
2.1	Economic Growth Impact	1. Very Poor Impact	1	The 'do minimum' option has little impact on economic growth. The existing road network does connect Witney to the A40 and provides good access to the A40/ Oxford for eastbound traffic by car and bus, but provides less provision for westbound traffic onto the A40 or for movement between east and west Witney, causing congestion and air quality issues through the	5. Very positive Impact	5	The scheme will reduce journey times and improve journey time reliability by: - removing traffic from the town centre and the Bridge Street bottleneck; - providing quicker access to the A40 (westbound) and to West Witney for residents in East Witney,; - provide alternative access to/ from the A40 and to/from East Witney, improving reliability and resilience of the network. The scheme will enable the delivery of the proposed housing and mitigate impacts on the town centre; and potentially unlock land for further development.	4. Positive Impact	4	The scheme will reduce journey times and improve journey time reliability by: - removing traffic from the town centre and the Bridge Street bottleneck; - providing quicker access to the A40 (westbound) and to West Witney for residents in East Witney,; - provide alternative access to/ from the A40 and to/from East Witney, improving reliability and resilience of the network. The scheme will enable the delivery of the proposed housing and	4. Positive Impact	4	The scheme will reduce journey times and improve journey time reliability by: - removing traffic from the town centre and the Bridge Street bottleneck; - providing quicker access to the A40 (westbound) and to West Witney for residents in East Witney,; - provide alternative access to/ from the A40 and to/from East Witney, improving reliability and resilience of the network. The scheme

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				historic town centre. The DM will not assist in realising wider benefits from projected regional growth as it does little to improve either local or regional accessibility to key locations or to making significant reductions in journey times or improving journey time reliability. This option will not be an active step towards facilitating the delivery of housing beyond the planned improvements, nor to addressing						mitigate impacts on the town centre; and potentially unlock land for further development. The D-link arrangement and tight radii may prove difficult to negotiate, especially for larger vehicles. However, the arrangement helps avoid the need for traffic from Witney to right turn against oncoming traffic to access the slip road.			will enable the delivery of the proposed housing and mitigate impacts on the town centre; and potentially unlock land for further development. The D-link arrangements and tight radii may prove difficult to negotiate, especially for larger vehicles. However, the arrangement helps avoid the need to right turn against oncoming traffic to access the westbound on-slip.

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				congestion and environmental impacts in the town centre.									

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
2.2	Carbon emissions	2. Poor Impact	2	Expected traffic growth and increases in congestion will result in increased emissions.	2. Poor Impact	2	The rerouting will increase the distance travelled by vehicles and might also induce some traffic, which is expected to negatively affect carbon emissions. However, it will also have a positive impact by decongesting the town centre and stop-start conditions in the peaks.	1. Very Poor Impact	1	The rerouting will increase the distance travelled by vehicles and might also induce some traffic, which is expected to negatively affect carbon emissions. However, it will also have a positive impact by decongesting the town centre and stop-start conditions in the peaks. The D-Link design may require vehicles to travel slightly faster and accelerate more than in Option 2A, hence higher carbon emissions. This would particularly be	1. Very Poor Impact	1	The rerouting will increase the distance travelled by vehicles and might also induce some traffic, which is expected to negatively affect carbon emissions. However, it will also have a positive impact by decongesting the town centre and stop-start conditions in the peaks. The D-Link design may require vehicles to travel slightly faster and accelerate more than in Option 2A, hence

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
										the case for HGVs.			higher carbon emissions. This would particularly be the case for HGVs.
2.3	Social and distributional impacts	2. Poor Impact	2	Some marginal impacts. The 'do minimum' option is not a positive intervention to improving accessibility, journey times and acceptability for more vulnerable groups, especially those who live in a poor quality	4. Positive Impact	4	The scheme should have a positive impact on residents in the town centre and the AQMA by removing traffic making east-west movements through the town and Bridge Street. It also provides a positive impact to residents in East Witney by improving accessibility and route options, and should provide user benefits by improving journey times and / or costs.	4. Positive Impact	4	The scheme should have a positive impact on residents in the town centre and the AQMA by removing traffic making east-west movements through the town and Bridge Street. It also provides a positive impact to residents in	4. Positive Impact	4	The scheme should have a positive impact on residents in the town centre and the AQMA by removing traffic making east-west movements through the town and Bridge Street. It also provides a positive

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				environment in the AQMA. If noise and air quality are not fully addressed, there will be a negative social and distributional impact.			There may be a disbenefit in terms of accidents due to increased speeds and use of the A40.			East Witney by improving accessibility and route options, and should provide user benefits by improving journey times and / or costs. There may be a disbenefit in terms of accidents due to increased speeds and use of the A40.			impact to residents in East Witney by improving accessibility and route options, and should provide user benefits by improving journey times and / or costs. There may be a disbenefit in terms of accidents due to increased speeds and use of the A40.
2.4	Equalities Impacts	-	-	At this stage, no specific issues have been raised or identified in existing strategies or policies, but a review of issues in relation to Equalities	4. Positive Impact	4	Potential equality impacts associated with land take dependent on current use and land ownership. Potential equality impacts associated with land take dependent on current use and land ownership	4. Positive Impact	4	Potential equality impacts associated with land take dependent on current use and land ownership. Potential equality impacts	4. Positive Impact	4	Potential equality impacts associated with land take dependent on current use and land ownership. Although impacts associated

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				will be undertaken.			Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic. This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics			associated with land take dependent on current use and land ownership Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic. This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics			to land take may be reduced due to a smaller of envelope of land take required. Potential equality impacts associated with land take dependent on current use and land ownership Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic. This option provides an increased opportunity for active travel and associated benefits for physical

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
													health that can be shared by groups with protected characteristics
2.5	Safety	-	-	Current routing sends traffic through the town centre and built up areas, including conflicts with other users.	3. Minor/No Impact	3	The decrease in congested conditions on the network might lead to an increase in speed and severity of accidents (e.g. due to increased flows at the A40 and junctions); however, it may also decrease accidents in the town centre by reducing traffic and may reduce conflicts with pedestrians and cyclists. However, removing traffic from less suitable local roads/ Bridge Street to the A40 may have a beneficial impact on accident rates.	1. Very Poor Impact	1	The decrease in congested conditions on the network might lead to an increase in speed and severity of accidents (e.g. due to increased flows at the A40 and junctions); however, it may also decrease accidents in the town centre by reducing traffic and may reduce conflicts with pedestrians and cyclists. The D-Link arrangement for the on-slip,	1. Very Poor Impact	1	The decrease in congested conditions on the network might lead to an increase in speed and severity of accidents (e.g. due to increased flows at the A40 and junctions); however, it may also decrease accidents in the town centre by reducing traffic and may reduce conflicts with pedestrians and cyclists.

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
										without significant work on the existing B4022 overbridge and the current A40 alignment, might lead to an increase in accidents due to drivers not having enough distance to pick up adequate speed to join the A40.			The D-Link arrangement (including during construction work at overbridge/ A40) might lead to an increase in accidents due of drivers not having enough distance to pick up adequate speed to join the A40 westbound, whilst the new eastbound off slip might create a conflict with the eastbound on slip traffic.

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
2.6	Local Access	3. Minor/No Impact	3	No specific issues are known, however current routing means that high levels of through traffic pass local access / residential roads in the town, which may disbenefit local access arrangements during busy times. It is not expected this will significantly worsen in future during peak times, as key links are already at capacity. Peak spreading may however lead to conditions worsening in	3. Minor/No Impact	3	Minor impact on local access to the residential dwellings in the vicinity of the scheme. The increase in traffic may increase the time it takes for them to find a gap to access the B4022. Within current and proposed residential areas in East Witney there may also be an increase in traffic heading southbound onto or on the B4022 (as opposed to currently heading towards Bridge Street), which may have an impact on local access. However, this could also be positive in some areas as the dominant flow will now be towards the A40. There may also be benefits due to the reduction in traffic through the town centre.	3. Minor/No Impact	3	Minor impact on local access to the residential dwellings in the vicinity of the scheme. The increase in traffic may increase the time it takes for them to find a gap to access the B4022. Within current and proposed residential areas in East Witney there may also be an increase in traffic heading southbound onto or on the B4022 (as opposed to currently heading towards Bridge Street), which may have an impact on local access. However, this could also be	3. Minor/No Impact	3	Impact on local access to the residential dwellings in the vicinity of the scheme. The increase in traffic may increase the time it takes for them to find a gap to access the B4022, and there will be eastbound A40 off-slip traffic going directly past their properties. Within current and proposed residential areas in East Witney there may also be an increase in traffic heading southbound onto or on the B4022 (as opposed

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				the pre-peak or interpeak.						positive in some areas as the dominant flow will now be towards the A40. There may also be benefits due to the reduction in traffic through the town centre.			to currently heading towards Bridge Street), which may have an impact on local access. However, this could also be positive in some areas as the dominant flow will now be towards the A40. There may also be benefits due to the reduction in traffic through the town centre.
2.7	Local environment: Air quality	2. Poor Impact	2	AQMA declared and action needed to address. Air quality expected to worsen due to expected traffic	4. Positive Impact	4	The slip roads and the roundabouts will attract traffic which is expected to worsen air quality for the residential properties in the vicinity of the scheme. However, this is likely to be	4. Positive Impact	4	The slip roads and the roundabout will attract traffic which is expected to worsen air quality for the residential properties in	4. Positive Impact	4	The slip roads and the roundabout will attract traffic which is expected to worsen air quality for the

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				growth and increases in congestion.			relatively minor compared to the potential benefits to the AQMA with traffic diverted from Bridge Street.			the vicinity of the scheme. However, this is likely to be relatively minor compared to the potential benefits to the AQMA with traffic diverted from Bridge Street.			residential properties in the vicinity of the scheme. However, this is likely to be relatively minor compared to the potential benefits to the AQMA with traffic diverted from Bridge Street.
2.8	Local environment: Noise	(no impact)	3		2. Poor Impact	2	The slip roads will divert traffic from the town centre which is expected to increase noise levels in the direct vicinity of the scheme.	2. Poor Impact	2	The slip roads will divert traffic from the town centre which is expected to increase noise levels in the direct vicinity of the scheme.	2. Poor Impact	2	The slip roads will divert traffic from the town centre which is expected to increase noise levels in the direct vicinity of the scheme.

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
2.9	Local environment: Trees, biodiversity etc.	(no impact)	3	No specific issues have been identified in the Do Minimum, although air pollution at Bridge Street may also impact on local biodiversity.	1. Very Poor Impact	1	A large number of trees will be impacted, including Category A trees. * Expected to impact up to three priority habitats and would impact the veteran tree located in the area. There is also potential presence of aquatic habitat in the area.	2. Poor Impact	2	* The scheme is expected to impact numerous trees. * Expected to impact up to two priority habitats and would impact the veteran tree located in the area.	3. Minor/No Impact	3	* This scheme layout is expected to impact the least number of trees compared to Options 2A and 2B. * Expected to impact up to three priority habitats.
2.10	Well being	2. Poor Impact	2	Continued and worsening congestion into and through the town centre, poor journey time reliability, and a decrease in ambience and quality of the town centre environment.	4. Positive Impact	4	The reduction in traffic in Witney town centre and the surrounding routes should improve wellbeing by decreasing congestion and journey stress, and decrease potential for vehicle - pedestrian / cycle conflicts in the town. The traditional slip road arrangement will also be relatively easy for people to navigate and help mitigate a potential increase in accidents.	3. Minor/No Impact	3	The reduction in traffic in Witney town centre and the surrounding routes should improve wellbeing by decreasing congestion and journey stress and decrease potential for vehicle - pedestrian / cycle conflicts in the town. The D-link arrangement may negatively	3. Minor/No Impact	3	The reduction in traffic in Witney town centre and the surrounding routes should improve wellbeing by decreasing congestion and journey stress and decrease potential for vehicle - pedestrian / cycle conflicts in the town.

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
										impact on users trying to merge with A40.			The D-link arrangement may negatively impact on users trying to merge with A40.
2.11	Health and active modes	2. Poor Impact	2	Gaps in the current network, and little provision in the east	4. Positive Impact	4	The reduction in traffic in Witney town centre and the surrounding routes might encourage people to use actives modes. There will be improved connectivity to the A40 on the east facing slip roads, which could help connect to the proposed segregated cycle ways as part of the A40 Corridor schemes. The scheme can also potentially provide improved crossings and connections to other proposed	4. Positive Impact	4	The reduction in traffic in Witney town centre and the surrounding routes might encourage people to use actives modes. There will be improved connectivity to the A40 on the east facing slip roads, which could help connect to the proposed segregated cycle ways as part of the A40 Corridor schemes. The scheme	4. Positive Impact	4	The reduction in traffic in Witney town centre and the surrounding routes might encourage people to use actives modes. There will be improved connectivity to the A40 on the east facing slip roads, which could help connect to the proposed segregated cycle ways as part of

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
							pedestrian and cycleways in the area.			can also potentially provide improved crossings and connections to other proposed pedestrian and cycleways in the area.			the A40 Corridor schemes. The scheme can also potentially provide improved crossings and connections to other proposed pedestrian and cycleways in the area.
2.12	Expected Value for Money (VfM)	-	-	Little cost, other than already planned + operating / maintenance costs, but increasing disbenefits in using these assets compared to the current situation	4. High VfM (2 to 4)	4	Given current traffic conditions and previous modelling and appraisal work, this scheme is expected to have high value for money.	4. High VfM (2 to 4)	4	Given current traffic conditions and previous modelling and appraisal work, this scheme is expected to have high value for money.	4. High VfM (2 to 4)	4	Given current traffic conditions and previous modelling and appraisal work, this scheme is expected to have high value for money.
	Score - Economic		20			40			36			37	
3	**MANAGERIAL**												
3.1	Implementation time	5) <1 year	5	Nothing to implement	3) 2 to 5 years	3	Expected time frame for design and construction.	3) 2 to 5 years	3	Expected time frame for	3) 2 to 5 years	3	Expected time frame for design

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
										design and construction.			and construction.
3.2	Public acceptability	1. Very Poor - acceptability	1	Consultation responses indicate an expectation that mitigation is needed to address current congestion.	4. High - acceptability	4	Expected to gain public acceptability due to the benefits of the scheme. There may be some very localised opposition.	4. High - acceptability	4	Expected to gain public acceptability due to the benefits of the scheme. There may be some very localised opposition.	3. Minor - acceptability	3	Expected to gain public acceptability due to the benefits of the scheme. There may be some very localised opposition, and this could be a greater problem with this option as it directly affects properties currently on the link acting as the eastbound on slip. As well as land take, it will result in two-way A40 access/egress flow on the current east facing slip road, going past

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
													the access points for these properties.
3.3	Practical feasibility	5. Very High - feasibility	5	Not much to implement, but may be some issues where have planned developments and how work with developers to link these into Witney w/o any new schemes, excepting connecting new development access roads to the local road network.	4. High - feasibility	4	The proposed slip roads at Shores Green can be delivered effectively and will likely have a beneficial impact on Bridge Street and Witney Town Centre as demonstrated by the strategic modelling.	4. High - feasibility	4	The proposed option at Shores Green can be delivered effectively and will likely have a beneficial impact on Bridge Street and Witney Town Centre as demonstrated by the strategic modelling.	4. High - feasibility	4	The proposed option at Shores Green can be delivered effectively and will likely have a beneficial impact on Bridge Street and Witney Town Centre as demonstrated by the strategic modelling.

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
3.4	Deliverability (land take and risks)	5. Very High - no land take	5	No change to the current situation	2. Poor - high risks/ complexity associated with land take	2	Concerns with the purchase of significant private land from numerous owners which could lead to a CPO process. Land take may be required from several landowners. May be able to develop sub-options to minimise this.	3. Minor - some risks/ complexity associated with land take	3	The D-Link arrangement of the proposed On-Slip requires minimal land take compared to the normal On-Slip arrangement in Option 2A.	1. Very Poor - very high risks/ complexity associated with land take	1	The layout, if designed according to standards, would require the purchase of significant private land with the private garden of one particular dwelling being affected.

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
3.5	Design standards/ departures	5. Excellent fit - alignment with design standards or no change to current situation	5	No change to the current situation	4. Good fit - alignment with design standards	4	No changes are planned/ committed in the DM that would change the design standards currently in place. Details are mentioned in the section 6.3.	2. Low fit - alignment with design standards	2	Significant departure from standards are expected for the D-Link arrangement Details are mentioned in the section 6.3.	1. Poor fit - alignment with design standards	1	Significant departure from standards are expected for the D-Link arrangement Details are mentioned in the section 6.3.

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
3.6	Quality of the supporting evidence [Not scored]	4. Good fit	4	Modelling work undertaken by OCC (strategic modelling); local operational assessments (Arcady and / or LinSig as appropriate).	4. Good fit	4	Strategic modelling undertaken by OCC demonstrates the benefits of slip roads.	3. Reasonable fit	3	Strategic modelling undertaken by OCC demonstrates the benefits of slip roads.	3. Reasonable fit	3	Strategic modelling undertaken by OCC demonstrates the benefits of slip roads.
3.7	Key risks and potential to mitigate	4. Very small - mitigation part of standard design and implementation processes and no impact on programme	4	Business as usual implies no risk. However, there may be some risks around how to link committed planned developments to Witney and the A40 in the absence of any scheme and how this can be delivered given current public / stakeholder views on congestion	3. Minor - mitigation possible with reasonable costs and little impact on programme	3	The liaison with numerous private landowners for the purchase of land poses a risk to the scheme. This can however be addressed in the design and/ or through CPO, but this would impact the benefit-cost assessment.	2. Moderate - some scope to mitigate and/ or with high costs or programme implications	2	Risk of the overseeing authority not signing off the scheme design due to the presence of significant departures from standards and safety concerns. The liaison with private landowners for the purchase of land also poses a risk to the scheme.	2. Moderate - some scope to mitigate and/ or with high costs or programme implications	2	Risk of the overseeing authority not signing off the scheme design due to the presence of significant departures from standards and safety concerns for both west facing slip roads. The liaison with private landowners for the purchase of land also poses a risk

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				and the environment .									to the scheme.
	Score - Managerial		29			24			21			17	
	FINANCIAL												
4.1	Affordability	-	-	Likely to be within existing revenue budgets, and no additional major capital expenditure required	3. Minor - affordability	3	Scheme EFC (£12-£15m) is likely to be affordable funded by Growth Deal Funding (£5m) plus s106 developer funding (£7m-10m).	2. Poor - affordability	2	Likely significantly higher scheme EFC due to work required.	2. Poor - affordability	2	Likely significantly higher scheme EFC due to work required.
4.2	Capital Cost	5. Very low - costs (> 1 £m)	5	No major capital expenditure expected.	4. Low - costs (1 to 25 £m)	4	Expected construction and land acquisition cost to OCC, but costs still need to be determined, and an agreement made on what the developer contribution provides (without which the costs to OCC will increase).	4. Low - costs (1 to 25 £m)	4	The option will have high cost due to significant civil work, alignment with the existing network and/or land take.	4. Low - costs (1 to 25 £m)	4	The option will have high cost due to significant civil work, alignment with the existing network and/or land take.
4.3	Revenue Costs	5. Very low/ within existing budgets	5	Likely to be within existing revenue budgets for	4. Low - costs (< 1 £m)	4	Likely to require a small increase in the annual OCC budget for maintaining the highways network	4. Low - costs (< 1 £m)	4	Likely to require a small increase in the annual OCC budget for	4. Low - costs (< 1 £m)	4	Likely to require a small increase in the annual

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
				maintaining the OCC highways network.						maintaining the highways network			OCC budget for maintaining the highways network
4.4	Cost profile	5. Low risk	5	Covered within existing budget profiles	3	3	Updated cost estimates required; impact on landowners and developers to be determined	3	3	Updated cost estimates required; impact on landowners and developers to be determined	3	3	Updated cost estimates required; impact on landowners and developers to be determined
4.5	Overall cost risk	5. Low risk	5	Low, unless key structures are coming up for major repairs, maintenance and upgrades. This may then affect all options	3	3	Risks in particular around land purchase	3	3	Risks in particular around land purchase	3	3	Risks in particular around land purchase
4.6	Other costs	-	-	not applicable	-	-	Not applicable. More full assessment required to identify if there may be additional costs	-	-	Not applicable. More full assessment required to identify if there may be additional costs	-	-	Not applicable. More full assessment required to identify if there may be additional costs

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
	Score - Financial		20			17			16			16	
	COMMERCIAL												
5.1	Flexibility of option	5 (dynamic)	5		4	4	Both slip road designs have flexibility for roundabout, T-junctions, signalisation, and how much land is taken, and can be changed and tweaked during the design process or consultation without fundamentally changing its main principles regarding the slip roads. Scheme has flexibility to potentially be delivered in phases with the off-slip delivered first. More scope than the other options for changes in future if necessary, without impacting current structures or the A40 alignment, or adapting to changes on the A40 (notwithstanding restrictions that may	2	2	Off-slip road design has flexibility for roundabout, T-junctions, signalisation, and how much land is taken, and can be changed and tweaked during the design process or consultation without fundamentally changing its main principles regarding the slip roads. There are constraints regarding the D-link, which will be difficult to overcome without modifying existing structures or the current A40	2	2	There are constraints regarding the D-links, which will be difficult to overcome without modifying existing structures or the current A40 alignment. There is little flexibility to upgrade or modify the D-links (e.g. due to changes in traffic flow or changes to the existing A40) in future without significant work. Less flexibility to address any objections to the design/

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
							apply as a result of the planned development)			alignment. There is little flexibility to upgrade or modify the D-link (e.g. due to changes in traffic flow or changes to the existing A40) in future without significant work. Scheme has flexibility to potentially be delivered in phases with the off-slip delivered first.			design standards compared to the other options.
5.2	Where is funding coming from?	not scored		Expected to be funded from current revenue budgets	not scored		Housing and Growth Deal Fund and developer s106 contributions.	not scored		Housing and Growth Deal Fund and developer s106 contributions.	not scored		Housing and Growth Deal Fund and developer s106 contributions.
5.3	Is land take needed?	5. No	5	No land take needed/ no CPO needed.	2. Moderate	2	Land take may be required from several landowners. May be able to develop sub-options to minimise this. As set out and scored above, the land take	2. Moderate	2	Land take may be required from several landowners. May be able to develop sub-options to minimise this.	1. Significant	1	Significant land take required if the layout is designed according to standards. Land take

#	Option No.	DM			2A			2B			2C		
	Option Name	Do minimum			West facing slip roads at Shores Green			West facing off-slip road and a D-Link arrangement at Shores Green			West facing D-Link roads at Shores Green		
	Criteria Category/ Criteria	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes	Rating/ details	Score	Notes
							that is needed may however require the most negotiation or CPO of the all the options.						can be minimised, but the design will require major departure from standards.
5.3	Any income generated?	No	0		No	0		No	0		No	0	
5.4	If yes, how much income generated		0			0			0			0	
	Score - Commercial		10			6			4			3	
	Total Score		86			105			95			91	

#	Option No.	17			17a		
	Option Name	At-grade roundabout at Shores Green - option A.1			At-grade roundabout at Shores Green - option A.2		
	Criteria Category/ Criteria	Rating/details	Score	Notes	Rating/details	Score	Notes
1	STRATEGIC						
1.1	Identified problems and objectives	Option 17 is a new, three-armed, at-grade roundabout on the A40, similar to the recently constructed Downs Road Junction. The B4022 continues to connect with South Leigh Road, but the westbound slip road is closed. The eastbound slip road is the access arm into the roundabout and therefore would provide access into Witney.			Option 17a is a new, three-armed, at-grade roundabout on the A40, similar to the recently constructed Downs Road Junction. The roundabout has a larger ICD (100m) than Option 17. The B4022 continues to connect with South Leigh Road, but the westbound slip road is closed. The eastbound slip road is the access arm into the roundabout and therefore would provide access into Witney.		
1.2	Scale of impact	3. Moderate impact	3	Addresses some of the scheme objectives	3. Moderate impact	3	Addresses some of the scheme objectives

#	Option No.		17				17a		
	Option Name		At-grade roundabout at Shores Green - option A.1				At-grade roundabout at Shores Green - option A.2		
	Criteria Category/ Criteria		Rating/details	Score	Notes		Rating/details	Score	Notes
1.3	Fit with wider transport and government objectives		3. Reasonable fit	3	Overall scheme objectives have already been aligned with wider policy and objectives. It does not directly invest in or improve PT provision and will increase congestion in the town centre which will have a negative impact on PT		3. Reasonable fit	3	Overall scheme objectives have already been aligned with wider policy and objectives. It does not directly invest in or improve PT provision and will increase congestion in the town centre which will have a negative impact on PT
1.4	Fit with other objectives		2. Low fit	2	The scheme fits with wider objectives for the Witney-Oxford corridor; however, it will create significant congestion and delays at the Shores Green Junction which will affect traffic across Witney		2. Low fit	2	The scheme fits with wider objectives for the Witney-Oxford corridor; however, it will create significant congestion and delays at the Shores Green Junction which will affect traffic across Witney
1.5	Key uncertainties		3. Minor - uncertainties	3	Some uncertainties regarding the nature and extent of planned developments, land take for this option, and how these will interact. There is no land take required for this option, but less land take may require more departures from standard, and there may be iteration and delays in obtaining approval for a design.		2. Moderate - uncertainties	2	Some uncertainties regarding the nature and extent of planned developments, land take for this option, and how these will interact. There is slightly more land take required for this option compared to Option 17.
1.6	Degree of consensus over outcomes		3. Some consultation with some agreement	3	Previous consultation over the last ten years has indicated the need to address congestion between east-west Witney and deliver housing in East Witney. The EiP in 2012 rejected the Cogges Link preferred option with a recommendation from the Inspector to look at slip roads at Shores Green as a potentially better option		3. Some consultation with some agreement	3	Previous consultation over the last ten years has indicated the need to address congestion between east-west Witney and deliver housing in East Witney. The EiP in 2012 rejected the Cogges Link preferred option with a recommendation from the Inspector to look at slip roads at Shores Green as a potentially better option
	Score - Strategic			14				13	
2	**ECONOMIC**								

#	Option No.	17			17a		
	Option Name	At-grade roundabout at Shores Green - option A.1			At-grade roundabout at Shores Green - option A.2		
	Criteria Category/ Criteria	Rating/details	Score	Notes	Rating/details	Score	Notes
2.1	Economic Growth Impact	1. Very Poor Impact	1	The scheme will increase journey times and reduce journey time reliability as large queues form, creating additional delays and congestion at the new roundabout on the A40. The new roundabout will therefore not provide an attractive alternative to Bridge Street and traffic in central Witney will not reduce. The scheme may enable the delivery of the proposed housing development, but it will not mitigate the impacts on the town centre.	1. Very Poor Impact	1	The scheme will increase journey times and reduce journey time reliability as large queues form, creating additional delays and congestion at the new roundabout on the A40. The new roundabout will therefore not provide an attractive alternative to Bridge Street and traffic in central Witney will not reduce. The scheme may enable the delivery of the proposed housing development, but it will not mitigate the impacts on the town centre.
2.2	Carbon emissions	1. Very Poor Impact	1	This option will negatively affect carbon emissions as rerouting to the new junction will increase distance travelled and the increased queuing at the new roundabout will lead to idle vehicles.	1. Very Poor Impact	1	This option will negatively affect carbon emissions as rerouting to the new junction will increase distance travelled and the increased queuing at the new roundabout will lead to idle vehicles.
2.3	Social and distributional impacts	2. Poor Impact	2	The scheme will have a negative impact on residents in the town centre and the AQMA as very limited traffic moves to use the new A40 junction, due to large queues forming. It will negatively impact residents in East Witney as although new infrastructure has been provided, the delays at the junction negate any accessibility benefits. There may be a disbenefit in terms of accidents due to increased speed and use of the A40.	2. Poor Impact	2	The scheme will have a negative impact on residents in the town centre and the AQMA as very limited traffic moves to use the new A40 junction, due to large queues forming. It will negatively impact residents in East Witney as although new infrastructure has been provided, the delays at the junction negate any accessibility benefits. There may be a disbenefit in terms of accidents due to increased speed and use of the A40, however the larger diameter roundabout will mitigate some of this risk.
2.4	Equalities Impacts	3. Reasonable fit	3	Not yet assessed	3. Reasonable fit	3	Not yet assessed
2.5	Safety	1. Very Poor Impact	1	The increased congestion at the new roundabout may lead to increased collisions. In addition, increased use of the A40 will likely lead to an increase in the speed and severity of accidents. As traffic levels along Bridge Street will not change, there will remain a collision risk for pedestrians and cyclists along this link.	2. Poor Impact	2	The increased congestion at the new roundabout may lead to increased collisions. In addition, increased use of the A40 will likely lead to an increase in the speed and severity of accidents. However, the larger ICD of the roundabout will help to mitigate this increase in accidents. As traffic levels along Bridge Street will not change, there will remain a collision risk for pedestrians and cyclists along this link.

#	Option No.	17			17a		
	Option Name	At-grade roundabout at Shores Green - option A.1			At-grade roundabout at Shores Green - option A.2		
	Criteria Category/ Criteria	Rating/details	Score	Notes	Rating/details	Score	Notes
2.6	**Local Access**	2. Poor Impact	2	There is no change to the access arrangements for the dwellings, however long queues are expected to form on the local access to the roundabout (currently the existing eastbound on-slip) which may impact access to the dwellings and take residents longer to find a gap to access the road.	2. Poor Impact	2	There is no change to the access arrangements for the dwellings, however long queues are expected to form on the local access to the roundabout (currently the existing eastbound on-slip) which may impact access to the dwellings and take residents longer to find a gap to access the road.
2.7	Local environment: Air quality	1. Very Poor Impact	1	The roundabout will attract traffic which is expected to worsen air quality for the residential properties in the vicinity of the scheme. In addition, as congestion remains at Bridge Street air quality at the AQMA will not lessen. Congestion at the new roundabout will significantly worsen air quality in the local area.	1. Very Poor Impact	1	The roundabout will attract traffic which is expected to worsen air quality for the residential properties in the vicinity of the scheme. In addition, as congestion remains at Bridge Street air quality at the AQMA will not lessen. Congestion at the new roundabout will significantly worsen air quality in the local area.
2.8	Local environment: Noise	2. Poor Impact	2	The roundabout is expected to increase traffic in the vicinity of the scheme which will include noise levels. Congestion will also increase noise levels.	2. Poor Impact	2	The roundabout is expected to increase traffic in the vicinity of the scheme which will include noise levels. Congestion will also increase noise levels.
2.9	Local environment: Trees, biodiversity etc.	3. Minor/No Impact	3	Large amounts of existing vegetation will need clearing and maintaining as part of keeping visibility splays from obstruction.	3. Minor/No Impact	3	Large amounts of existing vegetation will need clearing and maintaining as part of keeping visibility splays from obstruction.
2.10	Well being	1. Very Poor Impact	1	There is no reduction in traffic in Witney town centre and surrounding routes due to congestion at the new roundabout. This leads to lower levels of wellbeing as there is increased journey stress and potential increase for vehicle - pedestrian / cycle conflicts in the town.	1. Very Poor Impact	1	There is no reduction in traffic in Witney town centre and surrounding routes due to congestion at the new roundabout. This leads to lower levels of wellbeing as there is increased journey stress and potential increase for vehicle - pedestrian / cycle conflicts in the town.
2.11	Health and active modes	3. Minor/No Impact	3	Improved cycle and pedestrian facilities are provided as part of the new roundabout, encouraging use of active modes towards Oxford. However, traffic flows are not reduced along Bridge Street and increased congestion at the new roundabout may dissuade use of active modes.	3. Minor/No Impact	3	Improved cycle and pedestrian facilities are provided as part of the new roundabout, encouraging use of active modes towards Oxford. However, traffic flows are not reduced along Bridge Street and increased congestion at the new roundabout may dissuade use of active modes.
2.12	Expected Value for Money (VfM)		0	TBC		0	TBC

#	Option No.	17			17a		
	Option Name	At-grade roundabout at Shores Green - option A.1			At-grade roundabout at Shores Green - option A.2		
	Criteria Category/ Criteria	Rating/details	Score	Notes	Rating/details	Score	Notes
	Score - Economic		20			21	
3	MANAGERIAL						
3.1	Implementation time	3) 2 to 5 years	3	Expected time frame for design and construction.	3) 2 to 5 years	3	Expected time frame for design and construction.
3.2	Public acceptability	3. Minor - acceptability	3	Expected to gain public acceptability due to the benefits of the scheme. However, there may be some opposition due to the modelling results indicating large queues forming	3. Minor - acceptability	3	Expected to gain public acceptability due to the benefits of the scheme. However, there may be some opposition due to the modelling results indicating large queues forming
3.3	Practical feasibility	2. Poor - feasibility	2	The proposed roundabout at Shores Green has some feasibility issues including a large level difference between the roundabout and the area to the south east of the roundabout which will require a retaining wall. In addition, strategic modelling does not show a beneficial impact to Bridge Street.	2. Poor - feasibility	2	The proposed roundabout at Shores Green has some feasibility issues including a large level difference between the roundabout and the area to the south east of the roundabout which will require a retaining wall. In addition, strategic modelling does not show a beneficial impact to Bridge Street.
3.4	**Deliverability (land take and risks)**	4. High - minor risks/ complexity associated with land take	4	This option requires no land take as it is entirely within the highway boundary. However, some risks remain if design alterations lead to land take being required.	3. Minor - some risks/ complexity associated with land take	3	This option requires a small amount of land take to the south of the proposed roundabout
3.5	**Design standards/ departures**	2. Low fit - alignment with design standards	2	This option involves several departures from standard including: - The northwest approach horizontal curvature of the link road before the entry flare of the roundabout is lower than the permitted parameters in DMRB - The approach radius of the roundabout is 510m which is two steps below the desirable minimum on the southwest arm - The horizontal curvature/SSD of South Leigh Road (re-aligned) is below minimum requirements	2. Low fit - alignment with design standards	2	This option involves several departures from standard including: - The northwest approach horizontal curvature of the link road before the entry flare of the roundabout is lower than the permitted parameters in DMRB - The horizontal curvature/SSD of South Leigh Road (re-aligned) is below minimum requirements It should be noted that the ICD of the roundabout (100m) is the maximum roundabout size permitted under DMRB

#	Option No.	17			17a		
	Option Name	At-grade roundabout at Shores Green - option A.1			At-grade roundabout at Shores Green - option A.2		
	Criteria Category/ Criteria	Rating/details	Score	Notes	Rating/details	Score	Notes
3.6	Quality of the supporting evidence [Not scored]	2. Low fit	2	Junction modelling undertaken by AECOM demonstrates the queues which build as a result of the roundabout. More work would however be required to assess the roundabout against standards and safety considerations	2. Low fit	2	Junction modelling undertaken by AECOM demonstrates the queues which build as a result of the roundabout. More work would however be required to assess the roundabout against standards and safety considerations
3.7	Key risks and potential to mitigate	3. Minor - mitigation possible with reasonable costs and little impact on programme	3	Risk of the overseeing authority not signing off the scheme design due to the presence of significant departures from standards and safety concerns for the roundabout. The liaison with private landowners is not a concern for this option.	2. Moderate - some scope to mitigate and/ or with high costs or programme implications	2	Risk of the overseeing authority not signing off the scheme design due to the presence of significant departures from standards and safety concerns for the roundabout. The liaison with private landowners for the purchase of land also poses a risk to the scheme.
	Score - Managerial		19			17	
	FINANCIAL						
4.1	Affordability	1. Very Poor - affordability	1	Likely significantly higher scheme cost. Results in reduced affordability and higher funding gap	1. Very Poor - affordability	1	Likely significantly higher scheme cost. Results in reduced affordability and higher funding gap
4.2	Capital Cost	4. Low - costs (1 to 25 £m)	4	Early Contractor Involvement (ECI) study indicates that the construction of the option will incur a considerably higher cost than Options 2A-2C	4. Low - costs (1 to 25 £m)	4	Early Contractor Involvement (ECI) study indicates that the construction of the option will incur a considerably higher cost than Options 2A-2C
4.3	Revenue Costs	4. Low - costs (< 1 £m)	4	Likely to require a small increase in the annual OCC budget for maintaining the highways network	4. Low - costs (< 1 £m)	4	Likely to require a small increase in the annual OCC budget for maintaining the highways network
4.4	Cost profile	3	3	Updated cost estimates required; impact on landowners and developers to be determined	3	3	Updated cost estimates required; impact on landowners and developers to be determined
4.5	Overall cost risk	4	4	Lower risks around land purchase	3	3	Risks around land purchase
4.6	Other costs	-	-	Not applicable. More full assessment required to identify if there may be additional costs	-	-	Not applicable. More full assessment required to identify if there may be additional costs
	Score - Financial		16			15	
	COMMERCIAL						

#	Option No.		17				17a		
	Option Name		At-grade roundabout at Shores Green - option A.1				At-grade roundabout at Shores Green - option A.2		
	Criteria Category/ Criteria		Rating/details	Score	Notes		Rating/details	Score	Notes
5.1	Flexibility of option		2	2	There is limited flexibility of this option whilst remaining within the highway boundary, which limits design alterations if required to address objections or meet design standards		2	2	There is little flexibility with this option as land take should be as minimal as possible. Therefore, there are limitations to design alterations if these are required to address objections or meet design standards.
5.2	Where is funding coming from?		-		To be confirmed.		-		To be confirmed.
5.3	Is land take needed?		5. No	5	No land take required as the roundabout is entirely within the highway boundary		3. Minor	3	Some land take is required to the south of the roundabout. This is expected to be a small amount of land
5.3	Any income generated?		No	0			No	0	
5.4	If yes, how much income generated			0				0	
	Score - Commercial			7				5	
	Total Score			76				71	

#	Criteria Category/ Criteria	2A-E	2A-F	2A-G	Notes
1	ECONOMIC				
1.1	Landscape/visual	0	-1	0	In 2A-F, the eastbound off-slip veers away from existing A40 alignment in order to build a larger diameter roundabout on the northside which will increase the overall scheme footprint. It will have negative visual impacts considering the surrounding landscape, topography and development context (i.e. proximity of existing residential properties, accesses and proposed housing development).
1.2	Construction period highway traffic impacts	0	-1	0	2A-F will result in more traffic disruption during construction. The temporary traffic management will entail bi-directional movement on the B4022, providing safe access to existing properties, and a larger construction laydown area to build the roundabout. It will likely result in longer queues on the B4022 and disruption to accesses to existing properties. As such the Local Authority may impose strict conditions/restrictions on construction activities (such as night time, off peak, weekend only and restricted working hours only) due to close proximity to houses. Overall 2A-F will have a negative impact on the construction programme compared to the other sub-options.
1.3	Economic Growth Impact	0	0	-1	With option 2A-G, a signalised junction arrangement is likely to result in slightly more delays for vehicles (vs a roundabout) depending on the level of demand; but a signalised junction will provide OCC the opportunity to improve network management and resilience at all times.
1.4	Carbon emissions	0	0	-1	2A-G is likely to have slight negative impact as vehicles will be in stationary conditions when the traffic lights are 'red'. (i.e with idle engine running). There will be slightly more breaking and accelerating required compared to free flowing traffic at roundabouts.

#	Criteria Category/ Criteria	2A-E	2A-F	2A-G	Notes
1.5	Social and distributional impacts	0	0	1	2A-G introduces controlled crossings which provide safety assurance to pedestrians, cyclists and disabled road users. In general driver behaviour at signalised junctions is better as it provides better perception and reaction time with a clear 'visual' warning message through traffic light system (for example intergreen times for safety) thereby minimising potential collision risks with pedestrians, cyclists and disabled road users. Driver behaviour likely to be less aggressive in a controlled environment whereas at roundabouts drivers' risk-taking ability increases (with more more aggressive driving) during free flow conditions. For example, there is a degree of variance in every single driver's behaviour when negotiating gaps; some drivers tend to speed up when approaching roundabouts in spite of 'slow down' warning signs.
1.6	Equalities Impacts	0	0	1	The signalised junctions in 2A-G will provide greater priority and a higher level of service to pedestrians/cyclists, and disabled road users due to the signal-controlled environment.
1.7	Safety	0	0	1	Controlled crossings provide greater flexibility in terms of implementing a safer design for all road users and reduce the collision risk significantly, particularly for vulnerable road users. The actuated signal timings in 2A-G will ensure priority to non-motorised users based on the rate of arrival of traffic and non-mortised user demand.
1.8	Local environment: Air quality	0	0	-1	2A-G is likely to have a negative impact compared to 2A-E and 2A-F. In 2A-G the rate of occurrence of stationary vehicles (engine running idle at 'red' light) and acceleration on 'green' light will lead to a slight increase in vehicle emissions compared to slightly more free flowing traffic conditions at roundabouts.
1.9	Local environment: Trees, biodiversity etc.	-1	1	-1	The 2A-F eastbound off-slip alignment veers away from the existing A40 alignment (i.e away from existing vegetation and trees, and through an open field); options 2A-E and 2A-F would require removal of more vegetation. 2A-F may also provide a benefit as the land between the eastbound off-slip, the A40 and the B4022 could potentially be used to provide more vegetation and to enable biodiversity net gain. It is assumed that this parcel of land would be transferred from the developer to OCC, as it is otherwise inaccessible except from the B4022 or potentially the A40 or e/b off-slip.

#	Criteria Category/ Criteria	2A-E	2A-F	2A-G	Notes
1.10	Health and active modes	0	0	1	The signalised junctions in 2A-G will encourage active travel modes which have a positive impact on general wellbeing and health. The signalised junction will offer improved infrastructure and safety assurance compared to roundabouts. Often at roundabouts cyclists, pedestrians, horses and disabled road users struggle to cross (and may find it intimidating) and negotiate the gaps due to continuously moving traffic flows with varying speeds and driver behaviour.
2	**MANAGERIAL**				
2.1	Implementation time	1	-1	1	2A-F is likely to incur longer delivery times due to challenges involved in implementing temporary traffic management (construction of larger diameter roundabout, accesses to local properties), statutory process involved in land take (for the eastbound off-slip), consent from local residents and risk of stringent construction conditions from the local authority.
2.2	Public acceptability	1	1	1	There is unlikely to be a significant difference between the options.
2.3	Practical feasibility	1	1	1	There is unlikely to be a significant difference between the options.
2.4	Deliverability (land take and risks)	0	-1	0	There is a significant risk of lengthy negotiations with the developer as 2A-F incurs the most land take to implement the eastbound off-slip and the larger diameter roundabout.
2.5	Design standards/ departures	0	-1	0	2A-F entails unavoidable slight departures from highway design standards, but the other options are fully compliant.
2.6	Quality of the supporting evidence [Not scored]	0	0	0	*Option 2A-G has been modelled in microsimulation (VISSIM). All options have been assessed using junction assessment software.*
2.7	Key risks and potential to mitigate	0	-1	0	The purchase of land poses a risk to the scheme, which is most significant for Option 2A-F due to the larger infrastructure footprint.
3	**FINANCIAL**				
3.1	Affordability	0	-1	0	Option 2A-F requires the most land which will result in an increase in total scheme costs and increase risks of a reduced financial contribution from the developer towards the scheme's delivery, impacting on affordability. The developer contribution may differ between each option, and this has not yet discussed/ negotiated with the developer.

#	Criteria Category/ Criteria	2A-E	2A-F	2A-G	Notes
3.2	Capital Cost	0	-1	0	Option 2A-F is likely to be the most expensive option due to the larger infrastructure footprint, land take, longer duration of temporary traffic management, and constructability.
3.3	Revenue Costs	0	0	0	No significant difference is expected between the options, although option 2A-F will incur slightly more maintenance costs to maintain the area (or landscaping) bordered by the eastbound off-slip, A40 and B4022.
3.4	Cost profile	0	-1	0	Updated order of magnitude cost estimates show that Option 2A-F will have greater financial impact on the landowners/ developers (i.e larger land contribution and/or significant reduction in financial contribution towards the scheme).
3.5	Overall cost risk	0	-1	0	The designs are all considered deliverable. Costs risks arise from land costs, developer contributions, and the length of the construction programme and potential for delay. These risks are greater for Option 2A-F.
3.6	Other costs	0	0	0	None identified at this stage.
4	**COMMERCIAL**				
4.1	Flexibility of option	0	0	1	The signals in 2A-G offer some flexibility in terms of design, negotiations with the developer, temporary traffic management, work-zone and construction laydown area and constructability in a phased manner to deliver the overall objective of unlocking sites for housing, and improved accessibility and connectivity to Witney. It will also provide greater traffic management and network management.
4.2	Where is funding coming from?	0	0	0	No difference between the options (HIF plus s106 contributions).
4.3	Is land take needed?	-1	-1	-1	Yes. All options require land take.
Total Score		***1***	***-8***	***3***	

Appendix E - Equalities Impact Assessment

The long list of options that have been put forward as a part of the optioneering process have been considered and an initial high-level screening assessment has been undertaken for each of the options to determine the potential impacts that each option may have on the Protected Characteristic Groups (PCGs) as defined in the Equality Act.

High Level Screening

Questions considered to establish impacts from the outset for new or changing policies/practices	Sex	Religion or Belief	Age	Disability	Race	Sexual Orientation	Gender Re-assignment (include transsexual and transgender)	Pregnancy & Maternity	Marriage & Civil Partnership
1: Is there any indication or evidence that different groups have different needs, experiences, issues or priorities in relation to the practice/policy?	✓	✓	✓	✓	✓	×	×	✓	×
2: Is there evidence or an indication of higher or lower uptake by different groups?	✓	×	✓	✓	×	×	×	×	×
3: Do people have different levels of access? Are there social or physical barriers to participation (e.g. language, format, physical access)?	✓	×	✓	✓	✓	×	×	✓	×
4: Is there an opportunity to advance equality or foster good relations by altering the policy/practice?	✓	✓	✓	✓	✓	✓	✓	✓	×
5: Is there an opportunity to advance equality or foster good relations by working or engaging with other organisations or the wider community?	✓	✓	✓	✓	✓	✓	×	✓	×
6: Is there stakeholder (staff, Trade Unions or public) concern about the policy/practice in terms of actual, perceived or potential discrimination against a particular group?	N/K	N/K	N/K	N/K	N/K	N/K	N/K	N/K	×
7: Is there potential for, or evidence that any part of this policy/practice may adversely affect equality of opportunity for all or may harm good relations between different groups?	N/K	N/K	N/K	N/K	N/K	N/K	N/K	N/K	×
8: Is there any potential for, or evidence that any part of the policy/practice could discriminate indirectly or directly? (Consider those who implement it on a daily basis).	✓	✓	✓	✓	✓	×	×	✓	×

Potential Equality Impacts

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 1: West facing slip roads at Stanton Harcourt Road	✓/ x	-	✓/ x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Potential equality impacts resulting from increase in traffic through residential areas largely relating to air quality, noise and safety. Protected Characteristic Groups likely to be affected: - Older people due to potential noise and air quality effects in residential areas - Children due to potential noise and air quality effects in residential areas and safety concerns due to increased traffic on local roads.	A
Option 2A: West facing slips at Shores Green	✓/ x	-	✓/ x	-	x	-	✓/ x	-	-	✓	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Potential beneficial equality impacts in terms of safety and accessibility through the provision of crossing points. Protected Characteristic Groups likely to be affected. Safety and accessibility issues are more prevalent in groups where mobility is an issue, this includes older people, those with disabilities and pregnant women. • Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic. This may have potential beneficial impacts on older people and children who are more vulnerable to changes in noise and air quality. • This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people	G

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 2B: West facing slip roads at Shores Green - alternative arrangement	✓/ x	-	✓/ x	-	x	-	✓/ x	-	-	✓	-	• As this option is an alternative arrangement of Option 2A it is likely that Option 2B would result in the same potential equality impacts as Option 2A.	G
Option 2C: West facing slip roads at Shores Green – D-Link alternative arrangement	✓/ x	-	✓/ x	-	x	-	✓/ x	-	-	✓	-	• As this option is an alternative arrangement of Option 2A it is likely that Option 2C would result in the same potential equality impacts as Option 2A and 2B with the exception that impacts associated to land take may be reduced due to a smaller envelope of land take required.	G
Option 2D: West facing slip roads at Shores Green - grade separated	✓/ x	-	✓/ x	-	x	-	✓/ x	-	-	✓	-	• As this option is an alternative arrangement of Option 2A it is likely that Option 2D would result in the same potential equality impacts as Option 2A, 2B and 2C.	G
Option 3: Roundabout North and South of Shores Green	✓/ x	-	✓/ x	-	x	-	✓/ x	-	-	✓	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Potential beneficial equality impacts in terms of safety and accessibility through the provision of crossing points. Safety and accessibility issues are more prevalent in groups where mobility is an issue, this includes older people, those with disabilities and pregnant women. • Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic. This may have potential beneficial impacts on older people and children who are more vulnerable to changes in noise and air quality.	G

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 4A: Overbridge at Hill Farm, A40	x	-	x	-	x	-	x	-	-	-	-	• Option 4A delivers U-turn facilities for those travelling westbound. There would be limited equality impacts resulting from this option except for any equality impacts resulting from land acquisition, although these are likely to be limited given the scale of acquisition required. Groups likely to be affected by land acquisition include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support.	G
Option 4B: Half or Full roundabout on the A40 to the east of Shores Green	x	-	x	-	x	-	x	-	-	x	-	• Option 4B would deliver a half or full roundabout. There would be limited equality impacts resulting from this option except for any equality impacts resulting from land acquisition, although these are likely to be limited given the scale of acquisition required. Groups likely to be affected by land acquisition include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Suitable crossing points at the roundabout would need to be provided with the appropriate signage to ensure that there are no equalities impacts. Safety and accessibility issues are more prevalent in groups where mobility is an issue, this includes older people, those with disabilities and pregnant women.	G

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 5: West End Link Road	✓/ x	✓	✓/ x	-	x	-	✓/ x	-	-	✓	-	• Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic on Bridge Street. This may have potential beneficial impacts on older people and children who are more vulnerable to changes in noise and air quality. • Potential equality impacts resulting from increase in traffic in the local area largely relating to air quality and noise. Protected Characteristic Groups likely to be affected: - Older people due to potential noise and air quality effects in the local area - Children due to potential noise and air quality effects in the local area. • Potential beneficial equality impacts in terms of safety and accessibility through the provision of crossing points and improved public transport. Safety and accessibility issues are more prevalent in groups where mobility is an issue, this includes older people, those with disabilities and pregnant women. • This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people. • Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support.	A

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 6: Church Lane link from B4022 to Witan Way via Church Lane upgraded to general traffic	x	x	x	-	x	-	x	-	-	x	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Potential equality impacts resulting from increase in traffic through residential areas largely relating to air quality, noise and safety. Protected Characteristic Groups likely to be affected: - Older people due to potential noise and air quality effects in residential areas - Children due to potential noise and air quality effects in residential areas and safety concerns due to increased traffic on local roads. • Impact on cyclists and pedestrians may result in potential equality impacts, changes to the quality of provision could have a differential effect on those groups with mobility issues or for those who are more vulnerable to road safety issues including children, older people, people with disabilities and parents or carers with pushchairs. • This option may decrease opportunities for active travel and may result in associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people.	A
Option 7: Jubilee Way to A40 - Bypass	x	-	x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support.	A
Option 8: Upgrading Downs Road to improve access to the A40	x	-	x	-	x	-	x	-	-	-	-	• There would be limited equality impacts resulting from this option except for any equality impacts resulting from land acquisition, although these are likely to be limited given the scale of acquisition required. Groups likely to be affected by land acquisition include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support.	G

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 9: New Link Road Connecting B4022 with B4047	✓/ x	✓	✓/ x	-	x	-	✓/ x	-	-	✓	-	• Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic. This may have potential beneficial impacts on older people and children who are more vulnerable to changes in noise and air quality. • Potential beneficial equality impacts in terms of safety and accessibility through the provision of crossing points and improved walking, cycling and public transport provision. Safety and accessibility issues are more prevalent in groups where mobility is an issue, this includes older people, those with disabilities and pregnant women. This could also have a beneficial impact on groups who are more vulnerable to road safety issues including children and parents or carers with pushchairs. • This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people. • Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support.	A
Option 10: Cogges Link Road	✓/ x	-	✓/ x	-	x	-	x	-	-	-	-	• Potential beneficial equality impacts in terms of air quality and noise due to a reduction in traffic. This may have potential beneficial impacts on older people and children who are more vulnerable to changes in noise and air quality. • Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support.	A
Option 11A: Rail link between Witney and Oxford	✓/ x	-	✓/ x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Could potentially lead to air quality improvements and would have potential beneficial impacts on older people and children who are more vulnerable in changes to air quality.	G

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 11B: Bus Rapid Transit (BRT) between Witney and Oxford	✓/ x	-	✓/ x	-	x	-	x	-	-	-	-	• Option 11B proposes to provide an alternative form of public transport between Oxford and Witney compared to Option 11A. It is considered that Option 11B would result in the same potential equality impacts as Option 11A.	G
Option 11C: Tram between Witney and Oxford (from A40 strategy option assessment work)	✓/ x	-	✓/ x	-	x	-	x	-	-	-	-	• Option 11C proposes to provide an alternative form of public transport between Oxford and Witney compared to Option 11A. It is considered that Option 11C would result in the same potential equality impacts as Option 11A and 11B.	G
Option 11D: Bus Lanes and Bus Service Improvements on A40 from Witney to Oxford	-	-	-	-	-	-	-	-	-	-	-	• Option 11D would deliver bus lanes and bus service improvements between Witney and Oxford, it is considered that there would be no significant equality impacts as a result of this scheme. • Proposals should ensure that any short-term disruption to bus routes including relocation of bus stops could potentially adversely impact on people with mobility issues including people with disabilities, older people, pregnant women and parents with pushchairs. It is recommended that at any temporary or new bus stops that seating facilities are provided and to ensure comfort for those with limited mobility.	G
Option 12A: Railway line between Witney and Hanborough	✓/ x	-	✓/ x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Could potentially lead to air quality improvements and would have potential beneficial impacts on older people and children who are more vulnerable in changes to air quality.	G
Option 12B: Bus Rapid Transit (BRT) between Witney and Hanborough.	✓/ x	-	✓/ x	-	x	-	x	-	-	-	-	• Option 12B proposes to provide an alternative form of public transport between Witney and Hanborough compared to Option 12A. It is considered that Option 12B would result in the same potential equality impacts as Option 12A.	G

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 13A: Light rail link between Jubilee Way/A4095 junction, Windrush Industrial Park, and Two Rivers Industrial Estate	x	-	x	-	x	-	x	-	-	x	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Potential impacts on highways and bus services (especially if the option involved relocation of bus stops) could potentially adversely impact on people with mobility issues including people with disabilities, older people, pregnant women and parents with pushchairs as well as groups who are more vulnerable to road safety issues including children and parents or carers with pushchairs.	A
Option 13B: Bus Rapid Transit (BRT) link between Jubilee Way/A4095 junction, Windrush Industrial Park, and Two Rivers Industrial Estate	x	-	x	-	x	-	x	-	-	x	-	• Option 13B proposes to provide an alternative form of public transport between Jubilee Way/A4095 junction, Windrush Industrial Park, and Two Rivers Industrial Estate compared to Option 13A. It is considered that Option 13B would result in the same potential equality impacts as Option 13A.	A
Option 14A: Increased bus frequencies/ routes within and to/from the wider Witney area	-	-	✓	-	-	-	✓	-	-	✓	-	• Option 14A proposes to improve and expand on existing bus services and routes and it is considered that this would have limited equality impacts. • There may be potential beneficial impacts to groups with mobility issues including people with disabilities, older people, pregnant women and parents with pushchairs through more reliable and frequent services.	G
Option 14B: Demand responsive service within Witney	-	-	✓	-	-	-	✓	-	-	✓	-	• Option 14B proposes demand responsive services within Witney potentially through an app. There may be potential beneficial impacts to groups with mobility issues who are unable to access public transport including those with, older people, pregnant women and parents with pushchairs. However, it is recommended that the app is designed to be accessible and in line with W3C WAI accessibility standards/guidelines. Alternative options to an app should also be available for those who do not have access to the appropriate technology.	G

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 15: Cycle network improvements in East Witney and across Witney	✓	✓	✓	-	-	-	✓	-	-	✓	-	• Potential beneficial equality impacts in terms of safety and accessibility through the provision of improved cycling infrastructure. Safety and accessibility issues are more prevalent in groups where mobility is an issue, this includes older people, those with disabilities and pregnant women. This could also have a beneficial impact on groups who are more vulnerable to road safety issues including children and parents or carers with pushchairs. • This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people. • It is recommended that appropriate signage and crossing points are provided as a part of this proposal as well as appropriate lighting and CCTV provision for those groups who may be more vulnerable to poor security including women, young people, older people, disabled people, ethnic minority groups, transgender and people from the LGBTQ community.	G
Option 16: Witney Car Parking Management Strategy and Policies	✓	✓	✓	-	-	-	✓	-	-	✓	-	• Option 16 proposes to consider an enhanced car parking management strategy and policies for Witney Town Centre. • It is recommended that car parking strategies take into account the needs of groups with disabilities and those individuals who have young children with the appropriate level of disabled and 'parent and child' parking spaces be provided to avoid any potential equality impacts.	A
Option 17: At-grade roundabout at Shores Green- option A.1	✓	✓	✓ / x	-	-	-	x	-	-	x	-	• This option widens the footway for walkers and cyclists and may encourage more active travel resulting in associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people. • Relocation of the bus stop could potentially adversely impact on people with mobility issues including people with disabilities, older people, pregnant women and parents with pushchairs. It is recommended that at any temporary or new bus stops that seating facilities are provided and to ensure comfort for those with limited mobility.	G

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 17a: At-grade roundabout at Shores Green option A.2	✓	✓	✓ / x	-	x	-	x	-	-	x	-	• This option widens the footway for walkers and cyclists and may encourage more active travel resulting in associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people. • Relocation of the bus stop could potentially adversely impact on people with mobility issues including people with disabilities, older people, pregnant women and parents with pushchairs. It is recommended that at any temporary or new bus stops that seating facilities are provided and to ensure comfort for those with limited mobility. • Potential equality impacts associated with the limited land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. Although impacts associated to land take may be reduced due to a smaller of envelope of land take required.	G
Option 18: At-grade roundabout at Shores Green – option B	✓ / x	-	✓ / x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people. •	G
Option 19: At-grade roundabout at Shores Green – option C	✓ / x	-	✓ / x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with the significant land take required for this option. dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people. • Potential adverse equality impacts in terms of air quality and noise due to an increase in traffic. This may have potential adverse impacts on older people and children who are more vulnerable to changes in noise and air quality	A

Option	Potentially Affected Protected Characteristic Groups											Overview of potential impacts	R/A/G Score
	Age			Sex	Ethnicity	Religion	Disability	Transgender	Sexual	Pregnancy/ Maternity	Marriage/ Civil Partnership		
	Children	Young	Older										
Option 20a: At-grade roundabout at Shores Green – option D	✓ / x	-	✓ / x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics including children, young people and older people. • Potential adverse equality impacts in terms of air quality and noise due to an increase in traffic. This may have potential adverse impacts on older people and children who are more vulnerable to changes in noise and air quality	G
Option 20b: Alternative slip roads arrangement at Shores Green	✓ / x	-	✓ / x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • This option provides an increased opportunity for active travel and associated benefits for physical health that can be shared by groups with protected characteristics including	G
Option 21: At-grade roundabout on A40 near Stanton Harcourt Road Bridge	x	-	x	-	x	-	x	-	-	-	-	• Potential equality impacts associated with land take dependent on current use and land ownership. Land take may potentially affect leaseholders with protected characteristics that influence their ability to move out of an area. These include ethnic minority groups, people with disabilities, older people and families who may have formed formal and informal social and community ties and support. • Potential adverse equality impacts in terms of air quality and noise due to an increase in traffic. This may have potential adverse impacts on older people and children who are more vulnerable to changes in noise and air quality	A

Appendix F - Road Safety Audit

The following problems have been identified from the documents submitted:

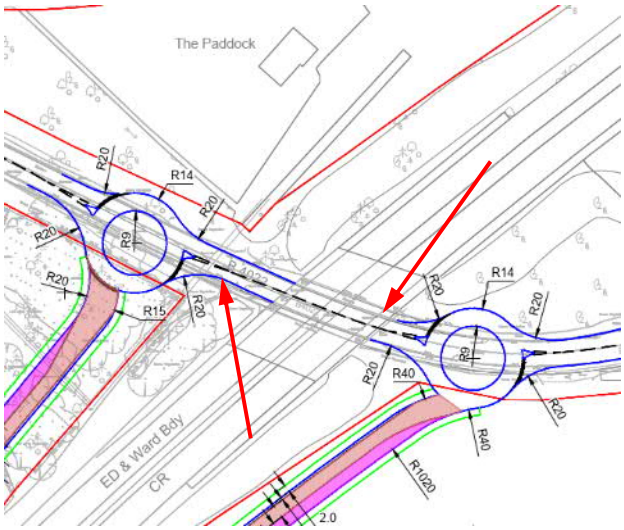
GENERAL

Problem: *3.1*

Location: Access to Witney - Option 2A-E
Forward visibility

Drawing: 60611611-ACM-XX-XX-DR-HW-000009-01/02

Summary The close proximity of the roundabouts to the bridge is likely to reduce the conspicuity of the roundabout entries



Description:

The drawing indicates that the roundabouts for the new eastbound off and westbound on slips will be located on B4022 close to the A40 overbridge. The conspicuity of the entries for those drivers approaching the roundabouts from beneath the bridge is likely to be reduced, which could lead to vehicles overshooting the give-way lines and increase the risk of a 'Failure to give-way' type collision occurring.

Recommendation:

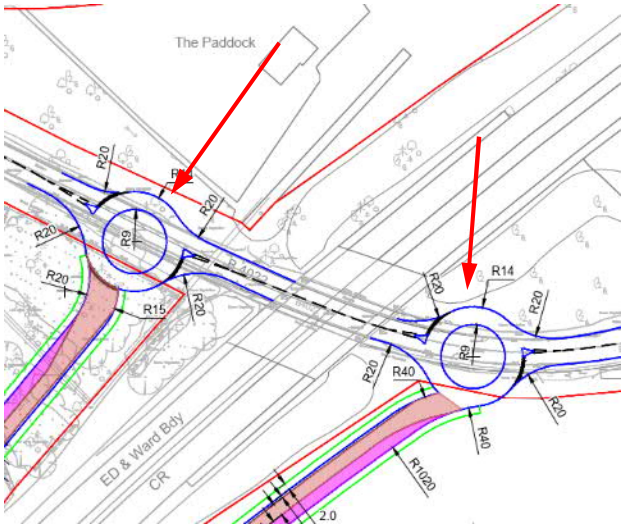
The new roundabouts should have larger Inscribed Circle Diameters (ICDs), particularly in this rural setting, in order to increase the conspicuity of the roundabouts for approaching vehicle drivers. The overall width of the circulatory carriageways should also be increased in order to better accommodate the free turning movements and swept paths of all vehicles that are permitted to use the route.

Problem: *3.2*

Location: Access to Witney – All options
Speed Limit

Drawing: 60611611-ACM-XX-XX-DR-HW-000009-01/02 60611611-ACM-XX-XX-DR-HW-000011-01/02 60611611-ACM-XX-XX-DR-HW-000013-01/02 60611611-ACM-XX-XX-DR-HW-000014-01/02

Summary The introduction of a series of new junctions on the B4022 could leave vehicles more vulnerable to conflict with other vehicles turning on the new road layout



Description:

All of the options will introduce new junctions on the B4022. The roundabouts on B4022 will require approaching vehicle drivers to reduce their speeds to negotiate the new road layout. The new junctions in this rural setting will introduce conflict points on the road network, which has the potential to increase the risk of road traffic collisions occurring.

Recommendation:

The Highway Authority may wish to see that the speed limit at least within the extents of the scheme is reduced in order to encourage lower traffic speeds approaching the junction complexes.

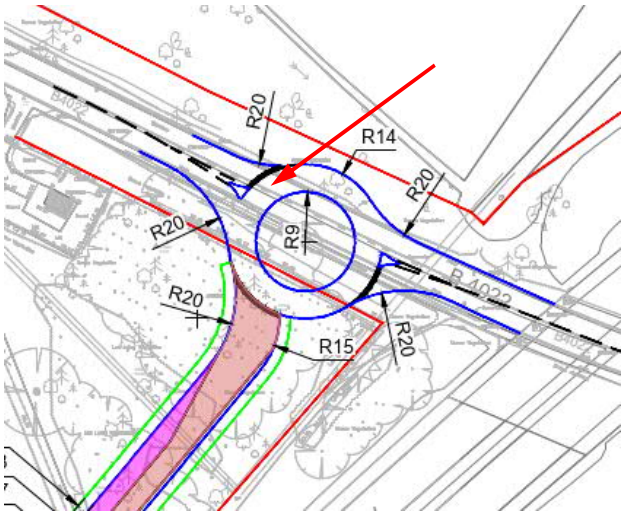
THE ALIGNMENT:

Problem: *3.3*

Location: Access to Witney - Option 2A-E & Option 2B-B Western Roundabout

Drawing: 60611611-ACM-XX-XX-DR-HW-000009-01/02 60611611-ACM-XX-XX-DR-HW-000011-01/02

Summary A lack of deflection in the south eastbound entry onto the small roundabout is likely to result in higher vehicle entry speeds



Description:

The eastbound approach to the western roundabout is along a straight section of B4022. The small roundabout proposed results in a lack of deflection at the roundabout entry. The lack of deflection could encourage some drivers to negotiate the roundabout at too high a speed, which is likely to increase the risk of a driver losing control of the vehicle and being injured as a result of a subsequent collision. Furthermore, the straight approach to the roundabout will result in a lack of depth perception, which could lead to some vehicles braking heavily with an increased risk of shunt-type collisions with a following vehicle(s).

Recommendation:

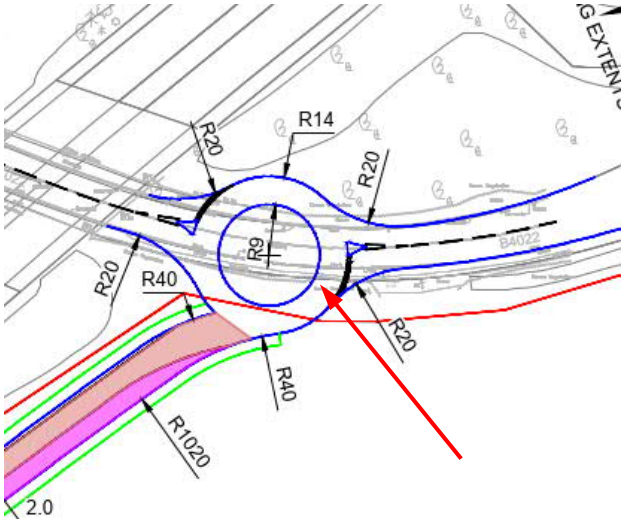
The ICD of the roundabout should be increased, and the B4022 should be realigned to create some curvature in this south eastbound approach.

Problem: *3.4*

Location: Access to Witney - Option 2A-E & Option 2A-F Eastern Roundabout

Drawing: 60611611-ACM-XX-XX-DR-HW-000009-01/02 60611611-ACM-XX-XX-DR-HW-000014-01/02

Summary A lack of deflection in the westbound entry onto the small roundabout is likely to result in higher vehicle entry speeds



Description:

The westbound approach to the eastern roundabout is around a right-hand bend in the B4022. However, the small roundabout proposed results in a lack of deflection at the roundabout entry, which could encourage some drivers to enter the roundabout at too high a speed. This is likely to increase the risk of a driver losing control of the vehicle and being injured as a result of a subsequent collision.

Recommendation:

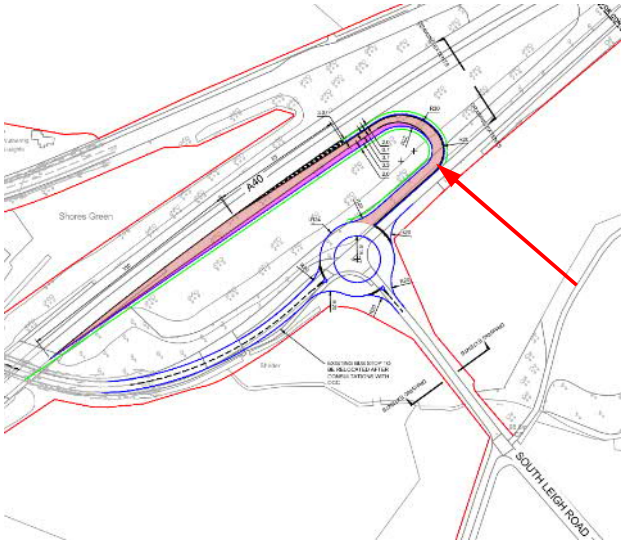
The roundabout ICD should be increased. The roundabout should also be relocated further to the southeast so that the approach to the roundabout can be improved.

Problem: *3.5*

Location: Access to Witney - Option 2B-B
Clover-leaf westbound on slip

Drawing: 60611611-ACM-XX-XX-DR-HW-000011-01/02 Rev 0

Summary The radius of the westbound clover-leaf on slip is too small for high-speed vehicles to negotiate



Description:

A clover-leaf type road layout will be provided for the westbound on slip road. A new roundabout will be provided at the B4022 junctions with the existing westbound off slip and the South Leigh Road side road junction. The new clover-leaf slip road will be 'fitted-in' between the mainline and the westbound off slip.

The radius of the clover-leaf is far too small to accommodate high-speed traffic. The small radius would require very low manoeuvring speeds especially by larger vehicles, which would leave merging vehicles attempting to join the dual carriageway at low speed particularly vulnerable to conflict with mainline traffic, with an increased risk of a collision occurring as a result.

Recommendation:

The use of clover-leaf slip roads with small internal radii are not suitable for use on high-speed roads.

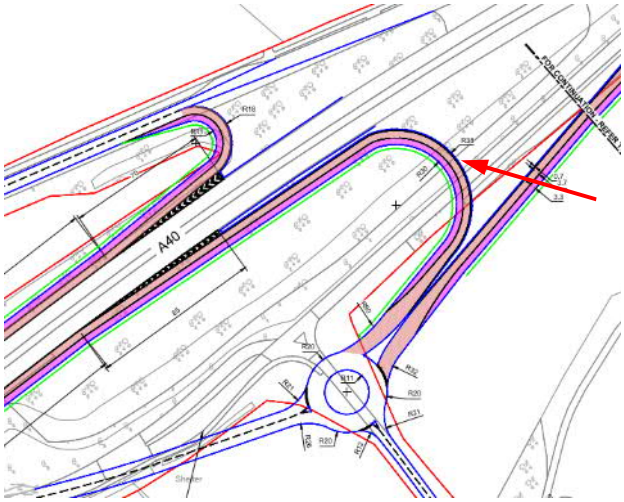
It is recommended that an alternative road layout is provided to accommodate the new westbound on slip road.

Problem: *3.6*

Location: Access to Witney - Option 2C-B
Clover-leaf westbound on slip

Drawing: 60611611-ACM-XX-XX-DR-HW-000013-01/02 Rev 0

Summary The radius of the westbound clover-leaf on slip is too small for high-speed vehicles to negotiate



Description:

A clover-leaf interchange will be provided for the westbound on slip road. A new roundabout will be provided at the junction of B4022 with the westbound off slip and the South Leigh Road side road – the new roundabout will be provided southeast of the existing junction in order to increase the internal radius of the clover-leaf slip road.

The radius of the clover-leaf is too small to accommodate high-speed traffic. The small radius would require low manoeuvring speeds especially by larger vehicles, which would leave vehicles merging with the dual carriageway particularly vulnerable to conflict with mainline traffic, with an increased risk of a collision occurring as a result.

Recommendation:

The use of clover-leaf slip roads with small internal radii are not suitable for use on high-speed roads.

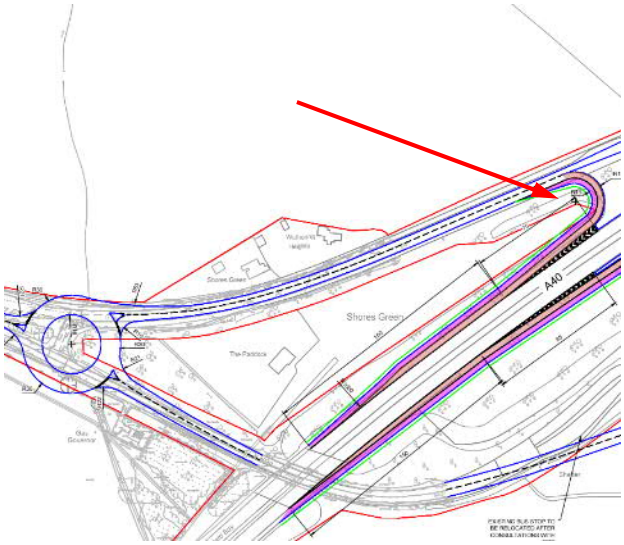
It is recommended that an alternative road layout is provided to accommodate the new westbound on slip road.

Problem: *3.7*

Location: Access to Witney - Option 2C-B
Clover-leaf eastbound off slip

Drawing: 60611611-ACM-XX-XX-DR-HW-000013-01/02

Summary The radius of the eastbound clover-leaf off slip is far too small for vehicles to negotiate when leaving the high-speed road



Description:

A clover-leaf type road layout will be provided for the eastbound off slip road. A new roundabout will be provided at the B4022 junction with the existing eastbound on slip road. The new clover-leaf slip road will be 'fitted-in' between the mainline and the eastbound on slip, and utilise the two-way section to join the new roundabout.

The radius of the clover-leaf is far too small to accommodate high-speed traffic. High-speed vehicles leaving the mainline would have to brake very heavily, and almost stop, to negotiate the small radius bend. The proposed road layout will leave drivers particularly vulnerable to losing control of their vehicles, and being injured as a result of a subsequent collision.

Recommendation:

The use of clover-leaf slip roads with small internal radii are not suitable for use on high-speed roads.

It is recommended that an alternative road layout is provided to accommodate the new eastbound off slip road.

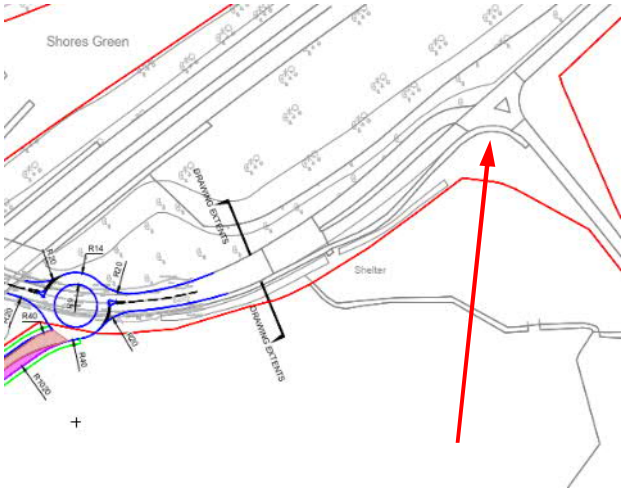
THE JUNCTIONS:

Problem: *3.8*

Location: Access to Witney - Option 2A-E & Option 2A-F B4022 Js/w South Leigh Road

Drawing: 60611611-ACM-XX-XX-DR-HW-000009-01/02 60611611-ACM-XX-XX-DR-HW-000014-01/02

Summary There are no proposals to improve the existing South Leigh Road junction with these options



Description:

B4022 to the east of the A40 bridge provides for a two-way road as far as its junction with South Leigh Road. The existing A40 westbound off slip joins the junction – north eastbound traffic on B4022 essentially have to cross the westbound off slip at a give-way priority junction.

The introduction of the new B4022 roundabout to the east of the A40 for the new westbound on slip could bring the existing South Leigh Road junction complex into disrepute, which could leave vehicles turning on the existing junction more vulnerable to conflict with an on-coming vehicle on the westbound off slip.

Recommendation:

The Highway Authority may wish to see that the existing South Leigh Road junction is improved as part of these options.

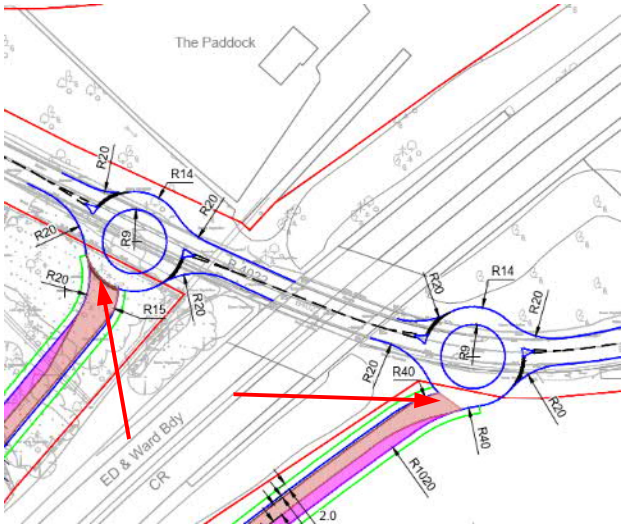
NON-MOTORISED USER PROVISION:

Problem: *3.9*

Location: Access to Witney – All options
Existing footways

Drawing: 60611611-ACM-XX-XX-DR-HW-000009-01/02 60611611-ACM-XX-XX-DR-HW-000011-01/02
60611611-ACM-XX-XX-DR-HW-000013-01/02
60611611-ACM-XX-XX-DR-HW-000014-01/02

Summary There is no provision for pedestrians or cyclists at the new roundabouts to provide continuity in the existing footway route on the southern side of B4022



Description:

Roundabouts will be provided for the new eastbound off slip and westbound on slip roads. There is no indication on the drawings that suitable off carriageway routes will be provided for pedestrians and cyclists to negotiate the proposed junction complexes. A lack of facilities could leave those pedestrians and cyclists negotiating the roundabouts more vulnerable to conflict with an on-coming vehicle.

Recommendation:

A suitable off-carriageway route for pedestrians and cyclists, such as an unsegregated cycleway/footway, should be provided at least along the line of the existing B4022 footway within the scheme's extents. Uncontrolled crossings should be provided across the new slip roads at their junctions with the roundabouts.

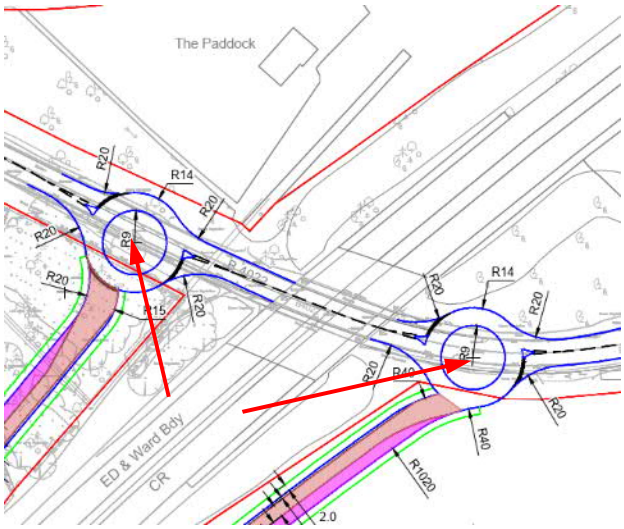
ROAD SIGNS, CARRIAGEWAY MARKINGS AND STREET LIGHTING:

Problem: *3.10*

Location: Access to Witney - Option 2A-E & Option 2A-F Road Signs

Drawing: 60611611-ACM-XX-XX-DR-HW-000009-01/02 60611611-ACM-XX-XX-DR-HW-000014-01/02

Summary The use of small roundabouts is likely to make it difficult to locate road signs to provide suitable guidance for approaching vehicles



Description:

The roundabouts for the proposed slip road junctions have small radius exits with small splitter islands. The small central islands are likely to make it difficult to locate the Turn Left signs and associated chevron signs in positions where they can be clearly seen by approaching vehicle drivers. Furthermore, it is likely to be more difficult to locate 'Flag' direction signs in suitable positions to guide drivers through the junction complex.

Recommendation:

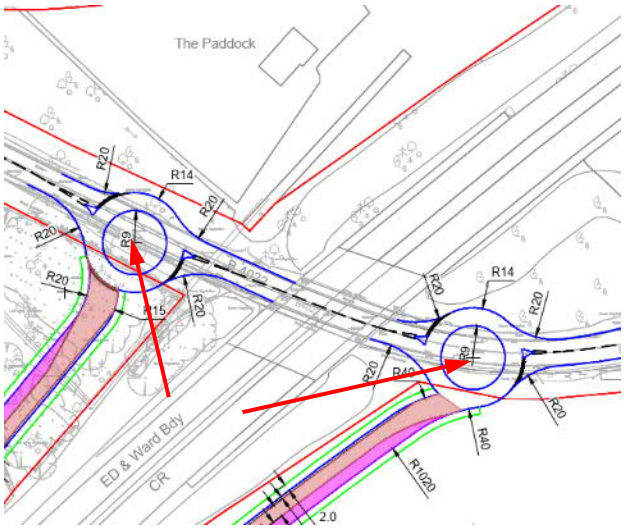
Larger roundabouts should be used to ensure that an appropriate layout of road signs can be provided on the central islands opposite each arm of the roundabout entries. In addition, the nearside kerblines of the roundabout exits should be altered to improve the exit alignment and provide larger splitter islands to accommodate direction signs; to provide more guidance for approaching vehicle drivers.

Problem: *3.11*

Location: Access to Witney – All options
Street Lighting

Drawing: 60611611-ACM-XX-XX-DR-HW-000009-01/02 60611611-ACM-XX-XX-DR-HW-000011-01/02
60611611-ACM-XX-XX-DR-HW-000013-01/02
60611611-ACM-XX-XX-DR-HW-000014-01/02

Summary A lack of street lighting could leave road users more vulnerable to conflict with one another during the hours of darkness



Description:

There is no indication on the drawings that street lighting will be provided with the option proposals. Those road users negotiating the new junctions during the hours of darkness are likely to be more vulnerable to coming into conflict with one another, particularly during poor weather conditions.

Recommendation:

It is recommended that the use of street lighting is investigated for the proposed junction complexes.

Appendix G - Planned Developments and Schemes

List of developments and schemes shown in Figure 35.

Development	Source
West Witney development area	WODC Local Plan (2018)
East Witney development area	WODC Local Plan (2018)
West of Eynsham development area	WODC Local Plan (2018)
Salt Cross Garden Village development area	WODC Local Plan (2018)
North Witney development area	WODC Local Plan (2018)
A40 Dualling	A40 Strategy (2018)
A40 Integrated Bus Lanes	A40 Strategy (2018)
B4044 Community Path	A40 Strategy (2018)
Re-designating the A4095 via Jubilee Way, Oxford Hill, A40 at Shores Green to Ducklington Lane and Thorney Leys.	West Oxfordshire IDP (2016)
North Witney Distributor Road	West Oxfordshire IDP (2016)
Improve B4477	Witney Area Strategy (2018)
North Eynsham Distributor Road	WODC Local Plan (2018)
West Eynsham Distributor Road	WODC Local Plan (2018)
Extension of the Station Lane cycle route along Witan Way to Langdale Gate and the town centre, Witney	West Oxfordshire IDP (2016)
West Witney bridleway surface upgrade	West Oxfordshire IDP (2016)
Upgrade RoW 410/11	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Witney North Footpath to bridleway status upgrade	West Oxfordshire IDP (2016)
Existing path running on west side of Cogges Hill Road to Oxford Hill junction needs upgrading & widening to accommodate for safe cycling.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Off-road footpath east of Blakes Avenue PRoW link leading into East Witney SDA. Widen where possible, re-surface and landscape & add lighting.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
New pathway linking Stanton Harcourt Rd across open land to proposed new second river crossing.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
New short pathway across OCC open land to provide link into East Witney SDA.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)

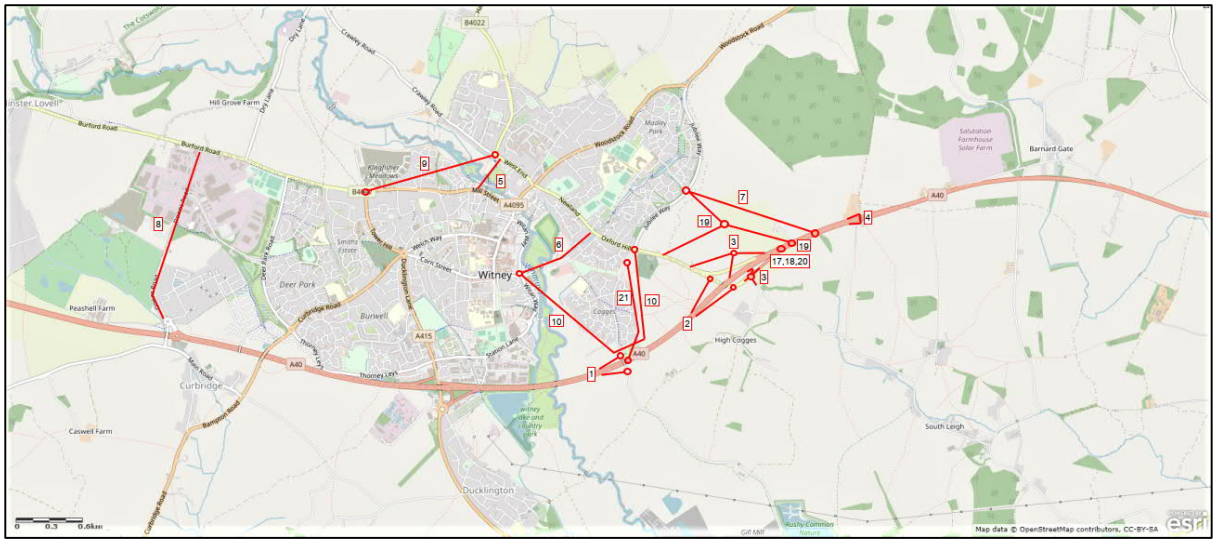
Development	Source
New pathway linking Manor Rd, Cogges Hill across open land to proposed new second river crossing	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Future direct link from new river crossing (Point 10) to south side of Sainsbury Roundabout and new safe crossing point	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
New section of shared use path on Oxford Hill Rd, south side New section of shared use pathway on Oxford Hill Rd south side to connect from South Leigh Road to proposed new toucan crossing	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
New connection following sections of existing PRoW along the southern edge of East Witney SDA. Link to B4022 & A40 Shared use path.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Existing quiet road Church Lane link to Oxford Hill. To improve safe cycling connection, propose to drop kerb to pathway leading to raised parallel crossing of Oxford Hill Road.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Langdale Gate should be calmed to enable safe on-street cycling / function as a cycle street or redesigned to include a cycleway	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Quiet route into the town centre along Farm Mill Lane needs upgrading (where possible) to function as shared use.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
A new southern river crossing (across the River Windrush) linking to Farm Mill Lane.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
West End Link 2	West Oxfordshire IDP (2016)
Improved pedestrian/cycle links West End	Witney Transport Strategy Bridge Street Option Generation Study (2017)
Improved pedestrian/cycle Bridge Street	Witney Transport Strategy Bridge Street Option Generation Study (2017)
Improved pedestrian/cycle Mill Street	Witney Transport Strategy Bridge Street Option Generation Study (2017)
Improvements at Duke's Cut	A40 Strategy (2018)
Eynsham Park and Ride	A40 Strategy (2018)
Improvements to the B4022 Oxford Hill junction with Jubilee Way and Cogges Hill Road	Witney Area Strategy (2018); West Oxfordshire IDP (2016)
Implementing schemes to deter through traffic from using Bridge Street and the Woodstock Road	Witney Area Strategy (2018)
West-facing slip roads at A40 Shores Green junction	Witney Area Strategy (2018)
Promote west facing slip roads at A40/B4477 Minster Lovell junction	Witney Area Strategy (2018)
Improvements to Bridge Street and Staple Hall junction, Witney including public realm and traffic management measures.	West Oxfordshire IDP (2016)

Development	Source
Pedestrian crossing on Bridge Street in Witney	West Oxfordshire IDP (2016)
Pedestrian crossing at Coral Springs, Witney	West Oxfordshire IDP (2016)
Signalised toucan crossing required for pedestrians and cyclists on Cogges Hill Road, preferably raised. Located to link with RoW 410/7 and new cycle/pedestrian access into East Witney site	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
New parallel crossing connecting bridleway at Eton Close across to Stanton Harcourt Road to proposed new links	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
New parallel crossing facility of Stanton Harcourt Road, preferably raised.	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
New toucan crossing between WIT1(d) site access across Oxford Hill Rd linking to north side shared use footpath, and provide access to bus stop (eastbound services)	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Upgraded pedestrian and cycle crossing of Witan Way at roundabout to provide direct connection from Church Lane to Langdale Gate access into town centre	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Safe crossing Witan Way	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)
Parallel/Toucan Crossing on Witan Way	Identification of Selected Cycling Infrastructure Enhancements in East Witney (2020)

NB – other schemes were identified from the IDP however their exact location could not be determined and therefore these have been excluded from the map.

Appendix H – Options and Modelling outputs

Below is an overview map showing the different options.



Below table summarise the modelling results for different options. For details please refer to the technical note "Access to Witney – Traffic Modelling", document reference: "60611611 – Access to Witney – TNA02-B".

Option	Junction LOS	Residual Capacity (%)	Within Capacity?
Option 17	F	-	No
Option 17A	F	-	No
Option 18	F	-	No
Option 19	F	-	No
Option 20A	F	-	No
Option 2A-E	B	2%	Yes
Option 2A-F	A	10%	Yes
Option 2A-G	-	13.8%	Yes
Option 2A-H	F	-44%	No
Option 2A-I	F	-44%	No

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