

Oxford City Council

Oxford Local Plan 2042

Habitat Regulations Assessment: Screening

Final Report | June 2025

Contents

1. Introduction	3
Requirements of the Habitats Regulations	3
Key HRA Stages explained:	4
In-combination effects	5
2. European sites	7
Scope of the Assessment	7
3. Oxford Local Plan 2042 Preferred Options Document	11
Context	11
Oxford Local Plan 2042	12
4. HRA Screening Methodology	13
Impact Pathways	13
Oxford Meadows SAC	15
5. Atmospheric/ Air Pollution Screening Process	26
Step 1: Does the proposal give rise to emissions which are likely to reach a European site?	26
Step 2: Are the qualifying features of sites within 200m of a road sensitive to air pollution?	27
Step 3: Could the sensitive qualifying features of the site be exposed to emissions?	29
Step 4: Application of Screening Thresholds	30
6. Traffic Modelling	36
Step 4a: Apply the threshold alone	36
Step 4b: apply the threshold in-combination with emissions from other road traffic plans and projects	37
Step 4c: apply the threshold in-combination with emissions from other non-road plans and projects	37
Outputs from the 2023 Atkins Report	40
Results of the AADT assessment 'In-combination' (Emerging Plans)	42
Conclusion of Air Quality Screening	44
Appendices	45

1. Introduction

1.1 This report discusses Stage 1 (Screening) of the Habitat Regulations Assessment (HRA) for the Oxford Local Plan 2042. The Oxford Local Plan 2042 Preferred Options document proposes to:

- Set a capacity-based housing target which aims to meet as much of the city's identified housing need (using the Government's Standard Method), as possible within the city, with the appropriate consideration of other policy aims;
- Make provision for more than 9,800 homes under draft Policy H1: Housing Requirement (previous capacity calculation; subject to change);
- Meet as much employment need as possible on existing sites and in accessible locations i.e., city and district centres (but prioritise other uses, in particular housing, even if employment needs cannot be met in full within the city);
- Modernise, intensify and regenerate existing employment sites while supporting their diversification (particularly those in accessible locations), by allowing an element of housing delivery subject to specific criteria being met;
- Continue to work with neighbouring authorities to help delivery opportunities for housing or employment needs that cannot be met within the city;
- Allow non-designated employment sites to be redeveloped for other uses (e.g., housing).

Requirements of the Habitats Regulations

1.2 Local Authority Development Plans must consider whether their effects, either alone or in combination with other plans or projects, are likely to be significant on the conservation objectives of designated sites (i.e., "[European sites](#)" that are protected by the Habitat Regulations).

1.3 According to [Government Guidance on How to carry out an HRA](#) (February 2021), the HRA process can have up to three stages. The stages are:

1. [Screening](#) – to check if the proposal is likely to have a significant effect of the site's conservation objectives. If not, you do not need to go through the appropriate assessment or derogation stages.
2. [Appropriate Assessment](#) - to assess the likely significant effects of the proposal in more detail and identify ways to avoid or minimise any effects.

3. [Derogation](#) - to consider if proposals that would have an adverse effect on a European site qualify for an exemption.

1.4 This guidance provides advice and recommendations about how to understand and comply with the Conservation of Habitats and Species Regulations 2017 SI No 1012 and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 SI No 579.

1.5 This report covers Stage 1 (screening). Oxford City Council has undertaken this HRA 'in- house'.

Key HRA Stages explained:

Screening for Likely Significant Effects

1.6 Screening is the process which identifies whether a plan or project is likely to result in significant effects to European sites, either alone or in combination with other plans or projects. A significant effect is any effect that would undermine the conservation objectives for a European site. There must be a causal connection or link between the plan or project and the qualifying features of the site which could result in significant effects, but this may be direct or indirect (Tyldesley & Chapman, 2013).

1.7 All draft policies and potential sites being proposed for inclusion in the Oxford Local Plan 2042 have been subject to a screening for likely significant effects on European sites.

Appropriate Assessment

1.8 The purpose of the Appropriate Assessment stage is to further analyse likely significant effects identified during the screening stage, as well as those effects which were uncertain or not well understood and taken forward for assessment in accordance with the precautionary principle. If required, an Appropriate Assessment evaluating the implications of the plan, either alone or in combination with other plans or projects, in light of the conservation objectives of affected European sites will accompany the Regulation 19 stage of plan preparation.

1.9 If mitigation measures are needed to overcome any likely significant effects identified through the HRA process, the [People Over Wind Judgement](#) clarified that when making

screening decisions for the purposes of deciding whether an appropriate assessment is required, competent authorities cannot take into account any mitigation measures.

- 1.10 As a result, a competent authority may only take account of mitigation measures intended to avoid or reduce the harmful effects of a plan or project as part of an appropriate assessment itself.

Derogation

- 1.11 If the Appropriate Assessment stage identifies a significant adverse effect (or effects) on the integrity of a European site, that cannot be suitably mitigated, the plan or project cannot go ahead unless it can pass three legal tests known as ‘derogation’.

In-combination effects

- 1.12 Other plans and projects being prepared or implemented in the area may have the potential to cause adverse effects on European sites. These effects may act in-combination with the effects of the Local Plan, possibly leading to an insignificant effect becoming significant. It is therefore important to consider which other plans and projects could generate similar effects as development within Oxford city, at the same European sites, and which may act in-combination.
- 1.13 The following list sets out the plans and projects with the greatest potential for in-combination effects with the Oxford Local Plan 2042:

Oxford City Council:

- Oxford City Local Plan 2036 (adopted June 2020)

Cherwell District Council

- Cherwell Local Plan (adopted November 1996) - saved policies
- Cherwell Local Plan 2011-2031 Part 1 (adopted July 2015)
- Cherwell Local Plan 2011-2031 Part 1 Partial Review – Oxford's Unmet Housing Need (adopted September 2020)
- Cherwell Local Plan 2042 (emerging)

West Oxfordshire District Council

- West Oxfordshire Local Plan 2011-2031 (adopted September 2018)
- Salt Cross Garden Village Area Action Plan (West Oxfordshire) (emerging)
- West Oxfordshire Local Plan 2041 (emerging)

South and Vale District Council

- South Oxfordshire Local Plan 2035 (adopted December 2020)
- Vale of White Horse Local Plan 2031 Part 1 (adopted December 2016)
- Vale of White Horse Local Plan 2031 Part 2 (adopted October 2019)
- South and Vale Joint Local Plan 2041 (emerging)

Oxfordshire County Council

- Oxfordshire Minerals and Waste Local Plan (adopted July 1996) - saved policies
- Oxfordshire Minerals and Waste Local Plan Part 1: Core Strategy (adopted September 2017)
- Oxfordshire Minerals and Waste Local Plan 2042 (emerging)
- Oxfordshire Local Transport and Connectivity Plan (LTCP) (adopted July 2022)
- Oxfordshire Traffic Filters (trial due to commence following the re-opening of the Botley Road Bridge in 2026)

2. European sites

Scope of the Assessment

Which sites are considered in HRA?

2.1 European sites considered within the scope of this assessment include those falling partially within or close to Oxford city's administrative boundary. Additionally, there may be activities occurring due to development within Oxford, which could take place outside the city boundary, possibly affecting European sites further away. Two types of protected sites are considered:

- Special Areas of Conservation (SAC): SACs are strictly protected sites due to the contribution that they make to conserving identified habitats and species (excluding birds); and
- Special Protection Areas (SPA): SPAs are protected, managed and controlled due to the presence of naturally occurring wild birds.

European sites within 10km of Oxford

2.2 As the Oxford Local Plan 2042 is not directly connected or necessary to the management of sites for nature conservation, the HRA considers all sites within 10km of the city boundary for likely significant or adverse effects on integrity to ensure a precautionary approach. There are three "European sites" within 10km of Oxford:

- Cothill Fen SAC (over 5km from city boundary)
- Little Wittenham SAC (over 8km from city boundary)
- Oxford Meadows SAC (within and adjacent to Oxford city)

Qualifying features for European sites

2.3 European sites are designated to conserve a wide variety of habitats of international importance along with species populations of high conservation significance.

2.4 Each SAC contains protected species (excluding birds), habitats or both. These protected habitats and species are the "qualifying features" as to why each site has been designated. Table 2.1 sets out the qualifying features for each of the "European sites" within 10km of the city.

Table 2.1 - European sites within 10km of Oxford City Council boundary

Site Name	Description	Qualifying Features
Cothill Fen SAC	This lowland valley mire contains one of the largest surviving examples of alkaline fen vegetation in central England, a region where fen vegetation is rare. The M13 Schoenus nigricans – Juncus subnodulosus vegetation found here occurs under a wide range of hydrological conditions, with frequent bottle sedge Carex rostrata, grass-of-Parnassus Parnassia palustris, common butterwort Pinguicula vulgaris and marsh helleborine Epipactis palustris. The alkaline fen vegetation forms transitions to other vegetation types that are similar to M24 Molinia caerulea – Cirsium dissectum fen-meadow and S25 Phragmites australis – Eupatorium cannabinum tall-herb fen and wet alder Alnus spp. wood.	Qualifying Habitats: 7230 Alkaline Fens
Little Wittenham SAC	One of the best-studied great crested newt sites in the UK, Little Wittenham comprises two main ponds set in a predominantly woodland context (broad-leaved and conifer woodland is present). There are also areas of grassland, with sheep grazing and arable bordering the woodland to the south and west. The River Thames is just to the north of the site, and a hill fort to the south. Large numbers of great crested newts Triturus cristatus have been recorded in the two main ponds, and research has revealed that they range several hundred metres into the woodland blocks.	Qualifying Species: 1166 Great crested newt Triturus cristatus
Oxford Meadows SAC	Together with North Meadow and Clattinger Farm, also in southern England, Oxford Meadows represents lowland hay meadows in the Thames Valley centre of distribution. The site includes vegetation communities that are perhaps unique in the world in reflecting the influence of longterm grazing and hay-cutting on lowland hay meadows. The site has benefited from the survival of traditional management,	Qualifying Habitats: 6510 Lowland Hay Meadows (Alopecurus pratensis, Sanguisorba officinalis) Qualifying Species:

	which has been undertaken for several centuries, and so exhibits good conservation of structure and function. Oxford Meadows is selected because Port Meadow is the larger of only two known sites in the UK for creeping marshwort <i>Apium repens</i>.	1614 Creeping marshwort <i>Apium repens</i>
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Source: Joint Nature Conservancy Council www.jncc.org.uk

Conservation Objectives

2.5 The Habitat Regulations require the appropriate authority to maintain, or where appropriate, restore habitats and species populations of European importance to favourable conservation status. European site conservation objectives are referred to in the Habitat Regulations. They are used where there is a need to undertake an “appropriate assessment” under the relevant parts of the respective legislation. The conservation objectives are set for each qualifying feature (habitat or species) of each European site (SAC or SPA). Where the conservation objectives are met, the site can be said to demonstrate a high degree of integrity and makes a full contribution to meeting the legislative aims.

2.6 The conservation objectives defined by Natural England for the SACs included within the scope of this HRA are set out in Table 2.2. Natural England has recently published or updated its supplementary advice on conserving and restoring site features at each site.

Table 2.2: Conservation Objectives for SAC

Conservation Objectives for SAC
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features by maintaining or restoring: • The extent and distribution of qualifying natural habitats and habitats of qualifying species; • The structure and function (including typical species) of qualifying habitats; • The structure and function of the habitats of qualifying features; • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely; • The population of the qualifying species; and • The distribution of the qualifying species within the site.

2.7 Where the Conservation Objectives for each SAC can be found online is set out below:

- [European Site Conservation Objectives for Cothill Fen SAC](#)
- [European Site Conservation Objectives for Little Wittenham SAC](#)
- [European Site Conservation Objectives for Oxford Meadows SAC](#)

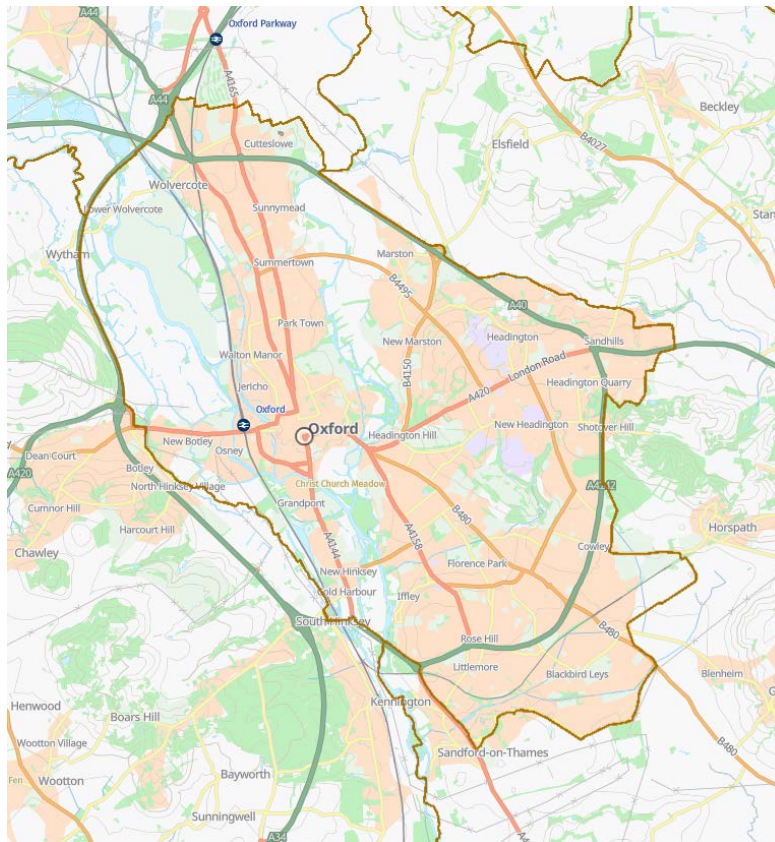
3. Oxford Local Plan 2042 Preferred Options Document

Context

3.1 Oxford is a small and compact city with a [population of 165,200](#) (according to mid-year population estimates for 2023, release in July 2024). [Oxford's total area is only 46 sq km \(17.6 sq miles\)](#). While some parts of the urban area are densely developed, more than half of the city is open space and more than a quarter lies in the Oxford Green Belt.

3.2 Oxford benefits from a wide range of historic city parks, a unique built heritage which is intrinsically linked to the surrounding hills, and important sites for nature conservation. The city's river corridors (River Thames and Cherwell) are sometimes referred to as the city's "green lungs" as they make a valuable contribution to the Oxford's green and blue infrastructure by providing space for wildlife to thrive away close to the city's dense urban area. Figure 3.1 shows a map of the Oxford. The salmon pink colour area represents the urban area while the administrative boundary is shown in brown.

Figure 3.1 - Map of Oxford



Oxford Local Plan 2042

3.3 Oxford City Council has produced a Local Plan 2042: “Preferred Options” Document.

This “Regulation 18” consultation stage document sets out a proposed strategy for development in the city to 2042 along with an indication of potential development sites. It also includes a suite of draft development management policies.

3.4 The Local Plan 2042 Preferred Options Document proposes to:

- Set a capacity-based housing target which aims to meet as much of the city’s identified housing need (using the Government’s Standard Method), as possible within the city, with the appropriate consideration of other policy aims;
- Make provision for more than 9,800 homes under draft Policy H1: Housing Requirement;
- Meet as much employment need as possible on existing sites and in accessible locations i.e., city and district centres (but prioritise other uses, in particular housing, even if employment needs cannot be met in full within the city);
- Modernise, intensify and regenerate existing employment sites while supporting their diversification (particularly those in accessible locations), by allowing an element of housing delivery subject to specific criteria being met;
- Continue to work with neighbouring authorities to help delivery opportunities for housing or employment needs that cannot be met within the city;
- Allow non-designated employment sites to be redeveloped for other uses (e.g., housing)

4. HRA Screening Methodology

Impact Pathways

Introduction

4.1 In Habitat Regulations Assessments HRAs, impact pathways are the potential routes or mechanisms by which a plan or project could affect a European site. Impact pathways are used during the HRA Screening process. They provide a structured approach for assessing whether a plan or project is likely to give rise to significant effects on a European site. If the potential significant effects are identified (or cannot be ruled out through the HRA Screening process), then a more Appropriate Assessment will be required.

4.2 Each designated site has its own unique set of impact pathways which need to be considered. Table 4.1 sets out a summary of the impact pathways for the three European sites within 10km of Oxford.

Table 4.1 Potential impact pathways on European sites within 10km of Oxford

	Cothill Fen SAC	Little Wittenham SAC	Oxford Meadows SAC
Atmospheric/ Air Pollution	X		x
Recreational pressure/ disturbance	X	x	x
Water quality and quantity	X	x	x

4.3 The impact pathways that relate to each of the three sites is considered in turn.

Cothill Fen

4.4 Cothill Fen SAC is over 5km from the Oxford city boundary and lies within a different river catchment. The site itself is in a relatively remote location and can be accessed by private car or by local residents on foot. The condition assessments for the constituent SSSIs that make up Cothill Fen SAC are shown in Appendix 1. These show the majority of the SSSI units are in favourable condition. Natural England's SSSI monitoring can help to provide an impression of the overall ecological status.

4.5 The site has impact pathways relating to water quantity and quality, air pollution, and recreational impacts. Each is considered in turn:

4.6 In relation to the water environment, Oxford city is in a different river catchment. This means that development in Oxford city coming forward as a result of policies in the Oxford Local Plan 2042, is unlikely to have a significant impact on the water environment at Cothill Fen SAC.

4.7 With regard to atmospheric pollution, according to the Air Pollution Information Systems website (APIS), approximately half of UK nitrogen oxides (NO_x) emissions come from road traffic, while Ammonia (NH₃) is another source of air pollution more commonly associated with agriculture (via manures and fertilisers). As air pollution impacts are highly localised and given the somewhat remote location and the site's distance from Oxford's boundary, it is unlikely that there will be significant air quality impacts resulting from development associated with the Oxford Local Plan 2042.

4.8 Finally recreational impacts are unlikely to be significant (as result of proposed development in the Oxford Local Plan 2042. This is due to a number of factors including the remote location of Cothill Fen, its limited accessibility by modes other than private car and the fact that Oxford city has numerous alternative recreation opportunities for residents to enjoy within the city itself (e.g., University Parks, Christchurch Meadow, South Park, Bury Knowle Park, Cutteslowe Park, etc.).

Little Wittenham SAC

4.9 Little Wittenham SAC is located more than 8km away from the city and has two impact pathways to consider. These relate to the maintenance of water quality and levels to support the ponds suitability as breeding ponds; and potential impacts of increased recreational pressure.

4.10 In relation to water, levels are managed along the River Thames and controlled through a series of locks and weirs to ensure a balanced flow. As such impacts resulting from the Oxford Local Plan 2042 are unlikely to be significant. Potential recreational pressure from the increased population arising due to the growth associated with the Oxford Local Plan 2042 is also unlikely to be significant. This is due to the relatively remote location (access only by private car) and the fact that the city has numerous alternative opportunities for residents to enjoy within the city itself (e.g., University Parks, Christchurch Meadow, South Park, Bury Knowle Park, Cutteslowe Park, etc.).

- 4.11 It is worth noting that the Earth Trust (who own and manage the site) restrict access to the most sensitive areas of the SAC by maintaining a signed network of paths and a pond viewing area, within the woodland.
- 4.12 The latest Natural England condition assessment for the great-crested newt is recorded as “favourable” status. See Appendix 1 for details. Given the low sensitivity of the great crested newt population to recreational disturbance and the on-going visitor management measures put in place by the Earth Trust, it is unlikely that there will be significant effects resulting from increased recreational pressure at Little Wittenham SAC.

European sites screened out from further assessment:

- 4.13 The City Council therefore considers Cothill Fen SAC and Little Wittenham SAC should be “screened out” from further assessment.

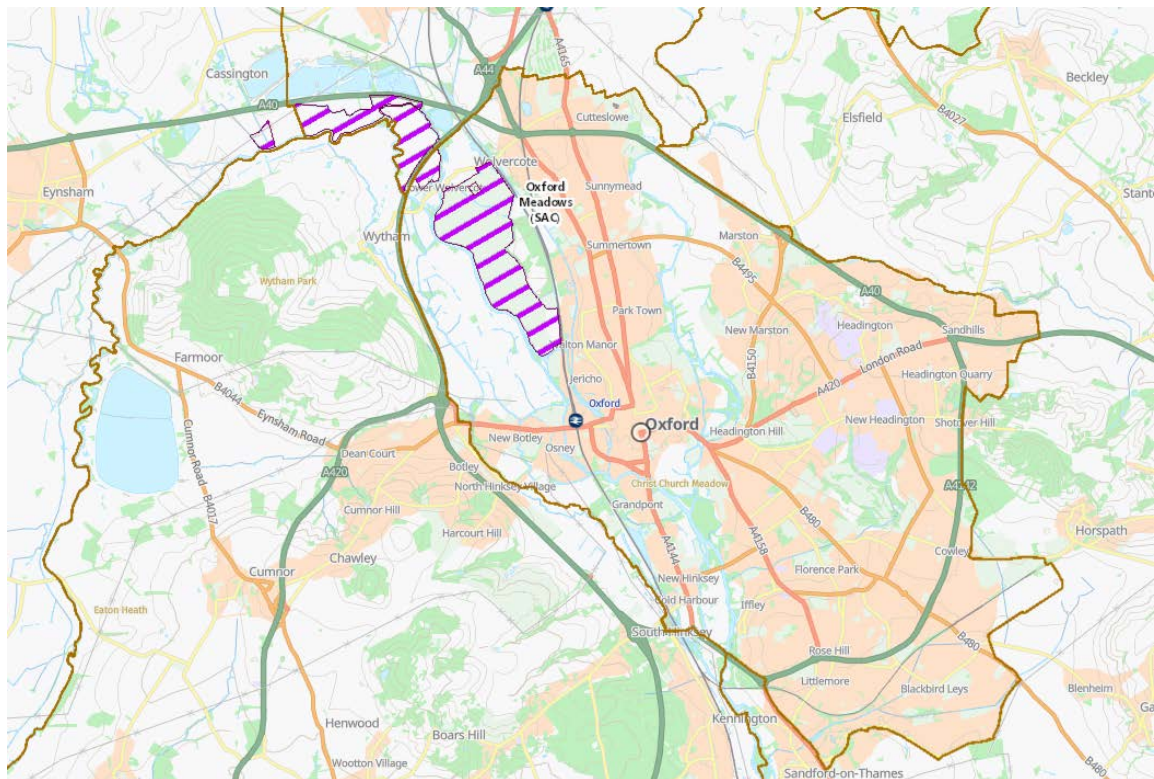
Oxford Meadows SAC

Background

- 4.14 The Oxford Meadows SAC lies within the administrative areas of three local authorities – Oxford City, Cherwell District, and West Oxfordshire District Councils. Part of the site is directly adjacent to and is bisected by, the A34. While another part of the SAC runs parallel and adjacent to the south side of the A40. Figure 4.1 shows the location of the Oxford Meadows SAC.
- 4.15 Table 2.1 on page 8 of this report explains the reasons why the Oxford Meadows was designated as a Special Area of Conservation (SAC) and provides information about its qualifying features. Natural England’s report on the condition of the SSSIs that make up the Oxford Meadows shows that all the individual SSSI units that make up the constituent SSSIs for the SAC are in favourable condition. Appendix 1 provides an overview of the condition status of each of the SSSI unit.
- 4.16 At a meeting with Natural England in June 2022, it was agreed that the following impact pathways should be considered as part of the HRA Screening for the Oxford Local Plan.
- Atmospheric/ Air Pollution
 - Recreational Pressure/ Disturbance

- Water Quality and Quantity (Balanced Hydrological Regime)

Figure 4.1 showing the location of the Oxford Meadows SAC



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Source: Magic maps (www.magic.gov.uk)

4.17 Each will be considered in turn.

Atmospheric/ Air Pollution

4.18 Atmospheric pollution is a widespread issue. Background air quality is heavily influenced by large point-source emitters including from transboundary sources. Local pollutant sources can also affect designated sites (particularly in relation to protected habitats within SACs), often from road traffic emissions.

4.19 The Oxford Local Plan 2042 is unable to influence some of the underlying causes of background atmospheric pollution (e.g., large point sources). However, the location, amount, type and scale of development proposed through the policies in the Oxford Local Plan 2042 has the potential to affect locally emitted pollutants reaching the Oxford Meadows SAC.

4.20 According to the Air Pollution Information Systems website (APIS), and the Institute of Air Quality Management (IAQM) guidance (2020), the main pollutants affecting vegetation are as follows:

- **Nitrogen oxides** (NO_x) produced through the combustion process (approximately half of UK emissions are from road traffic; and
- **Ammonia** (NH_3), the main source of which is usually from agriculture (e.g., from manures and fertilisers).

4.21 These gases can result in direct effects to vegetation through exposure, and indirect effects through deposition to soil and freshwater (dry deposition) or with precipitation (wet deposition).

4.22 Direct exposure of vegetation to NO_x and NH_3 is harmful, especially in areas close to sources, such as roadside verges. Some vegetation (including lichens, mosses, etc.) is particularly vulnerable to these sorts of toxic effects, which can result in changes to plant growth, difficulties in the plant's ability to assimilate CO_2 , and other bio-chemical effects.

4.23 Indirect effects through deposition include:

- **Acid deposition:** acid deposition is most likely to affect vegetation indirectly through changes to soil properties. NO_x and ammonium (from NH_3) react with rain or cloud water to form nitric (or sulphuric) acid. Increases in soil acidity can increase the mobility of certain toxic metals which can result in root damage, stunted growth and reduced microbial activity. These effects can lead to changes in species composition.
- **Eutrophication by nitrogen deposition:** dry deposition of NO_x is greatest within large conurbations and close to major roads. Whilst nitrogen is essential for plant growth, excessive amounts can become toxic, as instead of acting as a nutrient, nitrogen becomes a pollutant. Many semi-natural plants are unable to assimilate nitrogen when there is too much available. As a result, these (semi-natural) plants can be outcompeted by plants that can tolerate elevated levels of nitrogen (such as many grass species). This can lead to long-term changes in vegetation and reduced diversity.

4.24 As approximately half of UK NO_x emissions are associated with road traffic, nitrogen emissions from traffic generated by residential and commercial development form the focus of this part of the assessment.

Air Pollution to the Oxford Meadows SAC

- 4.25 As the Oxford Meadows is bisected by the A34 and the A40 runs adjacent to parts of the site, there is the potential for air quality to be impacted by changes in traffic flows associated with the development proposed in the Oxford Local Plan 2042.
- 4.26 Section 5 of this report sets includes an assessment of air pollution impacts at the Oxford Meadows SAC that arise from changes in traffic flows resulting from the development proposed in the Oxford Local Plan 2042 'alone', and 'in-combination' with other plans and projects.

Recreational Pressure/ Disturbance

- 4.27 Population growth associated with residential development brings the potential for additional visitor pressure on European sites. There are a number of impact pathways which bring the potential for significant effects including:
- Species disturbance (modifying behaviour, increasing predation, reducing feeding and breeding success);
 - Habitat trampling/ wear (soil compaction, erosion, direct damage to habitats, expansion of path networks, churning up sediment in water bodies);
 - Fire (resulting in direct mortality, habitat removal, long-term changes to vegetation structure);
 - Contamination (including litter, nutrient enrichment through dog fouling, pollution from dogs entering watercourses, spread of alien species and pathogens, greywater from caravans, etc.)
 - Harvesting (e.g., collection of wood, fungi);
 - Grazing issues (impacts on grazing animals, e.g., from feeding worrying by dogs, open gates, road traffic accidents; and
 - Visitor expectation including pressure for facilities and public perceptions of management resulting in difficulties achieving necessary habitat and species protection.

Recreational pressure at the Oxford Meadows SAC

- 4.28 In relation to the Oxford Meadows SAC, the qualifying species likely to be impacted by increased recreational pressure – *A. repens* (creeping marshwort) - is not particularly sensitive to trampling. In fact, due to its small size, the presence of grazing

cattle and horses, is likely to support its growth by helping to maintain areas of short vegetation and to suppress competing species. It is, however, sensitive to increased nutrient enrichment associated with dog-fouling.

- 4.29 Dog-walkers visiting the Oxford Meadows SAC are either likely to visit by car or on foot. Car journeys to the Oxford Meadows SAC are limited by the number of parking spaces available. There are two public car parks linked to the Oxford Meadows SAC. One at the southern end of Port Meadow (close to Jericho), and the other provides parking and visitor access to Port Meadow via Wolvercote. As there are no plans to increase parking at either car park during the plan period, visitors by car will be limited by the number of parking spaces available. In addition to the two public car parks, a very limited amount of on-street parking is available on Godstow Road with direct access to Port Meadow. Lower Wolvercote is not currently the subject of a Controlled Parking Zone (CPZ) and the latest programme for the rollout of new CPZs is currently being worked on by the County Council. However, as no additional on-street parking is planned in this location, visitors to the site are restricted by spaces available.
- 4.30 As no changes to the availability of visitor parking is proposed near the Oxford Meadows SAC, this study looks at the potential recreational impacts from dog-walking (due to the nutrient enrichment associated with dog-fouling) associated with the growth proposed in the Oxford Local Plan 2042. Previous studies have shown that residents of Oxford are generally willing to walk approximately 1,900m to large green spaces. As such, development sites more than 1,900m away have been screened out from the assessment process. Non-residential site allocations within the buffer have also been screened out. Where a residential use is proposed within the 1,900m buffer the proximity of other green spaces has also been considered. Consideration has also been given to whether the site is proposed for student accommodation. This is because student accommodation does not allow pets. As such, this type of development has been screened out from the assessment process.
- 4.31 As recommended by Natural England, a visitor survey was carried out to support the HRA for the Oxford Local Plan 2036. The aim of this survey was to understand how the Oxford Meadows SAC was used by the population of Oxford and by visitors from outside the city. The methodology for this survey is set out at Appendix 2. A new visitor survey has been undertaken following the previous survey methodology. The results of the survey will be used to inform the next stage of the HRA process (i.e., Stage 2 – Appropriate Assessment). The likely recreational impacts resulting from policies in the plan will be assessed and the Appropriate Assessment stage provides the opportunity

for mitigation measures (in the form of policy wording) to be included in the plan if required.

Water Quantity

- 4.32 Water Quantity plays a vital role in the health of biodiversity and river catchments. Water levels (depth and volumetric flow) and velocity in the river, and water table levels in the floodplain. These properties can influence rates of siltation and erosion, dissolved oxygen, and pollutant and nutrient concentrations. Low flow rates affect food availability for riparian fauna, may limit migration and dispersal, and can alter the structure, composition and condition of vegetation communities. New homes can require the development of new infrastructure, including the provision of fresh water supply. Increases in water demand can impact the locations where water is abstracted.

Water Quantity at the Oxford Meadows SAC

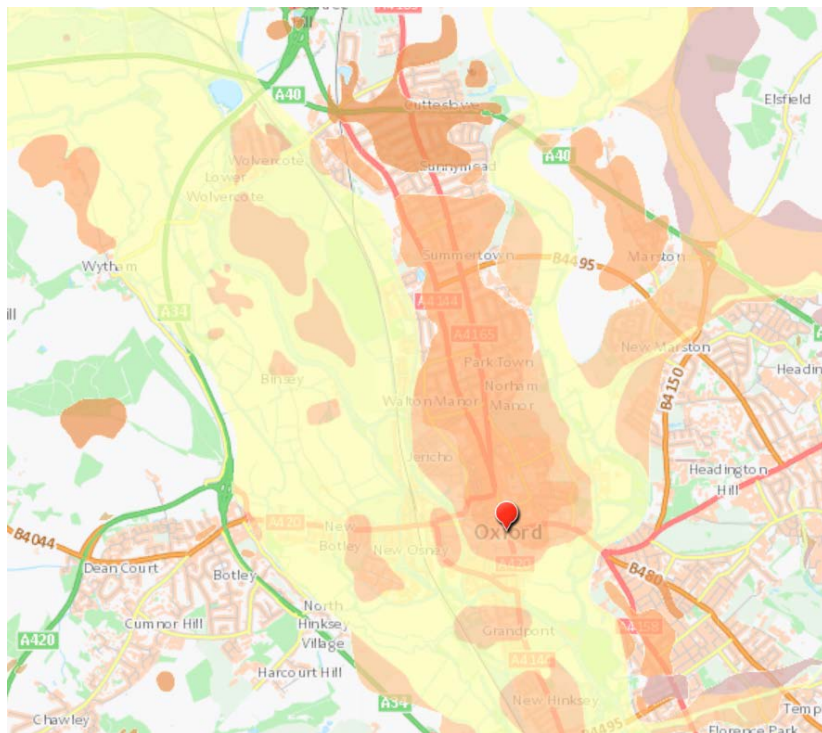
- 4.33 The plant communities at the Oxford Meadows SAC are supported by three main sources of water. These are direct rainfall, surface water and groundwater flowing in from outside the area. These three sources all help to maintain a “balanced hydrological regime” which creates the conditions to support the plant communities for which the site is protected.
- 4.34 The abstraction licence for Farmoor reservoir does not impact the Oxford Meadows SAC and no increases to this licence are proposed during the plan period. Also, as water levels along the River Thames are controlled through a series of locks and weirs this helps to ensure a balanced flow. As such, the amount of surface water is likely to be unaffected by development proposed in the Oxford Local Plan 2042. Rainfall is a matter generally considered to be outside the scope of the planning system.
- 4.35 The [HRA Screening Report for the Thames Water Final Drought Plan 2022](#) confirms that no likely significant effects are anticipated from the construction or operation of the Farmoor drought option on the Oxford Meadows SAC either alone, or in combination with other licences or consents.
- 4.36 The Environment Agency’s flood alleviation scheme for Oxford, received resolution to grant planning permission in July 2024 (subject to the agreement of a Section 106 agreement), was also the subject of a Compulsory Purchase Order (CPO) inquiry. In

May 2025 the Secretary of State confirmed the CPO. According to the most recent update (May 2025) of the [Oxford Flood Alleviation Scheme Policy Paper](#), the scheme will create a new stream with a wetland wildlife corridor that that will run through the existing floodplain to the west of Oxford. Approximately 5km long, the scheme is designed to create more space for floodwater away from the built-up areas of the city. Natural England stipulated a key requirement of the Oxford flood alleviation scheme is that it does not have an adverse impact on the Oxford Meadows hydrological regime.

4.37 The [Oxford Meadows Site Improvement Plan \(SIP163\) \(2014\)](#) notes that the *Apium repens* (creeping marshwort) population at Port Meadow had significantly declined in size. The Oxford Meadows SIP suggests that the change in population may be directly or indirectly related to hydrological changes associated with possibly deeper and more frequent flood episodes.

4.38 The [Botanical Society of Britain and Ireland \(BSBI\)](#) species account for *Apium repens* (2016) considers that water level fluctuation at Port Meadow in Oxfordshire is influenced by an underground aquifer, with the water table raised and lowered depending on the quantity of rainfall flowing through the river gravels.

Figure 4.2 – BGS map showing North Oxford Gravel Terrace (superficial deposits only)



Contains OS data © Crown Copyright and database right 2020.

Source: [British Geological Survey Map Viewer](#)

- 4.39 The North Oxford Gravel Terrace has been shown to as having some hydrological connectivity with the Oxford Meadows and as such new development in this location has the potential to affect groundwater recharge and flows. Figure 4.2 shows a British Geological Survey (BGS) map of the North Oxford Gravel Terrace. The salmon pink colouring that extends from the city centre up through Summertown and beyond to the north represents the North Oxford Gravel Terrace.
- 4.40 Any sites not located on the North Oxford Gravel Terrace have been screened out of the assessment.
- 4.41 Previous Oxford City Local Plans have included precautionary mitigation measures in the form of policy wording to ensure that developments coming forward as a result of the policies in the plan do not have a significant effect the amount of rainfall that is recharged through the river gravels. As such, it has not been possible to screen out this impact pathway at this stage. This impact pathway will be considered further as part of the individual sites and policies screening and any sites not screened out will be carried forward and assessed as part of the Stage 2 Appropriate Assessment. which will enable mitigation measures in the form of policy wording to be included in the Local Plan 2042.

Water Quality

- 4.42 Water quality is important in relation to the proper functioning of many habitats. The quality of water can be affected by a number of key factors including nutrients, contaminants and dissolved oxygen availability. The two key nutrients of interest in the water environment are phosphates and nitrates:
- Phosphates can be organic and inorganic. Phosphates contribute to the eutrophication of receiving waters and are generally considered to be the “problem” nutrient regarding freshwater. These problems arise as an excess of phosphate can result in the accelerated growth of certain types of algae. This can lead to direct competition with vascular plants for light and nutrients. This can result in a loss of nutrient sensitive species, and a reduction in the species composition, extent and condition of riverine communities.
 - Ammonia is a form of nitrogen which aquatic plants can absorb. While nitrate is the stable “end-product” of nitrification (i.e., the conversion of ammonia into nitrite and ultimately nitrate). Both nitrate and phosphate can contribute to the eutrophication

of receiving waters. Nitrates are generally more of a problem in saline coastal regions, where phosphates are considered to have a lesser role.

- 4.43 New development can alter the quality of the water environment through direct contamination at locations that are hydrologically connected to designated sites. Changes in demand for wastewater treatment can also result in changes to the quality of the water environment.

Water Quality at the Oxford Meadows SAC

- 4.44 Oxford is located within the River Basin District (RBD) covered by the [Thames River Basin Management Plan](#) (TRBMP). This was last updated in March 2025. The TRBMP provides a high-level analysis of waterbodies in the RBD area. Table 4.2 shows the most recent status assessment for the waterbodies within Oxford's administrative boundary. This shows the ecological and chemical status of the four Water Framework Directive (WFD) catchments within the city. In relation to their ecological status, three of the catchments are classified as *Poor* and one is *Moderate*. All catchments were given a *Fail* status in relation their chemical status. The *Fail* rating was largely due to the introduction of thresholds for previously unassessed substances. As such, this assessment is not comparable with assessments undertaken for previous WFD cycles.

Table 4.2 Ecological and Chemical Status of surface water bodies within Oxford city

Waterbody	Ecological	Chemical	Reason for not achieving good status (RNAG)
Cherwell (Ray to Thames) and Woodeaton Brook	Poor	Fail	Water industry listed as RNAG for macrophytes and phosphate. Urbanisation, agriculture and invasive species are listed as other RNAGs.
Bayswater Brook	Poor*	Fail	Water industry not listed. RNAG listed as agriculture.
Northfield Brook (Source to Thames) at Sandford	Moderate	Fail	Water industry listed as RNAG for macrophytes, invertebrates and phosphate. Urbanisation, drought and invasive species are listed as other RNAGs.
Thames (Evenlode to Thames)	Poor	Fail	Water industry listed as RNAG for phosphate and Tributyltin Compounds. Poor nutrient management and invasive species are listed as other RNAGs

Source: [Environment Agency Catchment Data Explorer](#)

- 4.45 Development coming forward resulting from the policies in the Oxford Local Plan 2042 on the North Oxford Gravel Terrace Water has the potential to impact the water quality at the meadows. This is because, as set out in Paragraph 4.39 above, the North Oxford Gravel Terrace has some hydrological connectivity with the Oxford Meadows SAC. As such, sites not away from these gravels were screened out from the assessment process. Sites located on the North Oxford Gravel Terrace have the potential to impact water quality at the Oxford Meadows SAC.
- 4.46 It is worth noting that the Oxford City Council Water Cycle Study Stage Scoping Report (WCS) considers that Sustainable Drainage Systems (SuDS) have the potential to treat and enhance water quality. As mitigation measures cannot be proposed as part of an HRA Screening, as such, in order to further investigate this issue and provide any suitable mitigation measures, sites located on the North Oxford Gravel Terrace should be considered through a Stage 2 Appropriate Assessment.

Screening Assessment:

- 4.47 The purpose of this part of the screening process is to look at each proposed policy area and site contained the plan and screen it in relation to each of impact pathway.
- 4.48 Natural England previously recommended that the effects of the plan be categorised in the form of a schedule. This allows policy areas with no likely significant effect on European sites to be screened out from further appraisal so that the assessment can focus on policy areas where there are potential effects.
- 4.49 The schedule provided by Natural England and use to screen policy areas in previous HRAs is as follows:
- A – Policies or proposals cannot have any negative impact
 - B – Effects will be addressed ‘down the line’ including project level HRA
 - C – Could have an effect, but would not be likely to have a significant (negative) effect, (alone or in-combination with other plans or projects)
 - D – Likely to have an effect alone and would require an Appropriate Assessment
 - E – Likely to have an effect in combination with other plans or projects and which require Appropriate Assessment of those combinations
 - F – Likely to have a significant effect, alone or in combination with other plans and projects but which would not adversely affect the integrity of a European site
 - G – Likely to have a significant effect, alone or in combination with other plans or projects and for which it cannot be ascertained that they would not adversely affect the integrity of a European site

4.50 The results of this process are contained in Appendix 3. (See Table A3.1 – Policy Areas and Table A3.2 – Sites). Appendix 3 also contains Table A3.3 that looks at the possible impacts of the Local Plan 2042.

5. Atmospheric/ Air Pollution Screening Process

Introduction

5.1 Atmospheric pollution is an impact pathway by which pollutants can reach the Oxford Meadows SAC. These pollutants are associated with emissions from road traffic. Changes in road traffic related to residential and commercial development proposed through the policies in the Oxford Local Plan 2042 need to be assessed through the HRA process. Natural England has produced an advice note which sets out the procedure to be followed when undertaking a Habitat Regulations Assessment where emissions relating to road traffic are involved. This section follows the five-step screening process as set out in in [Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitat Regulations](#) (June 2018) (hereafter "NE Air Quality Advice Note 2018").

5.2 The five steps associated with the screening process are set out below:

- ***Step 1: Does the proposal give rise to emissions which are likely to reach a European site?***
- ***Step 2: Are the qualifying features of sites within 200m of a road sensitive to air pollution?***
- ***Step 3: Could the sensitive qualifying features of the site be exposed to emissions?***
- ***Step 4: Application of Screening thresholds***
- ***Step 5: Is an appropriate assessment required either alone or in-combination?***

5.3 Each step will be considered in turn.

Step 1: Does the proposal give rise to emissions which are likely to reach a European site?

5.4 Figure 4.1 on page 16 of this report shows that the Oxford Meadows SAC is located partly within Oxford City's administrative boundary, and partly outside (part of the site falls with Cherwell District Council's administrative area, while the remainder lies with West Oxfordshire). The city's boundary runs along the A34 between Peartree and Botley Interchange and the A34 bisects part of the SAC at this location. The A40 runs parallel to part of the northern edge of the Oxford Meadows SAC. Paragraph 4.10 of the NE Air Quality Advice Note 2018 sets out that:

“With regard to potential risks from road traffic emissions... protected sites falling within 200m of the edge of a road affected by a plan or project need to be considered further...”

5.5 As the Oxford Meadows SAC is within 200m of a road (in this case two roads – the A34 and A40), that has the potential to be affected by development proposed through the Oxford Local Plan 2042, further screening is applied.

Step 2: Are the qualifying features of sites within 200m of a road sensitive to air pollution?

5.6 The qualifying features of the Oxford Meadows SAC are set out previously in Table 2.1 on page 7 of this report. The qualifying habitat is **H6510** Lowland hay meadows (*A pratensis*, *S officinalis*). According to the “Conservation advice” provided by Natural England’s [Designated Sites View for the Oxford Meadows SAC](#), this habitat occupies extensive areas of Pixey and Yarnton Meads SSSI, Wolvercote Meadows SSSI, and Cassington Meadows SSSI.

5.7 The qualifying species is **S1614** Creeping marshwort, *Apium repens*. The “Conservation advice” sets out that at the time of the SAC classification, Port Meadow, was the only known locality for S1614 Creeping marshwort, *Apium repens*., in the UK. This plant only occurs at Port Meadow. It is not more widely associated with the rest of the Oxford Meadows SAC.

Critical loads and levels

5.8 Critical loads and levels are a tool for assessing the risk of air pollution impacts to ecosystems. Critical loads are defined by on the [Air Pollution Information Service \(APIS\)](#) website as the “a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge”. Critical loads relate to the quantity of pollutants deposited from the air to the ground (e.g., nitrogen deposition and acid deposition), whereas the critical level is the gaseous concentration of a pollutant in the air (e.g., nitrogen oxides).

5.9 Critical levels are defined as “concentrations of pollutants in the atmosphere above which direct adverse effects on receptors, such as human beings, plants, ecosystems or materials, may occur according to present knowledge”. Critical levels are not

habitat specific but have been set to cover broad vegetation types (e.g. forest arable, semi-natural), often with critical values set for sensitive plant species such as lichen and bryophytes. Critical levels for the different pollutants have been derived from experiments and observation that show varied effects on vegetation.

Critical loads and levels at the Oxford Meadows SAC

5.10 As there are two qualifying features for the Oxford Meadows SAC, it is important to establish what the critical loads and levels are for each of the features. The Air Pollution Information System website provides a summary of the relevant features for the Oxford Meadows (UK0012845). These are shown in Table 5.1.

Table 5.1 Critical loads and levels for the qualifying features of the Oxford Meadows SAC

Qualifying Habitat	Feature sensitive to N	Nitrogen Critical Load Class	Minimum Critical Load for N (kg/N/ha/yr)	Maximum Critical Load for N (kg/N/ha/yr)	Ammonia Critical level ($\mu\text{g}/\text{m}^3$)	NO _x Critical Level ($\mu\text{g}/\text{m}^3$)
Lowland hay meadows (H6510)	Yes	Low and medium altitude hay meadows	10	20	3	30
Apium repens (S1614)	Yes	Low and medium altitude hay meadows	10	20	3	30

Source: Air Pollution Information Systems website www.apis.ac.uk

5.11 The APIS website provides information about modelled loads and levels across numerous sites including the Oxford Meadows SAC. Table 5.2 sets out the modelled concentrations for pollutants based on the most recent APIS dataset (2021).

Table 5.2 - Modelled concentrations of pollutants based on APIS 2021 dataset

Modelled levels 2021	Total N (grid average) (kg/N/ha/yr)	Total N (forest) (kg/N/ha/yr)	Total N (short vegetation) (kg/N/ha/yr)	Ammonia concentration ($\mu\text{g}/\text{m}^3$)	NO _x concentration ($\mu\text{g}/\text{m}^3$)
Point 1: (A34) Grid ref: 448570.199, 209982.421	9.61	26.29	13.97	1.35	15.65
Point 2: (A40) Grid ref: 448401.336, 210611.192	9.11	26.13	13.86	1.37	14.79

Source: Air Pollution Information Systems website (www.apis.ac.uk/app)

- 5.12 APIS predicts concentrations and deposition rates that combine a series of models with ambient measurements and provides this data for a range of pollutants over 1km grid squares. This data is presented as a 3-year average to take account of fluctuations in weather patterns. As such the most recent base year for APIS (2021) is in fact the 3-year average for the years 2020-2022.
- 5.13 While the NO_x levels are below the critical level of 30µg/m³, the N deposition rates are above the minimum critical load of 10 kg/N/ha/yr at the points where the Oxford Meadows SAC is closest to the A34 and the A40. These values are 13.97 kg/N/ha/yr at Point 1 (A34), and 13.86 kg/N/ha/yr at Point 2 (A4). As such further screening is required.

Step 3: Could the sensitive qualifying features of the site be exposed to emissions?

- 5.14 Paragraphs 4.18 - 4.20 of the NE Air Quality Advice Note 2018, set out that European sites can be designated for several different qualifying features, not all of which are present within a given location within the site. As such, understanding the spatial distribution of qualifying features within a site can help support the assessment process. This is particularly relevant as contributions to air pollution from a road will typically decrease with distance away from that road. Specific spatial information about individual features at the Oxford Meadows SAC is held on [Natural England's Designated Sites System Viewer](#) (hereafter "NE Sites Viewer").
- 5.15 For the qualifying habitat **H6510** Lowland hay meadows (*A pratensis*, *S officinalis*), according to the "Conservation advice" found on the NE Sites Viewer, at the Oxford Meadows SAC, this habitat occupies extensive areas of Pixey and Yarnton Meads SSSI, Wolvercote Meadows SSSI, and Cassington Meadows SSSI.
- 5.16 The NE Sites Viewer also provides information about qualifying species **S1614** Creeping marshwort, *Apium repens* at the Oxford Meadows SAC. The "Conservation advice" sets out that at the time of SAC classification (2005), Port Meadow was the only known locality for S1614 Creeping marshwort, *Apium repens*., in the UK. This plant only occurs at Port Meadow. It is not more widely associated with the rest of the Oxford Meadows SAC.
- 5.17 The closest point from Port Meadow SSSI to the A34 is more than 400m away. As such, in accordance with paragraph 4.21 of NE Air Quality Advice Note 2018, qualifying

species **S1614** Creeping marshwort, *Apium repens.*, is screened out from further air quality assessment because it is more than 200m from the A34.

5.18 The qualifying habitat **H6510** Lowland hay meadows (*A pratensis*, *S officinalis*) remains the focus of the air quality assessment. This is due to the proximity of Pixey and Yarnton Meads SSSI and Wolvercote Meadows SSSI to the A34, and the proximity of Pixey and Yarnton Meads SSSI and Cassington Meadows SSSI to the A40.

5.19 Given that it some of the sensitive qualifying features of the site have the potential to be exposed to emissions, the next step of the screening process is applied.

Step 4: Application of Screening Thresholds

5.20 According to the NE Air Quality Advice Note 2018, if a proposal has not been screened out by steps 1-3, the next step is to consider the risk from the road traffic emissions associated with that plan or project. Road traffic emissions can either be expressed in terms of the annual average daily traffic flow ('AADT' as a proxy for emissions), or the predicted emissions themselves. Table XX sets out the screening thresholds for road traffic flow and emissions.

Table 5.3 Screening thresholds for Air Pollution impact pathway

	Threshold
General traffic flow (Cars/ LDVs)	1,000 AADT or more
Heavy Duty Vehicle flow (Motorways only)	200 AADT or more
Critical load ($\mu\text{g}/\text{m}^3$)	> 1% change
Critical Level ($\mu\text{g}/\text{m}^3$)	> 1% change

Source: NE Air Quality Advice Note 2018

5.21 The screening thresholds set out in Table 5.3 are considered “suitably precautionary” as any emissions below this level are widely considered to be imperceptible (NE Air Quality Advice Note 2018, paragraph 4.25).

DEFRA Background Mapping Data for Local Authorities

5.22 The NE Air Quality Advice Note (2018) (paragraph 4.30) advises that current background levels should be considered later in the process should appropriate assessment be needed. However, it is worth mentioning that the [DEFRA Background Mapping Data for Local Authorities](#) provides estimations of background concentrations

of specific pollutants (including NOx). This mapping data, like the APIS mapping data, is based on 1km grid squares.

5.23 The DEFRA background mapping data broadly aligns with the modelled APIS data for the corresponding years of 2018 and 2021 as it shows NOx levels rates falling by a similar amount over the same time-period.

5.24 The DEFRA background mapping data also provides predictions about future changes in pollutant levels over a longer time horizon. The DEFRA background mapping data predicts that the long-term trend for background NOx levels at the Oxford Meadows SAC are for continued reductions that fall to less than 10µg/m³ by 2040.

Oxfordshire Strategic Model (Traffic forecasting)

5.25 The Oxfordshire Strategic Model (OSM) was used to identify the traffic impacts of Oxford's Local Plan on the road network. The 2018 Base Year model was used to inform the Oxfordshire Strategic Model (OSM). The use of the 2018 Base Year model in the transport modelling is considered appropriate and a generally precautionary approach. This is because (as Table XX in Appendix 4 shows), the modelled APIS background data for 2018 shows higher NOx levels at the Oxford Meadows SAC than the 2021 dataset.

5.26 As APIS data is presented as a 3-year average, the modelled data from 2021 (i.e., between 2020-2022) could have been impacted by movement restrictions resulting from national lockdowns imposed during the Covid-19 pandemic. Using 2018 as the base year for the transport model means that the base year traffic flows used in the transport model were not affected by lower emissions associated with the pandemic. Appendix 4 provides more details about the modelled APIS background data.

Amount of growth proposed in the Local Plan 2042

5.27 The Local Plan 2042 Regulation 18 (Reg. 18) document suggests 9,851 homes could be delivered in Oxford over the plan period. The Council has also commissioned an Employment Land Needs Assessment (ELNA). The Interim ELNA Report suggests around 360,000sqm of commercial floorspace could be delivered. The levels of growth proposed in the Local Plan 2042 are set out in Table 5.4.

Table 5.4 Number of homes and floorspace in the Local Plan 2042

	Local Plan 2042 Reg.18 (2025)
Number of Homes	9,851
Commercial floorspace	360,000sqm

Source: Oxford Local Plan 2042 Reg. 18 Document and Evidence Base

Use of existing traffic modelling as evidence to support the emerging Local Plan 2042

5.28 The City Council previously undertook specific HRA-related traffic modelling to support the growth proposed through the (now withdrawn) Oxford Local Plan 2040 (hereafter “*Oxford LP2040*”). This modelling was undertaken in 2023.

5.29 The traffic modelling was carried out using Oxfordshire County Council’s *Oxford Strategic Model (OSM)* developed by Atkins Réalis. Atkins Réalis produced a technical note entitled “Oxford Local Plan 2040 – Highway Modelling for HRA”, hereafter the ‘*2023 Atkins Report*’). The 2023 Atkins Report is included in full at Appendix 5.

5.30 The 2023 Atkins Report assessed the housing and commercial floorspace proposed in the Oxford LP2040. Table 5.5 shows the homes and floorspace coming forward through the emerging Local Plan 2042 and compares it to those in the Oxford LP 2040.

Table 5.5 Growth proposed in the emerging Local Plan 2042 and Oxford LP2040

	LP2042 (Reg.18) (2025)	LP2040 (2023)
Number of Homes	9,851	9,851
Commercial floorspace	360,000sqm	662,000-875,000sqm

Sources: Local Plan 2042 Reg. 18 Document and Oxford LP2040 (withdrawn)

5.31 As can be seen from Table 5.5, the Local Plan 2042 Reg. 18 document proposes the same number of homes as the Oxford LP2040.

5.32 In terms of commercial floorspace, Table 5.5 shows that supply of floorspace proposed in the Local Plan 2042 is less than the range proposed in Oxford LP2040. This is because the Interim ELNA Study only looks at the current pipeline supply (consisting of completions, permissions and applications) since the start of the plan period. Whereas the LP2040 supply-side assessment considered more sources of supply such as known landowner ambitions and floorspace estimates for sites with remaining vacant plots.

5.33 It is worth noting that the Local Plan 2042 employment strategy does not propose any new sites for commercial uses. Instead, it seeks to meet any identified land needs

by modernising and intensifying commercial uses across the city’s existing network of Key Employment Sites.

- 5.34 Of course, the Council will continue to monitor the amounts of homes and commercial floorspace proposed in the Local Plan 2042 as the plan progresses through the formal plan-making stages. However, at this stage, the Local Plan 2042 does not propose more any homes or commercial floorspace than the Oxford LP2040.

Land Use Assumptions contained with the 2023 Atkins Report

- 5.35 The 2023 Atkins Report makes assumptions about the number of homes and jobs likely to come forward over a twenty-two-year period. These assumptions are called “land use assumptions” and they are applied across two scenarios based on a degree of certainty.

- 5.36 The ***Do Minimum (DM) scenario*** includes the land use assumptions for the residential and commercial development proposed through Oxford’s current adopted Local Plan 2036 (hereafter “OLP2036”). Because the coverage of the OSM traffic model is countywide, it also includes the planned growth contained within all adopted Local Plans across Oxfordshire. Due to how the model works, it is not possible to disaggregate planned growth within the city’s adopted OLP 2036 and consider this in isolation from the growth proposed through the adopted suite of local plans for the surrounding Oxfordshire districts.

- 5.37 As such the DM scenario includes all the planned growth contained within all the adopted local plans across Oxfordshire. This planned growth includes the housing sites agreed as part of the joint working that was undertaken to support OLP2036. As the ‘unmet need’ housing sites are included within the adopted suite of local plans, they form part of the DM scenario. This scenario runs from 2018 (model base year) until the end of the OLP2036 plan period.

- 5.38 The second scenario considers the additional growth proposed in the emerging Oxford Local Plan 2042. In traffic modelling terms, this is called the ***Do Something (DS) scenario***. This scenario runs from the end of modelled OLP2036 plan period. The DS scenario is designed to work out the changes in traffic flow resulting from the amount of growth proposed in the emerging Local Plan 2042. This growth is assumed to take place between the end of the modelled plan period for OLP2036 and the end of the Local Plan 2042 plan period.

5.39 The land-use assumptions in the DM Scenario and the DS Scenario are expressed as numbers of dwellings and jobs. Table 5.6 shows the land use assumptions that were used for Oxford city within the 2023 Atkins Report.

Table 5.6 – DM and DS scenarios – Number of dwellings and jobs (Oxford city)

	<i>Dwellings</i>	<i>Jobs</i>
<i>DM Scenario</i>	10,102	26,975
<i>DS Scenario</i>	1,389	7,957
<i>Total</i>	11,491	34,931

Source: 2023 Atkins Report (2023)

Comparing the land-use assumptions (2023 Atkins Report) with the levels of growth proposed in the Oxford Local Plan 2042 Regulation 18 Document

Residential

5.40 Comparing the residential land-use assumptions used in the traffic modelling and the amount of residential growth proposed in the Local Plan 2042 is straightforward as they both measure residential development using the same units (i.e., dwellings). The total number of dwellings that formed the residential land use assumptions in the transport modelling is 11,491. (See Table 5.6 above).

Commercial

5.41 The commercial land use assumptions used in the traffic modelling are expressed in terms of jobs. The jobs used in the land-use assumptions are derived from an equivalent amount of commercial floorspace. This floorspace comes from a variety of sources including local authority monitoring data (commitments and completions) and it also includes the commercial floorspace considered likely to come forward during the plan period. All the floorspace is assessed using what is called an “uncertainty log”. This is used to ascertain the likelihood (or relative certainty) so that each scheme can be attributed to either the DM or DS scenario.

5.42 The total commercial floorspace from which the total jobs which formed the commercial land use assumptions in the traffic modelling (i.e., 34,941) was derived, is 1,172,372sqm. (See Table 5.6 above).

5.43 Table XX shows the total number of dwellings and commercial floorspace from which the residential and commercial land use assumptions in the traffic modelling were derived and compares these figures with the levels of growth proposed through the Oxford Local Plan 2042.

Table 5.7 Total number of dwellings and floorspace

	Local Plan 2042 Reg. 18	Transport Modelling (DM+DS Scenarios)
Dwellings	9,851	11,491
Commercial Floorspace	360,000sqm	1,172,372sqm

Source: 2023 Atkins Report and Oxford Local Plan 2042 Reg. 18 Document

5.44 Table 5.7 shows that a higher number of dwellings and more commercial floorspace were assessed in the 2023 Atkins Report, than are proposed in the Local Plan 2042 Regulation 18 Document.

5.45 As such, the City Council considers that the 2023 Atkins Report takes a precautionary approach by assessing more homes and commercial floorspace than is likely to come forward as a result of the Oxford Local Plan 2042.

5.46 The City Council that the Atkins 2023 Report provides a sound basis for assessing the levels of growth in the Local Plan 2042. The City Council therefore proposes to rely on the 2023 Atkins Report as the traffic modelling evidence to support the HRA for the emerging Oxford Local Plan 2042.

6. Traffic Modelling

Introduction

6.1 This next section of the HRA Screening follows steps 4a-4c of the NE Air Quality Advice Note 2018. It explains how the traffic modelling in the 2023 Atkins Report takes account of the “other road traffic plans and projects” and “other non-road plans and projects” which are set out in at paragraphs 1.12 and 1.13 of this report.

6.2 Step 4 of the NE Air Quality Advice Note 2018 involves the application of the screening thresholds. The advice recognises that the screening thresholds do not themselves imply any intrinsic effects and are solely a benchmark for further investigation.

6.3 The NE Air Quality Advice Note 2018 sets out a three-stage process for considering the effects of a plan or project against the screening thresholds. The advice recommends the following three stages are followed:

- Step 4a: apply the threshold alone
- Step 4b: apply the threshold in combination with emissions from other road traffic plans and projects
- Step 4c: apply the threshold in combination with emissions from other non-road plans and projects

6.4 Each step will be considered in turn.

Step 4a: Apply the threshold alone

6.5 The first step in the application of the screening thresholds when considering the Air Pollution impact pathway is to consider the effects of the plan or project ‘alone’ against the screening threshold.

6.6 The transport modelling contained in the 2023 Atkins Report makes assumptions about the numbers of homes and jobs likely to come forward over the plan period. These land-use assumptions are applied across two scenarios based on how likely (or certain) it is that each development will come forward.

6.7 It is worth noting that when considering the effects of the growth proposed in the Local Plan 2042 ‘alone’, the traffic modelling also takes account of the growth proposed in Oxford’s adopted Local Plan (i.e., OLP2036). The growth proposed in the OLP2036 is built into one of the assessment scenarios - the Do Minimum (DM) Scenario (See paragraphs 5.35-5.39 above for a full explanation about each scenario).

6.8 The application of the screening threshold ‘alone’ can be considered precautionary. This is because the land use assumptions applied in the traffic modelling take account of the dwellings and jobs in Oxford’s adopted OLP2036 as well as the additional growth proposed in the city’s emerging Local Plan 2042.

Step 4b: apply the threshold in-combination with emissions from other road traffic plans and projects

6.9 The traffic model considers the implications of numerous highway and public transport schemes, which are built into the model. A comprehensive list of these schemes that result from “other road traffic plans and projects” is included within the 2023 Atkins Report. This complete list of transport schemes is set out in Appendix A of the 2023 Atkins Report (Appendix 5 of this report includes the 2023 Atkins Report).

6.10 The effects of the Workplace Parking Levy (WPL) on the A34 and A40 (i.e., affected roads) were also assessed within the transport model. In terms of individual transport schemes, the WPL includes the following County Council projects:

- Traffic filters: six traffic filters operating 12 hours per day;
- Increased parking costs in the city centre;
- Workplace Parking Levy;
- Zero Emission Zone charges.

6.11 These projects are all coming forward as part of the Local Transport and Connectivity Plan (LTCP). The effects of these transport schemes have all been fully incorporated into the model. The traffic model therefore also assesses the effects of “other road traffic plans and projects”.

Step 4c: apply the threshold in-combination with emissions from other non-road plans and projects

6.12 The “other non-road plans” to which this step applies, are the land-use plans from the surrounding district councils. For assessment purposes, these plans fall into two categories:

- Adopted Plans
- Emerging Plans

Adopted Plans

- 6.13 The levels of growth proposed through the adopted suite of Local Plans for all five Oxfordshire LPAs are assessed in the OSM traffic model. This growth includes the “unmet need” housing sites agreed as part of the plan-making process for OLP2036. As set out in paragraphs 5.35-5.39 above, the traffic model considers the effect on the road network, of the number of dwellings and jobs (i.e., the land-use assumptions) in each authority’s adopted Local Plan as part of the Do Minimum (DM) scenario.
- 6.14 It is worth noting that the number of dwellings and jobs that informs the land-use assumptions within the DM scenario are based on a variety of sources. These sources include permissions and completions data, as well as planning projects at earlier stages of the planning process.
- 6.15 The DM Scenario in the transport modelling presented in the 2023 Atkins Report therefore takes account of the planned growth proposed throughout Oxfordshire from “non-road plans and projects” and provides an assessment of any resulting changes in AADT on the affected roads (i.e., the A34 and A40).

Emerging Plans

- 6.16 According to [national guidance on Habitat Regulations Assessment](#), “Emerging Plans” are “plans that have been drafted but not yet adopted”. There are currently two “emerging plans” across the Oxfordshire LPAs. These are as follows:
- South and Vale Joint Local Plan 2041
 - Cherwell Local Plan Local Plan 2042
- 6.17 The South and Vale Joint Local Plan 2041 “Regulation 19” consultation took place in October and November 2024. The draft plan was submitted to the Secretary of State in December 2024 for independent examination and initial examination hearings took place in June 2025. Habitat Regulations Assessment work to support the South and Vale 2041 Local Plan was undertaken and several HRA documents are published online in the examination library.
- 6.18 The Cherwell Local Plan 2042 “Regulation 19” consultation took place between December 2024 and February 2025. A Habitat Regulations Assessment was produced to support Cherwell’s Local Plan 2042 “Regulation 19” document.
- 6.19 Information published to support the South and Vale Joint Local Plan Examination ‘in-combination’ with other emerging plans and projects, was undertaken jointly by

Cherwell District Council, South and Vale and Oxford City Council. This work considered the effects of the additional growth proposed in each of the emerging plans ‘in-combination’ with each other. It expressed this growth in terms of changes in AADT on the affected roads (i.e., the A34 and A40). This “HRA Explanatory Note” is contained within Appendix 6.

‘Alone’ Assessment – Process

6.20 This section sets out the application of the screening thresholds ‘alone’ and summaries the process. It sets out the relevant plans (and projects) that have been taken account of by the traffic modelling to support the Oxford Local Plan 2042 ‘alone’ assessment.

6.21 The Oxford Local Plan 2042 ‘alone’ assessment takes a precautionary approach. The dwellings and commercial floorspace (converted to jobs for the purposes of assessment in the 2023 Atkins Report) applied through the land use assumptions in the traffic model are higher than the actual amounts of dwellings and commercial floorspace likely to be delivered through the policies in the Local Plan 2042. The land use assumptions contained within the DM scenario represent the modelled growth to the end of the OLP2036 plan period, while the land use assumptions in the DS Scenario represent the traffic impacts of the additional modelled growth between the end of the OLP2036 plan period and the end of the plan period for the Oxford Local Plan 2042.

6.22 It is worth noting that the reason the modelled growth for OLP2036 is not assessed in the DS scenario, is because to do so would result in the traffic model effectively “double counting” this growth as the model already takes it into account within the DM scenario.

6.23 The 2023 Atkins Report also takes account of the highway and public transport schemes in each district and makes assumptions about their implications on the model. In addition, it specifically takes account of the Workplace Parking Levy schemes (i.e., traffic filters, increased city centre parking charges, the Workplace Parking Levy itself, and the Zero Emissions Zone). The implications of delivering all these “other road plans and projects” are also considered as part of the ‘alone’ assessment. These schemes are taken account of within the “Do Minimum (DM)” scenario.

6.24 Finally, the traffic model (OSM) considers the planned growth contained within the adopted suite of Local Plans across all five Oxfordshire LPAs. It includes this growth

within the DM Scenario. As such, it is not assessed within the Do Something “DS” scenario as to do so would result in the transport model “double counting” this planned growth across Oxfordshire. Table 6.1 shows the suite of adopted Local Plans from each of the surrounding districts. It also shows the plans that contain the (previously agreed) unmet need housing sites. These sites were allocated to meet unmet housing need that came about through the joint housing need evidence that was produced to support the previous road of local plans including Oxford’s Local Plan 2036. Table 6.1 shows the suite of adopted land use plans from the surrounding districts (“other non-road plans and projects”) that were taken into account as part of the ‘alone’ assessment.

Table 6.1 – Other non-road plans and projects considered within the ‘alone’ assessment

Plan	Status	Scenario	Unmet need sites
Oxford Local Plan 2036	Adopted (2020)	DM Scenario	n/a
Cherwell Local Plan 2011 (saved policies)	Adopted (1996)	DM Scenario	n/a
Cherwell Local Plan 2031 Part 1	Adopted (2015)	DM Scenario	n/a
Cherwell Local Plan 2031 Part 1 Partial Review – Oxford's Unmet Housing Need	Adopted (2020)	DM Scenario	Yes
South Oxfordshire Local Plan 2035	Adopted (2020)	DM Scenario	Yes
Vale of White Horse Local Plan Part 1	Adopted (2016)	DM Scenario	n/a
Vale of White Horse Local Plan Part 2	Adopted (2019)	DM Scenario	Yes
West Oxfordshire Local Plan 2031	Adopted (2018)	DM Scenario	Yes

Sources: Adopted Local Plans across Oxfordshire

Outputs from the 2023 Atkins Report

6.25 The screening thresholds for the predicted annual average daily traffic flow (‘AADT’ as a proxy for emissions). These thresholds are set out in paragraph 4.24 of the NE Air Quality Advice Note 2018. Table 6.2 below reproduces the screening thresholds:

Table 6.2 – Screening thresholds for predicted annual daily traffic flow

	Threshold
General traffic flow (Cars/ LDVs)	1,000 AADT or more
Heavy Duty Vehicle flow (Motorways only)	200 AADT or more

Source: NE Air Quality Advice Note 2018

6.26 The 2023 Atkins Report uses the OSM to predict changes in annual average daily traffic flow on the A34 and A40 resulting from the precautionary ‘alone’ assessment. Table 6.3 shows the change in AADT on the A34, while Table 6.4 shows the change in AADT on the A40.

Table 6.3 Change in AADT on the A34 resulting from the Oxford Local Plan 2042 ‘alone’

	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
A34 (northbound)	-48	-7
A34 (southbound)	+322	-42
Total (Two-way change)	+274	-49

Source: 2023 Atkins Report

Table 6.4 Change in AADT on the A40 resulting from the Oxford Local Plan 2042 ‘alone’

	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
A40 (westbound)	-25	+2
A40 (eastbound)	+39	-15
Total (Two-way change)	+14	-13

Source: 2023 Atkins Report

6.27 As can be seen from Tables 6.3 and 6.4 which show the results of the traffic modelling presented within the 2023 Atkins Report, the Oxford Local Plan 2042 ‘alone’ is below the screening thresholds for general traffic flow (i.e., cars and light goods vehicles (LGVs)) and below the screening threshold for Heavy Duty Vehicle (HDVs) on both the A34 and the A40. As such, the City Council considers that the effects of the Oxford Local Plan 2042 ‘alone’ can be screened out from further assessment. The next section considers the results from neighbouring authorities AADT assessments of their emerging plans.

Results of the AADT assessment 'In-combination' (Emerging Plans)

- 6.28 During 2024, South and Vale District Councils and Cherwell District Council undertook transport modelling to work out the changes in predicted average annual daily traffic flows (AADT) resulting from the levels of growth proposed their respective emerging plans.
- 6.29 South and Vale District Councils assessed the predicted annual average daily traffic flow resulting from the homes and jobs proposed in their Joint Plan 2041. This assessment took account of the growth already put forward through their own adopted plans (i.e., the South Oxfordshire Local Plan 2035, and the Vale of White Horse Parts 1 and 2 Local Plan 2031). The modelling also took account of the numerous highway and public transport schemes proposed across the county as well as the constituent individual transport schemes that make up the county's Workplace Parking Levy (WPL). This assessment also considered the growth proposed in the other Oxfordshire authorities adopted Local Plans. A similar exercise was undertaken for the Cherwell Local Plan 2042 using a different transport model.
- 6.30 In undertaking the AADT assessments for each emerging plan, a precautionary approach was applied. Each LPAs local plan is produced to its own timetable. As such, each AADT assessment needed to be undertaken separately. The results of the AADT assessments for the South and Vale Joint Local Plan 2041 and the Cherwell Local Plan 2042 were then combined to form an 'in-combination' assessment. Appendix 6 of this document contains the [HRA Explanatory Note](#) which was published by South and Vale District Council and which forms part of their examination library reference LPA05.
- 6.31 Tables 1 and 2 of the HRA Explanatory Note provide the two-way change in AADT on the A40 and A34 resulting from the growth proposed in each emerging Local Plan. This is expressed in terms of changes to AADT for Cars/ LGVs and changes in AADT for HDVs. Tables 6.5 and 6.6 below show the two-way change in AADT flows on the A34 and A40 (respectively) associated with each plan's 'alone' assessment.

Table 6.5 Two-way change (AADT) on the A34 resulting from the South and Vale Local Plan 2041 'alone' and the Cherwell Local Plan 2042 'alone'

Local Plan	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
South and Vale Local Plan 2041	-73	-22
Cherwell Local Plan 2042	-330	-164

Source: HRA Explanatory Note

Table 6.6 - Two-way change (AADT) on the A40 resulting from the South and Vale Local Plan 2041 'alone' and the Cherwell Local Plan 2042 'alone'

Local Plan	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
South and Vale Local Plan 2041	-22	-8
Cherwell Local Plan 2042	-448	+26

Source: HRA Explanatory Note

6.32 In order to calculate the 'in-combination' for Oxford City's Local Plan 2042, 'in-combination' with the other emerging plans, the traffic modelling results (as shown in Tables 6.3 and 6.4) are considered cumulatively with the two 'alone' assessments for South and Vale and for Cherwell's Local Plans. This cumulative total provides the predicted average annual daily traffic flow (AADT) associated with the levels of growth proposed under the Oxford Local Plan 2042, 'in-combination' with the predicted average annual daily traffic flow (AADT) associated with the levels of growth proposed with the emerging local plans, for South and Vale (i.e., the South and Vale Joint Local Plan 2041) and for Cherwell (i.e., the Cherwell Local Plan 2042. Tables 6.7 and 6.8 show the two-way change in AADT flows on the A34 and A40 respectively for Oxford City's Local Plan 2042 'in combination'.

Table 6.7 Two-way change (AADT) on the A34 resulting from the Oxford Local Plan 2042 'in-combination' with the South and Vale Local Plan 2041 and the Cherwell Local Plan 2042

Local Plan	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
Oxford City Local Plan 2042	+274	-22
South and Vale Local Plan 2041	-73	-22
Cherwell Local Plan 2042	-330	-164
Total	-129	-235

Sources: 2023 Atkins Report and HRA Explanatory Note

Table 6.8 Two-way change (AADT) on the A40 resulting from the Oxford Local Plan 2042 'in-combination' with the South and Vale Local Plan 2041 and the Cherwell Local Plan 2042

Local Plan	AADT (DS-DM) Cars/ LGVs	AADT (DS-DM) HDVs
Oxford City Local Plan 2042	+14	-8
South and Vale Local Plan 2041	-22	-13
Cherwell Local Plan 2042	-448	+26
Total	-456	+5

Sources: 2023 Atkins Report and HRA Explanatory Note

6.33 Table 6.7 (A34) shows the change in AADT for Cars/ LGVs as negative (-129 AADT) and Table 6.8 (A40) shows a negative change in AADT for Cars/ LGVs (-456AADT).

- 6.34 In terms of HDV changes, Table 6.7 (A34) reports a negative change in AADT for HDVs (-235) while Table 6.8 (A40) reports a slight positive change (+5AADT) resulting from the in-combination assessment.
- 6.35 As the reported changes for Cars/ LGVs are below the 1,000AADT screening threshold on both affected roads, and the reported changes for HDVs on are below the 200AADT HDV screening threshold on both roads, the City Council concludes that the Oxford Local Plan 2042 is unlikely to have a significant effect either 'alone' or 'in-combination' with other identified plans and projects.

Conclusion of Air Quality Screening

- 6.36 The City Council concludes that the Oxford Local Plan 2042 is unlikely to have a significant effect on air quality at the Oxford Meadows SAC, either 'alone' or 'in-combination' with other relevant plans and projects.

Appendices

Contents

Appendix 1 – Condition Status of SSSIs	46
Appendix 2 – Visitor Survey Methodology	50
Appendix 3 –Policy Areas, Sites and Possible impacts	53
Appendix 4 – Modelled Base Year (APIS).....	81
Appendix 5 – 2023 Atkins Report.....	83
Appendix 6 – HRA Explanatory Note	108

Appendix 1 – Condition Status of SSSIs

The conservation status of European sites is not routinely reported by Natural England, but it does carry out condition monitoring of Sites of Special Scientific Interest (SSSIs) at regular intervals.

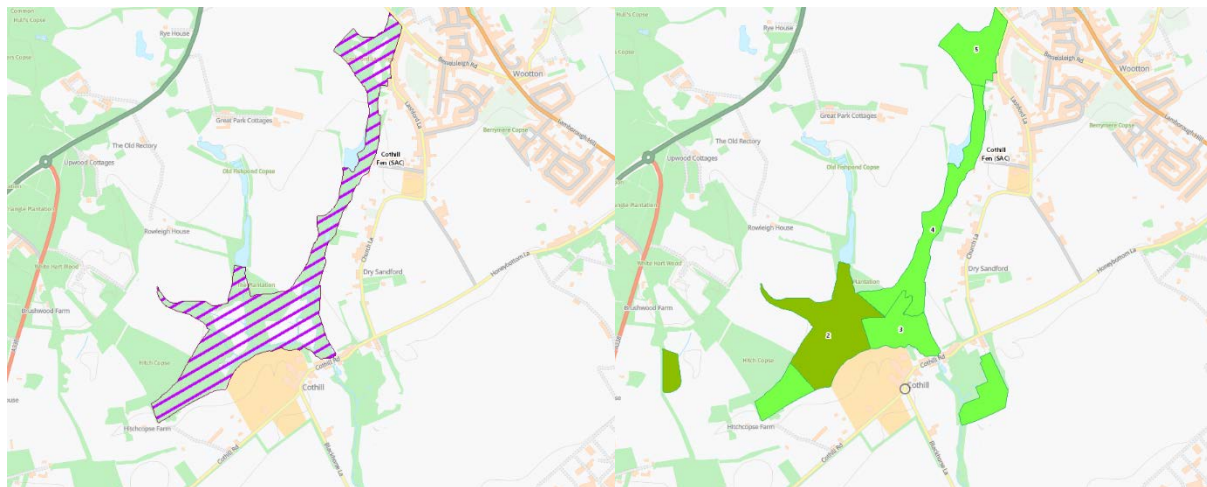
Although these do not always exactly match the boundaries of European sites, and as they are recorded for different purposes, the condition status of a SSSI can help to give an impression of the overall ecological status of corresponding SAC/SPA. Recent SSSI condition surveys took place in both 2021 and 2023. The condition status assessments for each of the three sites are shown below.

Cothill Fen

Figure A1.1 shows the extent of the Cothill Fen SAC. The image on the left marked with purple hatching shows the SAC, while the image on the right, with green shading, shows the individual SSSI units where the condition status has been assessed.

Table A1.1a shows each the condition status rating given to each individual SSSI unit that makes up the Cothill Fen SAC.

Figure A1.1 Map showing Cothill Fen SAC boundary and condition assessment of SSSI units



Source: Magic Maps www.magic.defra.gov.uk

Table A1.1a Condition of SSSI units that make up the Cothill Fen SAC

Unit	Condition	Feature (Habitat)	Area (ha)
001	Favourable	Broadleaved, mixed and Yew woodland – Lowland	3.64ha

002	Unfavourable – recovering	Fen, Marsh and Swamp – Lowland	15.04ha
003	Favourable	Fen, Marsh and Swamp – Lowland	6.43ha
004	Favourable	Fen, Marsh and Swamp – Lowland	11.24ha
005	Favourable	Fen, Marsh and Swamp – Lowland	6.89ha

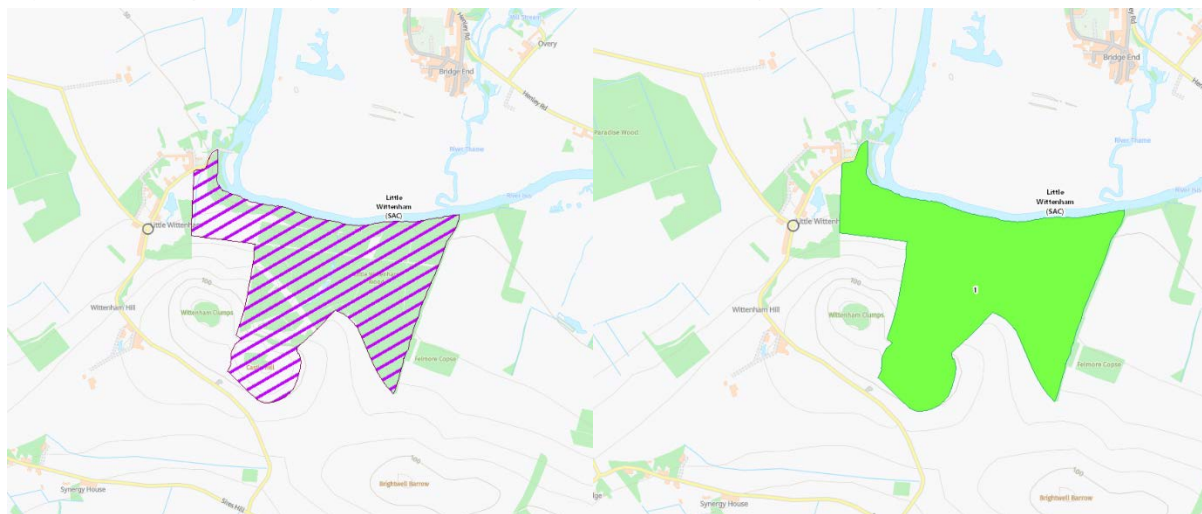
Source: [Natural England Designated Sites View](#)

Little Wittenham SAC

Figure A1.2 shows the extent of the Little Wittenham SAC. The image on the left marked with purple hatching shows the SAC, while the image on the right, with green shading, shows the individual SSSI units where the condition status has been assessed.

Table A1.2a shows each the condition status rating given to each individual SSSI unit that makes up the Little Wittenham SAC.

Figure A1.2 Map showing Little Wittenham SAC site boundary and SSSI units



Source: Magic Maps www.magic.defra.gov.uk

Table A1.2a Condition of SSSI units that make up Little Wittenham SAC

Unit	Condition	Feature (species)	Area (ha)
001	Favourable	Broadleaved, Mixed and Yew Woodland – Lowland	68.91ha

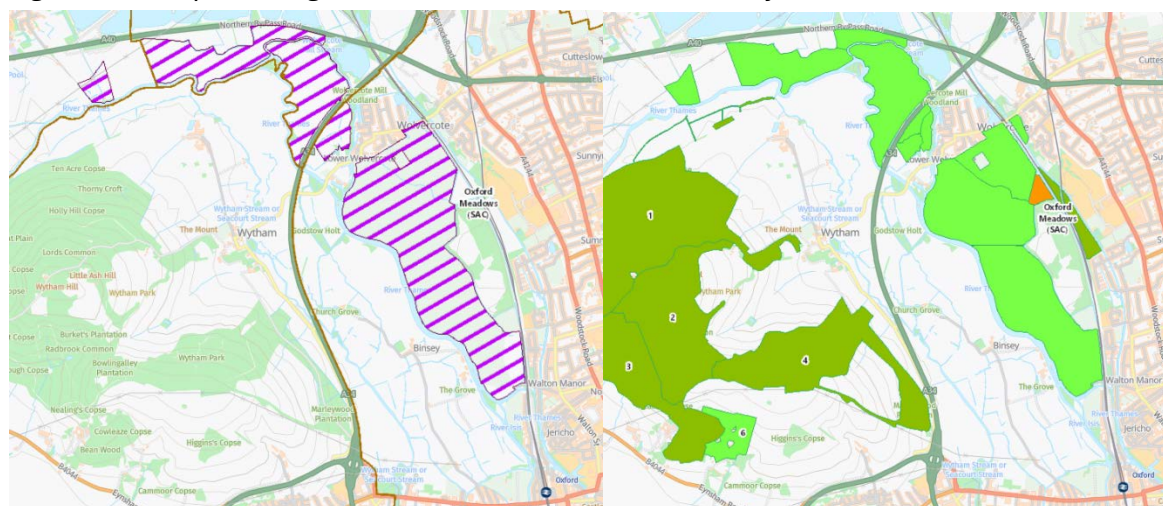
Source: [Natural England Designated Sites View](#)

Oxford Meadows SAC

Figure A1.3 shows the extent of the Oxford Meadows SAC. The image on the left marked with purple hatching shows the SAC, while the image on the right, with green shading, shows the individual SSSI units where the condition status has been assessed.

The Oxford Meadows SAC consists of four SSSIs. Tables A1.3a-d show each the condition status rating given to each individual SSSI unit that make up the four SSSIs, which are also considered collectively as the Oxford Meadows SAC.

Figure A1.3 Map showing Oxford Meadows SAC site boundary and SSSI units



Source: Magic Maps www.magic.defra.gov.uk

Table A1.3a Condition of SSSI units for Oxford Meadows SAC: Cassington Meadows SSSI

Unit	Condition	Feature	Area (ha)
001	Favourable	Neutral grassland – lowland	6.89ha

Source: [Natural England Designated Sites View](#)

Table A1.3b Condition of SSSI units for Oxford Meadows SAC: Pixey and Yarnton Meads SSSI

Unit	Condition	Feature	Area (ha)
001	Favourable	Neutral grassland – lowland	32.40ha
002	Favourable	Neutral grassland – lowland	45.05ha
003	Favourable	Neutral grassland – lowland	7.92ha

Source: [Natural England Designated Sites View](#)

Table A1.3c Condition of SSSI units for Oxford Meadows SAC: Wolvercote Meadows SSSI

Unit	Condition	Feature	Area (ha)
001	Favourable	Neutral grassland - lowland	3.31ha
002	Favourable	Neutral grassland – lowland	3.74ha

Source: [Natural England Designated Sites View](#)

Table A1.3d Condition of SSSI units for Oxford Meadows SAC: Port Meadow with Wolvercote Common and Green SSSI

Unit	Condition	Feature	Area (ha)
001	Favourable	Neutral grassland – lowland	60.05ha
002	Favourable	Neutral grassland – lowland	28.59ha
003	Favourable	Neutral grassland – lowland	2.16ha
004	Favourable	Neutral grassland – lowland	76.32

Source: [Natural England Designated Sites View](#)

As can be seen from the above analysis, the vast majority of the individual SSSI units that make up each of the European sites within 10km of the city boundary are in favourable condition. This analysis helps to give an impression of the overall ecological status of the European site to which it coincides.

Appendix 2 – Visitor Survey Methodology

Method

Through discussions with Natural England and investigations of best practice examples, an on-site visitor survey questionnaire was designed.

The survey was carried out:

- on 6 days including a range of weekend and weekday dates (18 May 2025, 19 May 2025, 20 May 2025, 25 May 2025, 26 May 2025, 27 May 2025)
- both within and outside of the school May half term
- during four 2-hour periods each day (07:00-09:00, 10:00-12:00, 13:00-15:00, 16:00-18:00)
- at two locations (one to the north at the Wolvercote car park off Godstow Road, and one to the south at the car park off Walton Well Road)

The survey questionnaire asked a series of 11 questions:

About you:

- Question 1: How many adults, children and dogs make up your group?
- Question 2: Which postcode have you travelled from to visit this site?
- Question 3: Which best describes you?

About today's visit:

- Question 4: How did you get here today?
- Question 5: How long have you spent / will you be spending here today?
- Question 6: What is the main purpose of your visit today?

About other visits:

- Question 7: How often do you visit this site?
- Question 8: Do you tend to visit this site at a certain time of day?
- Question 9: What time of year do you visit this site?
- Question 10: Aside from this location do you visit any other places for similar purposes?
- Question 11: What facilities do you think are important to your enjoyment of open spaces in the Oxford area?

Analysis

To interpret the survey data and project the total number of visitors to the site the following calculations will be carried out. The methodology broadly follows that used by Bracknell Forest DC in the Thames Basin Heaths SPA analysis as recommended by Natural England as best practice.

	Calculation and/or reference		Result
Total number of visits over survey period	Taken from survey data	A	TBA
Percentage of visits over survey period from within postcode sectors OX1 and OX2	Taken from survey data	B	TBA
Projected total number of visits, per annum	See Table 1 below	C	TBA
Projected total number of visits from within postcode sectors OX1 and OX2, per annum	$(C \div 100) \times B$	D	TBA
Population of postcode sectors OX1* and OX2**	Taken from 2021 Census	E	68,549
Projected visits per head of OX1 and OX2	$D \div E$	F	TBA
Projected future population arising from new potential development	See Table 2 below	G	TBA
Projected visits per annum arising from projected future population	$G \times F$	H	TBA
% of projected future visits, as it relates to current projected total visits	$(H \div C) \times 100$	I	TBA
Projected future population arising from 'in-combination impacts'	See Table 3 below	J	TBA
Projected visits per annum arising from projected future 'in-combination impacts' population	$F \times J$	K	TBA
% of projected 'in-combination impacts' visits, as it relates to current projected total visits	$(K \div C) \times 100$	L	TBA

*Population of Postcode sector OX1 (2021 Census) 27,136

**Population of postcode sector OX2 (2021 Census) 41,413

Table 1

Total number of visitors recorded during this survey	TBA
Number of surveyed access points	2
Mean number of visitors per surveyed access point	TBA
Number of hours of surveying per access point	48
Mean number of visitors per surveyed access point, per hour	TBA
Total active hours in day (07:00-18:00)	11
Projected mean number of visitors per surveyed access point per day	TBA
Projected mean number of visitors per surveyed access point per year	TBA
Total number of access points to the SAC	6
Projected total number of visitors per year	TBA

Table 2 – Oxford Local Plan 2042 ‘alone’ impacts

Plan	Number of units	Number of residents
Oxford Local Plan 2042 (sites within 1900m of SAC)	TBA	TBA
Total	TBA	TBA

Table 3 – Oxford Local Plan 2042 ‘in-combination’ impacts

Plan	Number of units	Number of residents
Oxford Local Plan 2042 (sites within 1900m of SAC)	TBA	TBA
Other relevant plans and projects...	TBA	TBA
Total	TBA	TBA

Points to be noted

The interviews were conducted in late Spring (May 2025) and visitor patterns may be different when compared to the rest of the year. The survey period included the school half term period in order to reflect the difference between school holidays and term time.

There are 6 access points to Oxford Meadows (via the Wolvercote car park; via the right of way at the entrance to Wolvercote off Godstow Road; via Godstow Road; via the bridge at Aristotle Lane; via the bridge across the river from Binsey; and via the car park off Walton Well Road). The two survey points that were selected are both car parks and so it is possible that the survey results are slightly skewed towards arrivals by car.

Full analysis of the survey data will be undertaken and will form part of the Stage 2 – Appropriate Assessment, which will accompany the Regulation 19 consultation stage.

Appendix 3 –Policy Areas, Sites and Possible impacts

Table A3.1 Assessment of the policy areas within the Local Plan 2042 Regulation 18 Document

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Chapter 1			
Draft Policy S1: <i>Spatial strategy and presumption in favour of sustainable development</i>		Strategic policy that sets the overarching ambition for the plan to support the delivery of new homes and jobs and to while protecting the city's important ecological and heritage assets	While this is a strategic policy that focuses on delivering homes and jobs in the city. It does not specifically allocate sites. Other policies in the plan articulate its ambitions through more detailed policy wording. This policy approach is considered to have no likely significant effects on the designated site but the allocations arising from it will need to be considered so this option has been taken forward for further assessment as part of the appropriate assessment.
Draft Policy S2: <i>Design code and guidance</i>	A	Policy promoting the use of design guides and design guidance	Unlikely to have significant effects
Draft Policy S3: <i>Infrastructure delivery in new development</i>	A	Policy setting out the need for development proposals to make contributions toward infrastructure delivery	Unlikely to have significant effects
Draft Policy S4: <i>Plan viability</i>	A	Policy setting out that the policies in the plan should not result development becoming unviable and the mechanisms for addressing development viability in individual schemes.	Unlikely to have significant effects

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Chapter 2			
Draft Policy H1: <i>Housing requirement</i>		Policy setting out the housing requirement for the plan period. At the time of writing the plan required over 9,800 homes to be delivered in the city. The policy sets a capacity-based housing requirement aimed at meeting as much of the OAN as possible over the plan period to 2042	Policy does not allocate specific sites. The overall housing requirement for the plan is calculated based on assessments of capacity of individual sites. The housing requirement for the plan-period is capacity-based. This means it is an output resulting from a series of technical assessments which consider the capacity, availability, and deliverability of each site. This policy approach is considered to have no likely significant effects on the designated site but the allocations arising from it will need to be considered so this option has been taken forward for further assessment as part of the appropriate assessment.
Draft Policy H2: <i>Delivering affordable homes</i>	A	Policy setting the requirements for the provision of affordable housing	Policy not locationally specific as requires a proportion of affordable homes to be provided as part of qualifying developments.
Draft Policy H3: <i>Affordable Housing: contributions from student accommodation</i>	A	Policy setting out when contributions from new purpose-built student accommodation will be collected	Policy not locationally specific and sets out when contributions for new purpose-built student accommodation will be collected
Draft Policy H4: <i>Affordable Housing: contributions from self-contained older persons accommodation</i>	A	Policy setting out when contributions from new self-contained older persons accommodation will be collected	Policy not locationally specific and sets out when contributions will be collected from self-contained older persons accommodation.

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Policy Option Set H5: Affordable Housing: <i>Financial contributions from new commercial development</i>	A	Policy options that consider if and how to collect financial contributions from new commercial development	Policy options not locationally specific and sets out if and how financial contributions are to be collected from new commercial development
Draft Policy H6: <i>Employer-linked affordable housing</i>	A	Policy setting out which locations are suitable for employer-linked affordable housing instead of market housing	The sites referenced in this policy have all been assessed separately as part of the site allocations section. No need to duplicate that assessment.
Draft Policy H7: <i>Mix of dwelling sizes (number of bedrooms)</i>	A	Policy setting out the appropriate mix of dwelling sizes to be provided as part of development proposals	Not likely to have significant effects as policy only applies to mix of dwellings.
Draft Policy H8: <i>Development involving loss of dwellings</i>	A	Policy setting out approach for development proposals involving losses of dwellings.	Not likely to have significant effects as policy is only dealing with proposals involving the loss of dwellings.
Draft Policy H9: <i>Houses in Multiple Occupation (HMOs)</i>	A	Policy setting out the approach taken in considering planning applications for the conversion or creation of new HMOs.	Not likely to have significant effects as policy is concerned with how the location of new HMOs impact the existing residential environment.
Draft Policy H10: <i>Location of new student accommodation</i>	A	Policy restricting where new purpose-built student accommodation can be located. Includes city and district centres	Summertown is identified as a district centre. As such it is likely that some additional residential and non-residential development will be located on brownfield sites in this location. Any individual sites allocated for development in Summertown will be picked up through the technical work underpinning the site application selection process. Any bespoke policy wording needed

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
			to mitigate likely impacts of individual sites will be undertaken at an appropriate stage in the HRA process. This policy, however, is screened out from further assessment.
Draft Policy H11: <i>Linking new academic facilities with the adequate provision of student accommodation</i>	A	Policy linking the delivery of new academic floorspace at the universities to whether or not a certain number of students (for each university) is housed in purpose-built student accommodation.	Not likely to have significant effects as the policy does not allocate development but rather seeks to ensure that no additional academic floorspace comes forward at either university unless the specified accommodation requirements are met.
Draft Policy H12: <i>Homes for Travelling Communities</i>	A	Policy setting out criteria to be met when considering new residential pitches for travelling communities	Policy unlikely to have significant effects on the Oxford Meadows SAC as it does not outline development proposals that could have a potential impact on the Oxford Meadows SAC.
Draft Policy H13: <i>Homes for Boat Dwellers</i>	A	Policy setting out criteria to be met when considering proposals for new residential moorings.	Limited scope and capacity for additional moorings in close proximity to the Oxford Meadows SAC. As such policy unlikely to have significant effects.
Draft Policy H14: <i>Older persons and other specialist accommodation</i>	A	Policy setting out criteria to be met when considering development proposals for new older persons and specialist accommodation.	Policy unlikely to have significant effects on the Oxford Meadows SAC as it does not specifically outline locations where there is a higher potential for adverse impacts
Draft Policy H15: <i>Self-build and custom housebuilding</i>	A	Policy setting out requirements for delivery of self-build and custom-build housing as part of	Policy unlikely to have a significant effect as it promotes a requirement on larger residential development proposals, which will

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
		qualifying developments (sites over 100 homes)	themselves be assessed separately as part of this process.
Draft Policy H16: <i>Boarding school accommodation</i>	A	Policy restricting suitable locations for new boarding school accommodation to sites either on, or immediately adjacent to a main teaching campus	Policy unlikely to have significant effects on the Oxford Meadows SAC as it limits new boarding school accommodation to sites very close to the main teaching campus.
Chapter 3			
Draft Policy E1: <i>Employment strategy</i>	D	Policy restricting new employment development to existing employment sites and the city and district centres. Policy also allows an element of housing to come forward on employment sites providing certain key criteria are met.	Summertown is identified as a district centre. As such it is likely that some additional residential and non-residential development will be located on brownfield sites in this location. Any individual sites allocated for development in Summertown will be picked up through the technical work underpinning the site application selection process. Any bespoke policy wording needed to mitigate likely impacts of individual sites will be undertaken at an appropriate stage in the HRA process. This aspect of the policy is screened out from the assessment. Policy also allows an element of housing to come forward at existing employment sites. This aspect of the policy should be given further consideration as part of the assessment of residential impacts in the Stage 2 Appropriate Assessment.

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Draft Policy E2: <i>Warehousing and storage uses</i>	A	Policy limiting the location of warehousing and storage uses to existing key employment sites	Policy unlikely to have significant impact on SAC as relates to allowing specific type of employment development on sites where employment is already allowed.
Draft Policy E3: <i>Community Employment and Procurement Plans (CEPPs)</i>	A	Policy requiring opportunities for local people in the construction and operational stage of developments and training opportunities etc.	Policy unlikely to have a significant impact on Oxford Meadows SAC as it relates to improving training and learning opportunities for local people
Draft Policy E4: <i>Affordable workspaces</i>	A	Policy enabling certain key employment to help deliver affordable workspaces	Policy unlikely to have significant impact on SAC as it relates to delivering a certain type of employment floorspace where employment is already allowed.
Draft Policy E5: <i>Tourism and short stay accommodation</i>	A	Policy sets out locations where new short-stay accommodation should be located in the city. Locations include city and district centre and main arterial routes into the city.	Summertown is identified as a district centre. As such it is likely that some additional residential and non-residential development will be located on brownfield sites in this location. Any individual sites allocated for development in Summertown will be picked up through the technical work underpinning the site application selection process. Any bespoke policy wording needed to mitigate likely impacts of individual sites will be undertaken at an appropriate stage in the HRA process. This policy, however, is screened out from further assessment.

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Chapter 4			
Draft Policy G1: <i>Protection of Green Infrastructure (GI)</i>	A	Policy sets out approach for protecting and enhancing the GI network, defines residential garden land and provides policy protection for trees and ancient woodland and other GI features (e.g., hedgerows)	Policy unlikely to have impacts on the Oxford Meadows SAC as provides protection for GI network and features and provides a definition of residential garden land.
Draft Policy G2: <i>Enhancement and provision of new green and blue features</i>	A	Policy about delivering new green and blue infrastructure features as part of new development proposals including public open space and management arrangements.	Policy unlikely to have impacts on the Oxford Meadows SAC as related to delivering opportunities for green and blue features and associated management arrangements.
Draft Policy G3: <i>Provision of new green and blue features – Urban Greening Factor (UGF)</i>	A	Policy regarding delivering new GI features in new developments using urban greening factor metric.	Policy unlikely to have impacts on the Oxford Meadows SAC as related to delivering a range of on-site improvements for new developments.
Draft Policy G4: <i>Delivering mandatory net gains in biodiversity</i>	A	Policy setting out the percentage of net gain to be delivered as part of developments in Oxford.	Policy unlikely to have impacts on the Oxford Meadows SAC as it sets the amount of net gain required to be delivered as part of new developments in the city.
Draft Policy G5: <i>Enhancing onsite biodiversity in Oxford</i>	A	Policy seeking ecological enhancements as part of new development proposals	Policy unlikely to have an impact on the Oxford Meadows SAC as it requires developments to deliver a minimum amount of ecological enhancements.
Draft Policy G6:	A	Policy providing protection of Oxford's ecological network of	Policy unlikely to have an impact on the Oxford Meadows SAC as seeks to provide for

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
<i>Protecting Oxford's biodiversity including the ecological network</i>		designated sites and other features of interest	the safeguarding conservation and enhancement of biodiversity in Oxford
Draft Policy G7: <i>Flood risk and Flood Risk Assessments (FRAs)</i>	A	Policy setting out how flood risk will be considered as part of development proposals, including when the LPA will require a flood risk assessment.	Policy unlikely to have an impact on the Oxford Meadows SAC as sets out the types of development that require a flood risk assessment.
Draft Policy G8: <i>Sustainable Drainage Systems (SuDS)</i>	A	Policy setting out circumstances when Sustainable Drainage Systems (SuDS) will be required as part of development proposals and how SuDS should be incorporated into schemes.	Policy unlikely to have an impact on the Oxford Meadows SAC as it sets out when development proposals will require SuDs and how they should be delivered.
Draft Policy G9: <i>Resilient design and construction</i>	A	Policy setting out how design and construction measures that help mitigate climate change have been incorporated into development proposals.	Policy unlikely to have an impact on the Oxford Meadows SAC as it relates ensuring the design of development proposals helps to mitigate the impacts of climate change.
Chapter 5			
Draft Policy R1: <i>Net zero buildings in operation</i>	A	Policy setting out how development proposals are to achieve energy reductions to deliver net zero.	Policy unlikely to have an impact on the Oxford Meadows as concerned with how the developments will reduce energy use in their operational stages.
Draft Policy R2: <i>Embodied carbon</i>	A	Policy setting out how embodied carbon should be limited focusing on the construction process	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with limiting the amount of carbon used focusing on the construction process

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Draft Policy R3: <i>Retro-fitting existing buildings</i>	A	Policy supporting retrofit measures to help mitigate and adapt existing buildings to minimise climate change impacts.	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with delivering climate change mitigation and adaptation measures to existing buildings
Draft Policy R4: <i>Air quality assessments and standards</i>	A	Policy setting out the circumstances when development proposals require an assessment of air quality to ensure that the impact of new development on air quality is minimised.	Policy unlikely to have an impact on the Oxford Meadows SAC as it sets the requirements when an air quality assessment is required as part of new development proposals.
Draft Policy R5: <i>Water resources and quality</i>	A	Policy to promote water efficiency, SuDS, and which sets out how to deal with wastewater as part of development proposals	Policy unlikely to have an impact on the Oxford Meadows SAC as it sets requirements for water efficiency, water quality and wastewater expected from new developments.
Draft Policy R6: <i>Soil quality</i>	A	Policy setting out how development proposals are expected to demonstrate how any impacts on soils have been mitigated.	Policy unlikely to have an impact on the Oxford Meadows SAC as it sets out the requirements for addressing potential impacts on soil quality as part of development proposals.
Draft Policy R7: <i>Land contamination</i>	A	Policy setting out the information required to be able to assess applications where there is the potential for impacts from contamination.	Policy unlikely to have an impact on the Oxford Meadows SAC as it sets out a requirement for additional information to be submitted where there is a risk of contamination as part of development proposals.

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Draft Policy R8: <i>Amenity and environmental health impacts of development</i>	A	Policy setting out how amenity and environmental health impacts will be considered as part of development proposals.	Policy unlikely to have an impact on the Oxford Meadows SAC as it seeks to mitigate a range of factors which could have an impact on amenity.
Chapter 6			
Draft Policy HD1: <i>Conservation areas</i>	A	Policy setting out how development proposals should be considered in conservation areas in Oxford.	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with development proposals and their effects on the city's conservation areas.
Draft Policy HD2: <i>Listed buildings</i>	A	Policy setting out how development proposals on Listed Buildings should be considered in the planning process	Policy unlikely to have an impact on the Oxford Meadows SAC as it is concerned with how development proposals are assessed on Listed Buildings.
Draft Policy HD3: <i>Registered Parks and Gardens (RPGs)</i>	A	Policy setting out how development proposals that have an impact on Registered Parks and Gardens are to be considered.	Policy unlikely to have an impact on the Oxford Meadows SAC as it is concerned with the impact of development proposals on Registered Parks and Gardens.
Draft Policy HD4: <i>Scheduled monuments</i>		Policy setting out how development proposals that have an impact on Scheduled monuments should be assessed.	Policy unlikely to have an impact on the Oxford Meadows SAC as it is concerned with the impact of development proposals on Scheduled Monuments.
Draft Policy HD5: <i>Non-designated heritage assets</i>		Policy defines a non-designated heritage asset and sets out the process by which these assets are to be considered when determining planning applications	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with how nondesignated heritage assets are considered during the planning process.

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Draft Policy HD6: <i>Archaeology</i>		Policy setting out how archaeological deposits will be considered as part of the application process.	Policy unlikely to have an impact on the Oxford Meadows SAC as it addresses how archaeological deposits will be considered in development proposals.
Draft Policy HD7: <i>Principles of high-quality design</i>		Policy seeks to ensure high-quality design in development proposals.	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with ensuring development proposals are of the highest design quality
Draft Policy HD8: <i>Making efficient use of land</i>		Policy setting out how development proposals are expected to make best and most efficient use of land in order to deliver development of an appropriate density	Policy unlikely to have an impact on the Oxford Meadows SAC as it seeks to ensure that design principles are used when considering the appropriate density of a scheme
Draft Policy HD9: <i>Views and building heights</i>		Policy seeking to protect Oxford's historic skyline.	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with the heights and visual impact of development proposals.
Draft Policy HD10: <i>Health Impact Assessment (HIA)</i>		Policy setting out when a Health Impact Assessment should be submitted as part of development proposals and what it should contain.	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with when a Health Impact Assessment should be submitted to inform development proposals and what it should contain.
Draft Policy HD11: <i>Privacy, daylight and sunlight</i>		Policy setting out how the impacts of development proposals will be assessed in terms of privacy, sunlight and daylight.	Policy unlikely to have an impact on the Oxford Meadows SAC as it relates to how the impact of development proposals will be assessed.

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Draft Policy HD12: <i>Internal space standards for residential development</i>		Policy setting out that internal space standards for residential developments will follow nationally described space standards.	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with quantity of internal space standards as part of new development proposals.
Draft Policy HD13: <i>Outdoor amenity space</i>		Policy setting out requirements for outdoor amenity space to be delivered as part of development proposals.	Policy unlikely to have an impact on the Oxford Meadows SAC as concerned with amount of onsite amenity space required as part of development proposals.
Draft Policy HD14: <i>Accessible and adaptable homes</i>		Policy setting out the amount of affordable and market homes to be delivered that comply with accessible standards.	Policy unlikely to have an impact on the Oxford Meadows SAC as it sets out the proportion of accessible and adaptable homes to be delivered as part of development proposals.
Draft Policy HD15: <i>Bin and bike stores and external servicing features</i>		Policy setting out how external servicing features (including bin and bike stores) will be considered as part of development proposals	Policy unlikely to have an impact on the Oxford Meadows SAC as is concerned with small scale onsite measures.
Chapter 7			
Draft Policy C1: <i>City, district and local centres</i>		Policy setting out the types of uses suitable for Oxford's city, district and local centres. Policy also includes requirements for sequential test for town centre uses.	Summertown is identified as a District Centre and as such it is likely that some additional residential and non-residential development would be delivered on brownfield sites in this location. Any sites allocated for development within Summertown will be captured in the

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
			site allocations and bespoke policy wording to mitigate likely impacts will be captured through this process. As such this policy is screened out from the assessment.
Draft Policy C2: <i>Maintaining vibrant centres</i>		Policy sets out how development proposals within the city and district centres can maintain active frontages to help maintain the vibrancy of centres. Includes locally specific requirements for each of the city and district centres.	Policy unlikely to have an impact on the Oxford Meadows SAC as related to protection of existing facilities and provision of new ones in suitably accessible locations.
Draft Policy C3: <i>Protection, alteration and provision of local community facilities</i>		Policy setting out how local community facilities will be protected when they form part of development proposals. Also sets out support for new community facilities in appropriate locations.	Policy unlikely to have an impact on the Oxford Meadows SAC as related to protection of existing facilities and provision of new ones in suitably accessible locations.
Draft Policy C4: <i>Protection, alteration and provision of learning and non-residential institutions</i>		Policy setting out how learning and non-residential institutions will be protected when they form part of development proposals. Also sets out support for new learning and non-residential institutions in appropriate locations.	Policy unlikely to have an impact on the Oxford Meadows SAC as related to protection of existing facilities and provision of new ones in suitably accessible locations.
Draft Policy C5:		Policy setting out how cultural venues and visitor attractions will	Policy unlikely to have an impact on the Oxford Meadows SAC as related to protection

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
<i>Protection, alteration and provision of cultural venues and visitor attractions</i>		be protected when they form part of development proposals. Also sets out support for new cultural venues and visitor attractions in appropriate locations	of existing facilities and provision of new ones in suitably accessible locations
Draft Policy C6: <i>Transport Assessments, Travel Plans and Service and Delivery Plans</i>		Policy setting out requirements for when Transport Assessments, Travel Plans and Service and Delivery Plans should accompany a planning application.	Policy unlikely to have an impact on the Oxford Meadows as it relates to the conditions when certain applications should be accompanied by additional transport-related evidence.
Draft Policy C7: <i>Bicycle and powered two wheelers parking design standards</i>		Policy setting out how bicycle and powered two-wheeler parking should be provided as part of development proposals.	Policy unlikely to have an impact on the Oxford Meadows SAC as it relates to the amount of cycle parking and parking for powered two-wheelers to be provided as part of development.
Draft Policy C8: <i>Motor vehicle parking design standards</i>		Policy setting out how parking levels should be assessed as part of development proposals including providing requirements for low-car schemes.	Policy unlikely to have an impact on the Oxford Meadows SAC as provides car parking standards for development proposals including providing requirements for low-car schemes.
Draft Policy C9: <i>Electric vehicle charging</i>		Policy providing guidance for electric vehicle charging points in new developments	Policy unlikely to have an impact on the Oxford Meadows SAC as it provides guidance for electric vehicle charging infrastructure in new development.

Chapter 8

Reg. 18 Policy Ref	Categorisation	Description of the policy area	Key environmental considerations likely to give rise to significant effects or not
Draft Policy I1 <i>Digital Infrastructure to support new development</i>	A	Policy supporting the delivery of appropriate digital infrastructure as part of new development proposals	Policy unlikely to have an impact on the Oxford Meadows SAC as it supports the delivery of appropriate digital infrastructure as part of new development proposals.

Table A3.2 Key environmental considerations that are likely to give rise to significant effects as a result of development of the sites proposed for further consideration in the Local Plan 2042 Regulation 18 Document

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
North Infrastructure Area			
	Northern Edge of Oxford Area of Focus (AOF)	The Area of Focus will not allocate specific sites but instead will set out broad infrastructure requirements and other non-site-specific policy aspects	
001a1 & 001e	Northern Gateway (Oxford North) Pear Tree Farm (originally part of Northern Gateway AAP)	The site is less than 500m away from the SAC. The site is considered suitable for a mix of uses, including employment and housing. Previous HRA work for the site included screening and appropriate assessment stages. The appropriate assessment concluded that there would be no likely significant effects as a result of the mitigation measures proposed. These mitigation measures were embedded within the previous policy framework (AAP). Air quality impacts of the whole plan (on SAC) have been assessed using transport	Previous HRA work suggested mitigation measures to reduce the risk of recreational impacts. Increased amount of public open space provided at the site. HRA for AAP also investigated impacts on balanced hydrological regime and concluded no significant effects.

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
		modelling. Results presented in section 5 of this HRA Screening.	
49	Oxford University Press Sports Ground, Jordan Hill	The site is located more than 200m away from SAC but within the buffer zone for recreational impacts (1,900m). Site lies in an area of potential hydrological connectivity with the SAC. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Potential for recreational impacts on SAC if residential development is supported in the final policy. Potential for water quantity and quality impacts due to site's location on or near the North Oxford Gravel Terrace
Outside Northern Edge AOF			
18	Diamond Place and Ewert House	The site is located more than 200m away from SAC but within the buffer zone for recreational impacts (1,900m). Site lies in an area of potential hydrological connectivity with the SAC. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Potential for recreational impacts on SAC if residential development is supported in the final policy. Potential for water quantity and quality impacts due to site's location on or near the North Oxford Gravel Terrace
20b2	Myers Briggs, Elsfield Hall, Elsfield Way	Site within the buffer zone for recreational impacts (1,900m) and within an area of potential hydrological connectivity with the SAC.	Potential for recreational impacts on SAC if residential development is supported in the final policy.

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
		Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Potential for water quantity and quality impacts due to site's location on or near the North Oxford Gravel Terrace
South Infrastructure Area			
	Cowley Branch Line, Littlemore and the Leys Area of Focus (AOF)	The whole of the Southern Infrastructure Area lies outside the buffer zones for recreational impacts and outside of the potential groundwater recharge zone for the SAC. Transport modelling that informs the air quality screening takes account of all sites in the plan.	Site allocations and development likely to come forward within this Area of Focus are unlikely to have a significant impact on the Oxford Meadows SAC.
111 289 467 497 587 588 28a, 28c 28b	Oxford Stadium Sandy Lane Recreation Ground Edge of Playing Fields, Oxford Academy MINI Plant Oxford ARC Oxford The Oxford Science Park Kassam Stadium, Ozone Leisure Complex and Minchery Farmhouse Overflow Car Park at Kassam Stadium	All sites listed here are outside the buffer zones for recreational impacts (1,900m) and do not lie in an area of hydrological connectivity to the site. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Sites listed here are unlikely to have a significant impact on the Oxford Meadows SAC due to their location. Sites listed are screened out from further assessment.
		Outside Cowley Branch Line AOF	
14 16	Templars Square Cowley Marsh Depot, Marsh Road	All sites listed here are outside the buffer zones for recreational impacts (1,900m) and	Sites listed here are unlikely to have a significant impact on the

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
17 26 104 113 120 389 008a 33 516	Crescent Hall Jesus College Sports Ground (Herbert Close) Former Iffley Mead Playing Field Redbridge Paddock Unipart Site Land at Meadow Lane Bertie Place Recreation Ground Littlemore Mental Health Centre, Sandford Road 474 Cowley Road (Former Powell's Timber Yard)	do not lie in an area of hydrological connectivity to the site. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Oxford Meadows SAC due to their location. Sites listed are screened out from further assessment.
East Infrastructure Area			
	Marston Road and Old Road Area of Focus	The entire Marston Road and Old Road Area of Focus lies outside the buffer zones for recreational impacts (1,900m) and does not lie in an area of hydrological connectivity to the site. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Site allocations and development likely to come forward within this Area of Focus are unlikely to have a significant impact on the Oxford Meadows SAC.
12 63 117 440 42	Churchill Hospital Warneford Hospital Land surrounding St Clements Church 1 Pullens Lane Nuffield Orthopaedic Centre Marston Road Campus Old Road Campus	All sites listed here are outside the buffer zones for recreational impacts (1,900m) and do not lie in an area of hydrological connectivity to the site. Air quality impacts of the whole plan (on SAC) have been assessed using transport	Sites listed here are unlikely to have a significant impact on the Oxford Meadows SAC due to their location. Sites listed are screened out from further assessment.

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
439 043		modelling. Results presented in section 5 of this HRA Screening.	
		Outside Marston Road and Old Road AOF	
24 27 54 61 124 173 574 32, 234 38a2 204 428 463 639, 204 658 660	Government Buildings and Harcourt House John Radcliffe Hospital Ruskin College Campus Union Street Car Park Slade House Bayards Hill Primary School Part Playing Fields Manzil Way Resource Centre Lincoln College and Jesus College Sports Ground Thornhill Park (wider site) East Oxford Bowls Club Rectory Centre Ruskin Field Oriol College Sports Ground, Bartlemas and former Bowling Green Barton 3b, Land to the rear of Harolde Close 2 Harberton Mead	All sites listed here are outside the buffer zones for recreational impacts (1,900m) and do not lie in an area of hydrological connectivity to the site. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Sites listed here are unlikely to have a significant impact on the Oxford Meadows SAC due to their location. Sites listed are screened out from further assessment.
Central and West Infrastructure Area			
	University Areas North of the City Centre Area of Focus	Areas of focus will not allocate sites but rather set out broad infrastructure requirements and other non-site-specific policy aspects.	

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
62	University of Oxford Science Area and Keble Triangle	All sites listed here are outside the buffer zones for recreational impacts (1,900m) and do not lie in an area of hydrological connectivity to the site. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Sites listed here are unlikely to have a significant impact on the Oxford Meadows SAC due to their location. Sites listed are screened out from further assessment.
65 006b	West Wellington Square Banbury Road University Sites	All sites listed here are within the buffer zone for recreational impacts (1,900m) and are not located in an area of hydrological connectivity with the SAC. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Potential for recreational impacts on SAC if residential development is supported in the final policy.
579	ROQ Site	Although this site is within the buffer zone for recreational impacts (1,900m), the Reg. 18 consultation document states that the suitable uses for the site are “academic-led development”. Site screened in for further assessment as a precaution as residential development (although unlikely) is not ruled out at this stage.	Potential for recreational impacts on SAC if residential development is supported in the final policy. Potential for water quantity and quality impacts due to site’s location on or near the North Oxford Gravel Terrace

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
		Site located in an area of potential hydrological connectivity with the SAC.	
	West End and Botley Road Area of Focus	Areas of focus will not allocate sites but rather set out broad infrastructure requirements and other non-site-specific policy aspects.	
70 76 81 586 624 75 (a,b) 616 657	Island Site Oxpens Worcester Street Car Park Osney Mead Land South of Frideswide Square Oxford Railway Station and Becket Street Car Park St Thomas School and Osney Warehouse Clarendon Centre	All sites listed here are within the buffer zone for recreational impacts (1,900m) and do not lie in an area of hydrological connectivity to the site. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Potential for recreational impacts on SAC if residential development is delivered at this location.
		Sites Outside University Area AOF and West End AOF	
11	Canalside Land, Jericho	All sites listed here are within the buffer zone for recreational impacts (1,900m) and are not located in an area of hydrological connectivity with the SAC. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Potential for recreational impacts on SAC if residential development is delivered at this location.
21 31	Faculty of Music, St Aldates Manor Place	All sites listed here are within the buffer zone for recreational impacts (1,900m) and are	These sites have been put forward for student

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
664	Jowett Walk (South)	not located in an area of hydrological connectivity with the SAC. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	accommodation. As such, they have been screened in for further assessment of recreational impacts on a precautionary basis.
613-615	Botley Road sites around Cripsey Road inc. River Hotel and Westgate Hotel	All sites listed here are within the buffer zone for recreational impacts (1,900m) and are not located in an area of hydrological connectivity with the SAC. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Potential for recreational impacts on SAC if residential development is delivered at this location.
Employment Sites			
		All employment sites more than 1,900m from the Oxford Meadows were screened out from the assessment.	
	Northern Gateway/ Oxford North ROQ Site Oxford University Press, Walton Well Road Jordan Hill Business Park Banbury Road Summertown Pavillion, 18-24 Middle Way	All sites listed here are within the buffer zone for recreational impacts (1,900m) and are located in an area of potential hydrological connectivity with the SAC. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Further investigation is needed for those employment sites less than 1,900m from the Oxford Meadows SAC as the plan's employment strategy now promotes an element of housing on all employment sites. As such the Stage 2 assessment will look at these sites in more detail.

Ref:	Name	If the policy has no effect, the reason why	Possible impacts on SAC
			Potential for water quantity and quality impacts due to site's location on or near the North Oxford Gravel Terrace
	New Barclay House, 234 Botley Rd Osney Mead Industrial Estate Former Botley Road Retail Park/ Botley Road Urban Science District	All sites listed here are within the buffer zone for recreational impacts (1,900m) and are not located in an area of hydrological connectivity with the SAC. Air quality impacts of the whole plan (on SAC) have been assessed using transport modelling. Results presented in section 5 of this HRA Screening.	Further investigation is needed for those employment sites less than 1,900m from the Oxford Meadows SAC as the plan's employment strategy now promotes an element of housing on all employment sites. As such the Stage 2 assessment will look at these sites in more detail.

Table A3.3 The sites and policy areas with potential impact pathways to the Oxford Meadows SAC

Impact Pathway	Policy areas and sites	Magnitude/ Duration / Location	Conclusions
Air Pollution	<u>Policy areas</u> Draft Policy S1 – Spatial Strategy Draft Policy H1 – Housing Requirement	Natural England Guidance on Air Quality suggests that increases in trips under 1,000 AADT (Cars/ LGVs) or under 200 AADT (HDV) can be screened out from further assessment.	Traffic modelling has been undertaken to support the Local Plan. The results of this modeling are discussed in section 5 of this Screening Report.
	<u>Sites</u> The transport modelling has looked at how the development proposed	It is assumed that all sites will be developed within the Local Plan	

Impact Pathway	Policy areas and sites	Magnitude/ Duration / Location	Conclusions
	through the Local Plan is likely to impact air quality at the Oxford Meadows SAC.	period. Any impacts would therefore occur within this period. Sites put forward across the city have the potential to change traffic flows on A34 and A40 which are adjacent to the Oxford Meadows SAC.	
Water Quantity Maintaining a Balanced Hydrological Regime (Groundwater)	<u>Policy Areas</u> Draft Policy S1 – Spatial Strategy Draft Policy H1 – Housing Requirement <u>Sites</u> 001a1 – Northern Gateway (Oxford North) 001e - Pear Tree Farm 49 - OUP Sports Ground, Jordan Hill 18 – Diamond Place and Ewert House 20b2 Myers Briggs, Elsfield Hall, Elsfield Way 579 ROQ Site <u>Employment sites</u> Northern Gateway/ Oxford North ROQ Site Oxford University Press, Walton Well Road	Where sites are located on the North Oxford Gravel Terrace, it is important that the same amount of surface water is able to recharge the groundwater after development is completed. It is anticipated that all sites will be developed within the Local Plan period. Any impacts would therefore occur within this period. Sites are all on or near the North Oxford Gravel Terrace.	These sites are all on, or near the North Oxford Gravel Terrace. Policy provision exists in the adopted Local Plan 2036 to ensure groundwater quality, flow and recharge is not impeded by development in this location. The Stage 2 Appropriate Assessment will make recommendations as to the precise wording of these policies to ensure that there are no significant impacts on the conservation objectives for the Oxford Meadows SAC.

Impact Pathway	Policy areas and sites	Magnitude/ Duration / Location	Conclusions
	Jordan Hill Business Park, Banbury Road Summertown Pavillion, 18-24 Middle Way		
Water Quality	<u>Policy Areas</u> Draft Policy S1 – Spatial Strategy Draft Policy H1 – Housing Requirement <u>Sites</u> 001a1 – Northern Gateway (Oxford North) 001e - Pear Tree Farm 49 - OUP Sports Ground, Jordan Hill 18 – Diamond Place and Ewert House 20b2 Myers Briggs, Elsfield Hall, Elsfield Way 579 ROQ Site <u>Employment sites</u> Northern Gateway/ Oxford North ROQ Site Oxford University Press, Walton Well Road Jordan Hill Business Park, Banbury Road Summertown Pavillion, 18-24 Middle Way	Where sites are located on or near the North Oxford Gravel Terrace it is important that the quality of surface water that is recharged to groundwater is maintained after development is completed. It is anticipated that all sites will be developed within the Local Plan period. Any impacts would therefore occur within this period. Sites are all on or near the North Oxford Gravel Terrace.	These sites are all on, or near the North Oxford Gravel Terrace. Policy provision exists in the adopted Local Plan 2036 to ensure groundwater quality, flow and recharge is not impeded by development in this location. The Stage 2 Appropriate Assessment will make recommendations as to the precise wording of these policies to ensure that there are no significant impacts on the conservation objectives for the Oxford Meadows SAC.

Impact Pathway	Policy areas and sites	Magnitude/ Duration / Location	Conclusions
Recreational Impacts	<u>Policy Areas</u> Draft Policy S1 – Spatial Strategy Draft Policy H1 – Housing Requirement Draft Policy E1 – Employment Strategy	Supports an element of housing on Key Employment Sites	Sites were screened out of this part of the assessment where they were more than 1,900m from the SAC. Sites within the 1,900m buffer zone where it was not possible to rule out residential (e.g., student accommodation proposed) were taken forward on a precautionary basis.
	<u>Sites</u> 001a1 – Northern Gateway (Oxford North)	Mix of uses includes residential	Creeping marshwort (the Schedule 2 plant) found at Port Meadow is less sensitive to trampling as it relies on grazing (by cattle and horses in this instance) to limit competition and help create the conditions in which it can grow. However, dog fouling is considered more of an issue. As no pets are allowed in purpose-built student accommodation, this is unlikely to be an issue.
	001e - Pear Tree Farm	Mix of uses includes residential	
	49 - OUP Sports Ground, Jordan Hill	Mix of uses includes residential	
	18 – Diamond Place and Ewert House	Mix of uses includes residential	
	20b2 Myers Briggs, Elsfield Hall, Elsfield Way	Mix of uses includes residential	
	65 – West Wellington Square	Mix of uses includes residential	
	006b – Banbury Road University Sites	Mix of uses includes residential (student) (Precautionary)	
	579 – ROQ Site	Mix of uses does not include residential (Precautionary)	
	70 – Island Site	Mix of uses includes residential	
	76 – Oxpens 81 – Worcester St Car Park	Mix of uses includes residential Mix of uses includes residential	

Impact Pathway	Policy areas and sites	Magnitude/ Duration / Location	Conclusions
	586 – Osney Mead 624 – Land South of Frideswide Square 75 (a,b) - Oxford Railway Station and Becket St Car Park 616 St Thomas School and Osney Warehouse 657 Clarendon Centre 11 Canalside Land, Jericho 21 Faculty of Music, St Aldates 31 Manor Place 664 Jowett Walk (South) 613-615 – Botley Road sites around Cripsey Road inc. River Hotel and Westgate Hotel <u>Employment sites</u> Northern Gateway/ Oxford North ROQ Site Oxford University Press, Walton Well Road	Mix of uses does not include residential (Precautionary) Mix of uses includes residential Mix of uses includes residential Mix of uses includes residential Mix of uses includes student accommodation (Precautionary) Mix of uses includes residential Mix of uses includes student accommodation (Precautionary) Mix of uses includes student accommodation (Precautionary) Mix of uses includes student accommodation (Precautionary) Mix of uses includes residential All employment sites now provide an opportunity to deliver an element of housing. Therefore, all Key Employment Sites within 1,900m of the Oxford Meadows are taken	

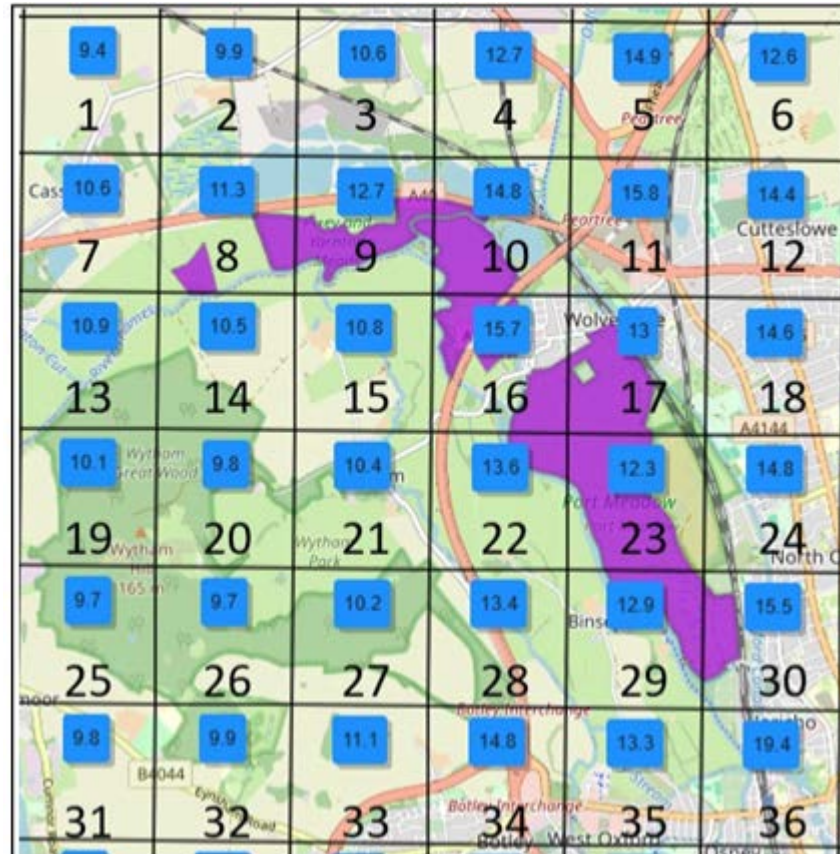
Impact Pathway	Policy areas and sites	Magnitude/ Duration / Location	Conclusions
	Jordan Hill Business Park Banbury Road Summertown Pavillion, 18-24 Middle Way New Barclay House, 234 Botley Rd Osney Mead Industrial Estate Former Botley Road Retail Park/ Botley Road Urban Science District	forward for further consideration as part of the Stage 2 Appropriate Assessment	

Appendix 4 – Modelled Base Year (APIS)

Air Pollution Information System (APIS) Base Year

The Air Pollution Information System (APIS) is a searchable database providing information on pollutants and their impacts on habitats and species in the UK. The data is presented as a 3-year average to take account of fluctuations in weather patterns.

Figure A4.1 APIS data areas for Oxford Meadows (numbered to assist interpretation)



Source: Air Pollution Information System (APIS) www.apis.ac.uk/app

Figure A4.1 shows the APIS data areas and their associated modelled pollution levels at the Oxford Meadows SAC based on the mid-year, 2021.

APIS predicts concentrations and deposition that combine a series of models with ambient measurements. The traffic flows that underpin the APIS predictions were often collected many years ago and are adjusted forward in time, based on regional trends. As such, they do not represent a precise snapshot of traffic levels in any given year. The most recent “base year” for APIS is 2021 – the “mid-year (3-year average for 2020-2022)”.

Table A4.1 shows the modelled NO_x levels for moorland/ short vegetation at the Oxford Meadows SAC. Moorland/ short vegetation is considered the most relevant modelled habitat to the qualifying habitat **H6510** Lowland hay meadows, which is found at the

Table A4.1 Modelled NO_x levels at the Oxford Meadows SAC

Three-year average range	Stated year	Cell 9 (A40): NO _x value A40	Cell 10: NO _x value A40	Cell 16: NO _x value A34	Cell 22: NO _x value A34
2003-2005	2004	26.5	33	32	28.3
2004-2006	2005	21.4	26.4	25.7	23
2005-2007	2006	21.5	27.6	27.3	24.5
2006-2008	2007	20.6	28.3	28.4	25.6
2007-2009	2008	19.8	28.6	28.6	25.8
2008-2010	2009	20.9	30.3	29.8	26.9
2009-2011	2010	23	31.8	30.9	27.2
2010-2012	2011	24.6	33.8	31.7	27.4
2011-2013	2012	25	32.9	30.3	25.9
2012-2014	2013	24.7	32.8	28.2	25
2013-2015	2014	21.8	28.1	24.9	20.8
2014-2016	2015	23.1	31	28.1	23.9
2015-2017	2016	21.7	29.5	27	23.2
2016-2018	2017	21.5	28.5	26.9	23.2
2017-2019	2018	18.5	24.6	23.6	20.4
2018-2020	2019	16	20.1	20.2	17.5
2019-2021	2020	13.9	17	17.4	15.1
2020-2022	2021	12.7	14.8	15.7	13.6

Source: Air Pollution Information System (APIS) www.apis.ac.uk/app

Table A4.1, which references some of the annotated cells shown in Figure A4.1 shows an overall decline in NO_x emissions from levels of around 30 µg/m³ in the early 2000s to around half that by 2021. As the maximum critical load for NO_x at the Oxford Meadows SAC is 30 µg/m³, this represents an improving picture over time.

Appendix 5 – 2023 Atkins Report

TECHNICAL NOTE

Oxford Local Plan 2040

SUBJECT	PROJECT NO.	DATE
Oxford Local Plan 2040 – Task 3 – Highway Modelling for HRA	5223578	10/10/2023
AUTHOR	DISTRIBUTION	REPRESENTING
AtkinsRéalis	Richard Wyatt, Victoria Jersova	Oxfordshire County Council

Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	First draft	NB	OS	AEA	AEA	27/09/2023
2.0	Final report	NB	OS	AEA	AEA	10/10/2023

Client signoff

Client	Oxfordshire County Council		
Project	Oxford Local Plan 2040	Project No.	5223578
Client signature / date			

Introduction

On the 14th July 2023, AtkinsRéalis was commissioned by Oxfordshire County Council (OCC) to carry out an assessment of the impact of Oxford Local Plan 2040 on the A34 and A40 within the vicinity of Oxford Meadow Special Area of Conservation (SAC), which was requested by Natural England.

To inform the Habitats Regulation Assessment (HRA) being prepared by Oxford City Council for the Oxford Local Plan 2040, comparison of the 2040 DS scenario with the 2040 DM scenario is required using transport modelling data.

This technical note summarises the assumptions that were used and results of the modelling work carried out for this study. The methodology follows the agreement reached at the end of the discussions with OCC. The assessment was carried out using the latest Oxford Strategic Model (OSM) developed by AtkinsRéalis.

1. Modelling Approach

1.1 Assessment Study Scenarios

The assessment involved comparing two scenarios: 2040 Do-Minimum and 2040 Do-Something. The following sections detail the proposed land use updates and other assumptions required to reflect the desired scenarios.

1.2 Do-Minimum Scenario

1.2.1 General Assumptions

It was agreed with OCC that the 2040 Do-Minimum (DM) scenario for this work would be built having as starting point scenario, the 2035 Do-Something (DS) with Workplace Parking Levy (WPL) built in 2022, after all the manual manipulations were applied post VDM. As requested by OCC, the VDM inbuilt in OSM was not undertaken as part of the future year forecasts.

In terms of demand for car and public transport, the 2035 DS scenario included individual developments from the local plans for each of the 5 districts in Oxfordshire. No TEMPRO growth was applied inside the county. TEMPRO v7.2 was, however, used for growth for the rest of Great Britain, outside Oxfordshire. The following approach was agreed with OCC for estimating the car and public transport demand in 2040:

- Inside Oxfordshire, no changes are required as the VDM included individual developments and not TEMPRO growth. While we recognise that the 5 districts have Local Plans for forecast years between 2031 and 2036, we assume that they were all taken into account in the existing 2035 run and no additional growth is considered between 2035 and 2040
- Outside Oxfordshire, we calculate adjustment factors between TEMPRO 7.2 and TEMPRO v8.0 Core scenario in 2035, then apply growth factors based on TEMPRO v8.0 Core scenario between 2035 and 2040.

The demand for light and heavy goods vehicles in the 2035 DS scenario was based on growth factors from RTF 18. It is proposed to calculate adjustment factors between RFT18 and NRTP22 for 2035, then apply NRTP22 growth factors between 2035 and 2040.

In terms of transport schemes, 2035 DS with WPL has the following characteristics:

- six traffic filters, operating 12 hours per day
- increase in parking costs in the City Centre
- Workplace Parking Levy
- Zero Emission Zone charges

Once the demand was updated, the assignments were undertaken using SATURN 11.5.05N. The assignments used Values of Time and Vehicle Operating Costs in line with TAG Databook 1.20.2.(Jan 2023).

1.2.2 Land Use Assumptions

Table 1 and Table 2 show the total number of dwellings and job assumed in 2040 DM, disaggregated by district and Uncertainty Log.

Table 1 – 2040 DM - Number of dwellings per district

No of dwellings	Cherwell (2018 to 2035)	City (2018 to 2035)	South (2018 to 2035)	Vale (2018 to 2035)	West (2018 to 2035)	Total
Completions and Commitments	8,831	1,607	26,014	12,339	3,177	51,968
Near certain	3,948	687	-	5,192	975	10,802
More than likely	11,300	1,698	-	1,479	2,181	16,658
Reasonably foreseeable	-	6,110	-	1,083	2,160	9,353
Hypothetical	-	-	-	-	260	260
Dependent development HIF	-	-	-	-	4,813	4,813
TOTAL	24,079	10,102	26,014	20,093	13,566	93,854

Table 2 – 2040 DM - Number of jobs per district

No of jobs	Cherwell (2018 to 2035)	City (2018 to 2035)	South (2018 to 2035)	Vale (2018 to 2035)	West (2018 to 2035)	Total
Completions and Commitments	14,276	351	2,462	3,261	3,874	24,224
Near certain	4,476	876	-	11,681	3,692	20,724
More than likely	20,000	14,333	-	-	3,143	37,476
Reasonably foreseeable	2,683	11,415	1,820	6,553	-	22,471
Hypothetical	-	-	-	4,737	-	4,737
Dependent development HIF	-	-	-	-	4,556	4,556
TOTAL	41,434	26,975	4,282	26,232	15,266	114,189

1.2.3 Trip rates

Table 3 summarises the trip rates that were used in OSM for the residential development sites. Table 4 summarises the trip rates that were used in OSM for the employment development sites, separated by use type.

However, it should be noted that these trip rates are the input for the original VDM run for the 2035 DS scenario with WPL. Post-VDM, manipulations of the demand due to the Zero Emission Zone charges were applied, and the resulting trip rates would be different.

Additionally, Osney Knowledge Park was treated differentially. For the partial build of the site by 2035, the “B Oxford City” trip rates were used. However, for the additional area built between 2035 and 2040, no additional car trips were included. The assumption agreed with OCC was that all additional trips would be using other modes (public transport, walking, cycling).

TECHNICAL NOTE

Table 3 – Trip rates for residential developments

	AM period (07:00 – 10:00)				Inter-peak period (10:00 – 16:00)				PM period (16:00 – 19:00)			
	Car		PT		Car		PT		Car		PT	
	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart
Rest of OXON	0.368	0.816	0.013	0.100	1.086	1.000	0.049	0.038	0.883	0.598	0.080	0.012
City Unmet Needs	0.331	0.755	0.047	0.211	0.974	0.896	0.154	0.137	0.791	0.527	0.165	0.021
Oxford City	0.295	0.694	0.080	0.322	0.862	0.791	0.258	0.236	0.699	0.457	0.250	0.030
Valley Park	0.349	0.791	0.006	0.050	1.088	1.031	0.052	0.038	0.863	0.587	0.025	0.012
Garden Village - Resi	0.463	1.406	0.013	0.100	0.786	0.600	0.049	0.038	1.338	0.729	0.080	0.012
Northern Gateway	0.335	0.796	0.008	0.111	1.031	1.013	0.058	0.045	0.874	0.569	0.098	0.013

Table 4 - Trip rates for employment developments by type

	AM period (07:00 – 10:00)				Inter-peak period (10:00 – 16:00)				PM period (16:00 – 19:00)			
	Car		PT		Car		Car		PT		Car	
	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart
B Oxford City (per 100 sqm)	1.229	0.380	0.700	0.198	1.080	1.440	0.951	1.100	0.268	1.067	0.075	0.597
B Rest of OXON (per 100 sqm)	1.784	0.551	0.127	0.024	1.670	1.790	0.116	0.164	0.379	1.511	0.025	0.119

TECHNICAL NOTE

	AM period (07:00 – 10:00)				Inter-peak period (10:00 – 16:00)				PM period (16:00 – 19:00)			
	Car		PT		Car		Car		PT		Car	
	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart	Arrival	Depart
B1(per 100 sqm)	2.799	0.703	0.698	0.031	2.252	2.436	0.230	0.325	0.516	2.441	0.050	0.614
B1 NG (per 100 sqm)	2.640	0.571	0.970	0.026	1.686	1.706	0.274	0.485	0.455	2.451	0.056	0.783
B2 (per 100 sqm)	2.113	0.789	0.090	0.015	2.245	2.454	0.026	0.062	0.509	1.713	0.009	0.065
B8 (per 100 sqm)	0.130	0.033	0.000	0.000	0.166	0.170	0.000	0.000	0.022	0.098	0.000	0.000
Hotel NG (beds)	0.328	0.402	0.047	0.177	0.590	0.639	0.102	0.171	0.401	0.326	0.145	0.041
Health (per 100 sqm)	2.113	0.789	0.090	0.015	2.245	2.454	0.026	0.062	0.509	1.713	0.009	0.065
Retail (per 100 sqm)	9.493	6.782	0.266	0.136	35.084	33.995	1.177	1.046	14.860	16.741	0.433	0.405
C (per ha)	18.443	16.483	3.391	19.485	55.867	58.106	42.673	51.111	20.128	20.533	34.743	21.948
D (per 100 sqm)	1.400	0.856	0.719	0.088	3.325	3.494	2.193	2.674	2.566	2.347	0.622	0.570
Hotel (per 100 sqm)	0.736	1.045	0.128	0.498	1.112	1.255	0.285	0.401	0.918	0.629	0.394	0.173
Hotel (beds)	0.271	0.385	0.047	0.184	0.411	0.464	0.105	0.148	0.339	0.233	0.145	0.064

1.3 Do-Something Scenario

1.3.1 General Assumptions

After the above steps described in section 1.2.1, the additional growth proposed after 2035 in the emerging Oxford Local Plan 2040 was added to the demand. The additional developments used the trip distribution of existing zones, and was uplifted for a selection of rows and columns to reach the new trip end targets for the respective zones.

As requested by OCC, the VDM inbuilt in OSM was not used.

Once the demand was updated, the assignments were undertaken using SATURN 11.5.05N. The assignments used Values of Time and Vehicle Operating Costs in line with TAG Databook 1.20.2.(Jan 2023).

1.3.2 Land Use Assumptions

Table 5 and Table 6 show the total number of dwellings and job assumed in 2040 DM, disaggregated by district and Uncertainty Log.

Table 5 – 2040 DS - Number of dwellings per district

No of dwellings	Cherwell (2018 to 2040)	City (2018 to 2040)	South (2018 to 2040)	Vale (2018 to 2040)	West (2018 to 2040)	Total
2040 DM ¹	24,079	10,102	26,014	20,093	13,566	93,854
Oxford LP	-	1,389	-	-	-	1,389
TOTAL	24,079	11,491	26,014	20,093	13,566	95,243

Table 6 – 2040 DS - Number of jobs per district

No of jobs	Cherwell (2018 to 2040)	City (2018 to 2040)	South (2018 to 2040)	Vale (2018 to 2040)	West (2018 to 2040)	Total
2040 DM ¹	41,434	26,975	4,282	26,232	15,266	114,189
Oxford LP	-	7,957	-	-	-	7,957
TOTAL	41,434	34,931	4,282	26,232	15,266	122,145

¹ Consistent with Table 1.

2. Results

This chapter presents the highway network performance statistics for the 2040 DM and 2040 DS scenarios across the Network and the Districts measured using the following metrics:

- Delays / total travel time (pcu/hr) - the time difference between travel during the peak hours and during congestion-free conditions - increased delay can be associated with an increased number of vehicles on the network as a whole or on a specific corridor;
- Congestion / overcapacity queues (pcu/hr) - measured by differences in the total time on the network - increased total time also relates to forecast increase in delay;
- Traffic / total travel distance (pcu/km) - the total distance travelled on the network;
- Speed (km/hr) - average speed on the network - reduced speed suggests that vehicles are forecast to experience increased levels of congestion.

Table 7 - Total Network modelled network performance – Morning peak hour

Parameters	Do-Minimum	Do-Something	DS - DM
Delay (pcuh)	13,663.2	14,140.2	477
Total Time (pcuh)	98,096.6	98,740.1	643.5
Total Distance (pcukm)	6,804,129.5	6,811,798.5	7,669
Average Speed (km/h)	69.4	69.0	-0.4

Table 8 - Total Network modelled network performance – Evening peak hour

Parameters	Do-Minimum	Do-Something	DS - DM
Delay (pcuh)	14,559.1	14,917.1	358
Total Time (pcuh)	105,120.2	105,638.1	517.9
Total Distance (pcukm)	7,384,560.5	7,391,991	7,430.5
Average Speed (km/h)	70.2	70.0	-0.2

3. Outputs

To inform the Habitats Regulation Assessment (HRA) being prepared by Oxford City Council for the Oxford Local Plan 2040, comparison of the 2040 DS scenario with the 2040 DM scenario is required using transport modelling data.

At the beginning of this task, the boundary of the Area of Interest (AoI) was defined. The AoI includes at least 200 metres around the Oxford Meadows Special Area of Conservation (SAC) - see Figure 1.

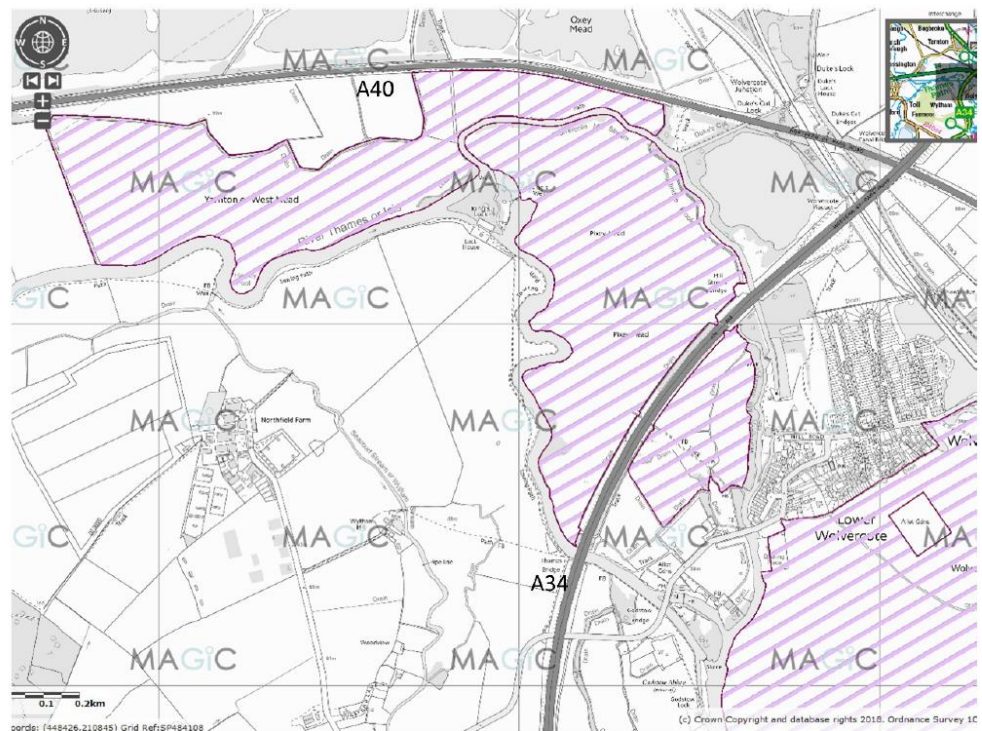


Figure 1 – The A34, A40 and the Oxford Meadows

The set of traffic data Average Annual Daily Traffic (AADT) for both DM and DS scenarios were used to inform HRA of the Oxford Local Plan 2040. The AADTs have been calculated only for the links located inside the cordons shown in Figure 2.

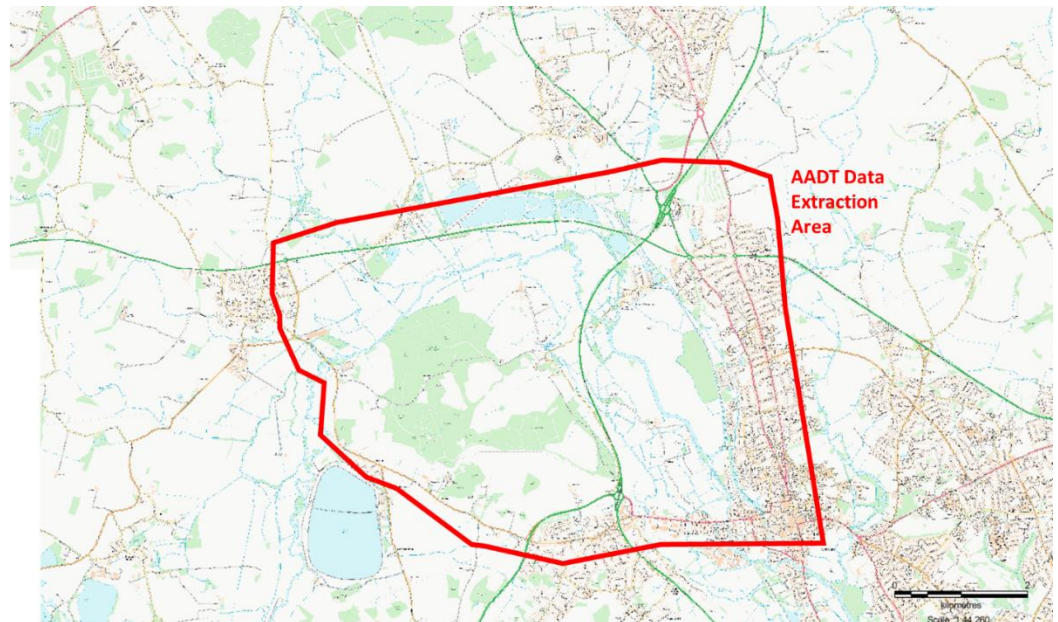


Figure 2 – AADT Data Extraction Area

This output (given to OCC as an xls) highlights the impact of the Oxford Local Plan on the Oxford Meadow SAC and area specified earlier including A40, A34 within 200m of Oxford SAC. It was advised by OCC to consider a significant impact when it matches the conditions listed the Design Manual for Roads and Bridges (DMRB) guidelines (volume 11, section 3, Part 1). This states that the following criteria for defining the significantly impacted air quality areas when comparing 2040 DM and 2040 DS scenarios:

- Daily traffic flows will change by 1,000 AADT (Annual Average Daily Traffic) or more; or
- Heavy duty vehicle (HDV) flows will change by 200 AADT or more; or
- Daily average speed will change by 10 km/hr or more; or
- Peak hour speed will change by 20 km/hr or more; or
- Road alignment will change by 5 m or more.

When processing the traffic data of both scenarios, there were a few links inside the cordon that met any one of the criteria listed above. The links are presented in Figure 3 below with AADT difference (DS-DM) for Oxford City displayed on the links.

Figure 4 shows the difference in AADTs with a focus on the A34, A40 and the Oxford Meadows. The changes in flows observed in Figure 3 in the vicinity of Botley Interchange are due to the assignment choosing a slightly different route at the final iteration and are not related in any way to the additional developments. Figure 6 shows the difference in average speed over a 24-hour period. The changes in speed near Botley Interchange are due to the same reason.

Figure 5 shows the difference in HGV flows over a 24-hour period and presents no issues.



Figure 3 – DS-DM comparison (values showing difference in AADTs)

TECHNICAL NOTE

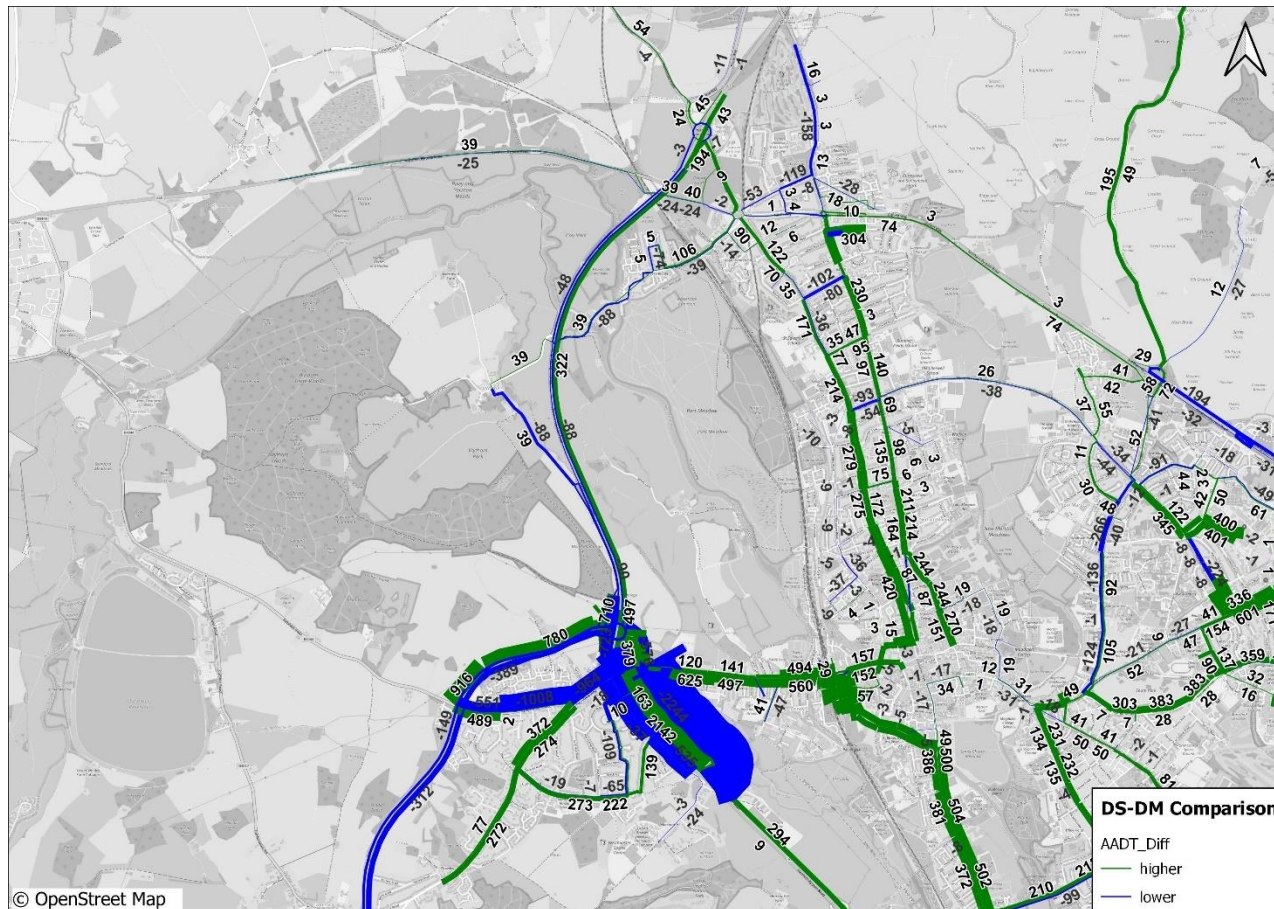


Figure 4 – Difference in AADTs (vehicles)



Figure 5 - Difference in Heavy Goods Vehicles² over a 24-hr period (vehicles)

² There are no changes for buses between the two scenarios.



Figure 6 - Difference in average speed over a 24-hr period (km/h)

4. Deliverables

The output is provided to OCC as a spreadsheet that accompanies this document, named "Oxford_Local_Plan_2040 - Housing and Employment_assump_external.xlsx ". This spreadsheet includes both DM and DS traffic data for the area specified in Figure 2 and the calculations carried to estimate the AADT.

Another deliverable is provided in the form of a GIS Shape file format covering the roads in the extraction area (Figure 2). The file names and descriptions are as follows:

- UserLinks.shp: This represents the model links/roads falling in the extraction area and data associated, including:
 - Link ID which forms from A-B nodes and mentioned in spreadsheet under column head title "Link ID"
 - SATURN A and B Nodes
 - X-Y coordinates
 - Link type
 - Distance in meter
- UserNodes.shp: This represents the model nodes, such as junctions, falling in the extraction area and data associated including:
 - Node ID
 - X-Y coordinates
 - Label which represents that whether that node is a zone centroid or normal node.
 - Node Type which states the type of node (example: centroid, signalized. etc.)
 - Sector ID which represents the sector in which the node is falling.

This document is also accompanied by a spreadsheet with the detailed land use assumptions.

5. Conclusions

On the 14th July 2023, AtkinsRéalis was commissioned by Oxfordshire County Council (OCC) to carry out an assessment of the impact of Oxford Local Plan 2040 on the A34 and A40 within the vicinity of Oxford Meadow Special Area of Conservation (SAC), which was requested by Natural England.

To inform the Habitats Regulation Assessment (HRA) being prepared by Oxford City Council for the Oxford Local Plan 2040, comparison of the 2040 DS scenario with the 2040 DM scenario is required using transport modelling data.

It was agreed with OCC that the Do-Minimum (DM) scenario for this work would be built having as starting point scenario, the 2035 Do Something with Workplace Parking Levy built in 2022, after all the manual manipulations were applied post VDM. As requested

by OCC, the VDM inbuilt in OSM was not undertaken as part of the future year forecasts.

After the DM scenario was built, the additional growth proposed after 2035 in the emerging Oxford Local Plan 2040 was added to the demand. The additional developments used the trip distribution of existing zones and was uplifted for a selection of rows and columns to reach the new trip end targets for the respective zones.

The set of traffic data Average Annual Weekday Traffic (AADT) for both DM and DS scenarios were used to inform the Habitats Regulations Assessment of the Oxford Local Plan 2040. The AADTs have been calculated only for the links located inside the cordon shown in Figure 2. Detailed results are given in the spreadsheet that accompanies this document.

Appendices

Appendix A. Transport schemes

A.1 Highway assumptions

District	Highway scheme description	2035 DS with WPL	Uncertainty Log
Cherwell	A41 / Neunkirchen Way roundabout (Rodney House)	Y	More than Likely
Cherwell	A41 Oxford Road / Boundary Way roundabout improvement scheme	Y	More than Likely
Cherwell	Bicester Town Centre changes	Y	Near Certain
Cherwell	M40 J10 Improvements	Y	Near Certain
Cherwell	M40 J9 Phase 2	Y	Near Certain
Cherwell	Oxford Road / Pingle Drive junction	Y	More than Likely
Cherwell	Bucknell Road/A4095 Howes Lane new priority junction	Y	More than Likely
Cherwell	Pioneer Roundabout	Y	More than Likely
Cherwell	Upper Heyford improvement	Y	Near Certain
Cherwell	Updated Bicester SE Perimeter Road as indicated by OCC, Langford Lane is not included in the model for being only a local access	Y	More than Likely
Cherwell	Spine Road Through SE Bicester – modelled at a speed of 40 mph (64 kph) as indicated by OCC	Y	More than Likely
Cherwell	Upgrade of the SE Segment of the A4421	Y	More than Likely
Cherwell	Improvements to Skimmingdish Lane	Y	More than Likely
Cherwell	Tunnel under the rail line – Howes Lane Realignment and the off-site mitigation at Lords Lane	Y	Near Certain
Cherwell	London Road is not available as a through route in the model to reflect the severe restrictions of the level crossing by 2031	Y	More than Likely
Cherwell	Charbridge Lane – dualled	Y	More than Likely
Cherwell	Include the realignment and signalisation of the A4260/ A4095 junctions as part of the Shipton Quarry permitted use	Y	Near Certain
City	Becket Street extension and new junction with Oxpens Road – New site access and link road through Oxpens site	Y	Near Certain
City	Botley interchange – Capacity improvements on circulatory and approaches	Y	Complete
City	Cuttislowe and Wolvercote Roundabouts	Y	Complete
City	Eastern Arc	Y	Near Certain
City	Frideswide Square improvements: Station access converted from signalised junction to a roundabout. Park End Street / Hythe Bridge	Y	Complete

TECHNICAL NOTE

District	Highway scheme description	2035 DS with WPL	Uncertainty Log
	Street and Park End Street/Hollybush Row signals converted to roundabouts. Bus link from Hollybush Row to Park End Street/Becket Street junction closed completely		
City	Hinksey Hill – A423 to A34 southbound: Upgrade to the westbound approach from the A423.	Y	Near Certain
City	Hinksey Hill – Science Transit: Bus lane on northbound off-slip	Y	Near Certain
City	Kennington Roundabout improvements: Signalised Hamburger implemented.	Y	Complete
City	The Plain and Longwall Street junction – Signal retiming at Longwall Street and cycle improvements	Y	Near Certain
City	West Way/ Botley Road junction improvements: Junction upgrades on West Way and North Hinksey Road. West Way/A420, West Way/North Hinksey Road and the junction to the south	Y	More than Likely
City	Worcester Street/George Street junction	Y	Near Certain
City	Updated Barton site access and bus link	Y	Near Certain
City	Headington roundabout - phase 1 (completed)	Y	Complete
City	Includes Access to Headington package.	Y	More than Likely
City	Connecting Oxford City Centre Bus Gates	Y	Reasonably Foreseeable
City	Connecting Oxford Workplace Parking Levy	Y	Reasonably Foreseeable
Vale/South	Harwell Link Road Section 1 (B4493 to A417)	Y	More than Likely
Vale/South	Didcot Northern Perimeter Road (NPR) 3 and associated junctions	Y	More than Likely
Vale/South	Wantage Eastern Link Road (WELR)	Y	More than Likely
Vale/South	A34 Milton Interchange Hamburger	Y	More than Likely
Vale/South	A34 Chilton Northern Slip Roads	Y	More than Likely
Vale/South	Foxhall Bridge Widening	Y	More than Likely
Vale/South	Access to Harwell Section 2 (Hagbourne Hill)	Y	More than Likely
Vale/South	Grove Northern Link Rd	Y	More than Likely
Vale/South	Rowstock Roundabout improvements	Y	More than Likely
Vale/South	Featherbed/Steventon Lights junction improvements	Y	More than Likely
Vale/South	Great Western Park access	Y	More than Likely
Vale/South	Valley Park spine road (A4130 – B4493)	Y	More than Likely
Vale/South	Coding to reflect traffic management measures in villages (Harwell)	Y	More than Likely

TECHNICAL NOTE

District	Highway scheme description	2035 DS with WPL	Uncertainty Log
Vale/South	Harwell Oxford all access points junction improvements	Y	More than Likely
Vale/South	Improvements to traffic signals at Frilford Junction (A415/A336)	Y	More than Likely
Vale/South	Junctions on A4130	Y	More than Likely
Vale/South	A420 Western Vale infrastructure (Faringdon – access to The Steeds development)	Y	More than Likely
Vale/South	Lodge Hill Interchange (South facing slip roads onto the A34)	Y	More than Likely
Vale/South	Clifton Hampden Bypass	Y	More than Likely
Vale/South	Culham to Didcot Thames River Crossing	Y	More than Likely
Vale/South	Science Bridge modelled with two roundabouts as in the OCC layout & A4130 Capacity Improvements	Y	More than Likely
Vale/South	South Access to Valley Park Spine Road modelled according to the layout provided by Brookbanks in October (5 arm roundabout).	Y	More than Likely
Vale/South	A420-Highworth Road, Shrivenham	Y	More than Likely
West	A4095/B4022 Staple Hall - Two mini-roundabouts connected by a short connecting link (2014 situation)	Y	Complete
West	A415 Ducklington Lane/Station Lane junction improvement - Capacity increase on the Station Lane approach.	Y	Complete
West	Brize Norton Village Traffic Calming - Capacity constraint on Minster Road between Elm Grove and Manor Road to reflect link layout change.	Y	More than Likely
West	Down's Road/A40 new junction - At grade roundabout access for Downs Road connecting onto the A40.	Y	Complete
West	Shilton Link Road from B4020 to Elmhurst Way	Y	More than Likely
West	B4477 Capacity Enhancement through widening (still single carriageway)	Y	More than Likely
West	Straightening of the existing road between the A40 at Minster Lovell south to the roundabout junction north of Brize Norton	Y	More than Likely
City	Botley Rd Bus Lane Phase 1	Y	Complete
City	Banbury and Woodstock Roads	Y	Reasonably Foreseeable
Cherwell	A44 Corridor Improvements - Kidlington Roundabout (P1B), Peartree Loop Farm (P1D) and A44 up to and including junction with Cassington Road (P1A)	Y	Near Certain
Cherwell	A44 Corridor Improvements - P2B (A44/A4095 to Langford Lane to Cassington Road)	Y	Reasonably Foreseeable
Cherwell	A44 Corridor Improvements - P2C Langford Lane to Cassington Road	Y	Reasonably Foreseeable
Cherwell	Begbroke P&R access junction	Y	More than Likely
City	North Oxford Scheme (including Eastbound bus lane) – includes updated infrastructure around Northern Gateway on the A40 and A44 according to the latest layout, which includes the internal link road open to through traffic and improvements to Peartree	Y	Near Certain

TECHNICAL NOTE

District	Highway scheme description	2035 DS with WPL	Uncertainty Log
	Interchange. NOTE: new junctions on A40 and A44 with ped crossings etc will limit capacity		
West	A40 Witney - Shores Green scheme (adds access to/from A40 West)	Y	More than Likely
West	Full Eastbound bus lane between Eynsham P&R and Duke's Cut Bridge (without connection to the North Oxford bus lane) and the related junction improvements (@ Witney Road, Eynsham Roundabout and Cassington Signals) to accommodate the bus lanes	Y	More than Likely
West	OCGV access junction (Western Dev RdBt) ONLY NOW SERVES GV	Y	More than Likely
West	OCGV link connects to Lower Road in the east – priority junction	Y	More than Likely
West	Cuckoo Lane is closed at junction with A40	Y	More than Likely
West	West Eynsham SDA – link road from the P&R Junction to the B4449 (roundabout) NOTE THIS IS NOW ACCESSED OFF THE P&R JUNCTION	Y	More than Likely
West	P&R Access Junction - Includes junction for access to Eynsham Park and Ride site (plus 4th arm serving West Eynsham SDA)	Y	More than Likely
West	Full Westbound Bus Lane between Duke's Cut Bridge and Eynsham P&R and related junction improvements (@ Witney Road, Eynsham Roundabout and Cassington Signals) to accommodate the bus lanes	Y	More than Likely
West	Duke's Cut Bridge widening (offers EB bus lane connection to the North Oxford bus lane)	Y	More than Likely
West	Witney to Eynsham: Dualling (2 lanes for general traffic in both directions)	Y	More than Likely
South	Didcot HIF1 Improvements	Y	

A.2 Public transport assumptions

District	Service Number	Bus scheme description	2035 DS with WPL	Uncertainty Log
Bus services				
Cherwell	S4 S4A	2 new buses per hour to Banbury via Bankside plus enhancement of service s4 between Deddington and Banbury via main road	Y	Near Certain
Cherwell	25A 25B	Create additional services between Upper Heyford and Bicester, also Upper Heyford with Oxford with an additional frequency of 1 bph for all time periods. (new frequency 2 buses per hour)	Y	Near Certain
Cherwell	NWB	Create new bus service from NW Bicester to Bicester Town Centre	Y	Near Certain
Cherwell	GH	Create new bus service between Bicester Town Centre and Oxford going through Graven Hill (using Spine Road Through SE Bicester and Bicester SE Perimeter Road) with a frequency of 2 buses per hour in each direction	Y	Near Certain

TECHNICAL NOTE

District	Service Number	Bus scheme description	2035 DS with WPL	Uncertainty Log
Cherwell	S5	Update of the bus service S5 to stop at Graven Hill;	Y	Near Certain
Cherwell		As a consequence of the ban on London Road, all the buses using this segment previously were re-routed via Charbridge Lane.	Y	Near Certain
Cherwell		- The following bus services should be removed: - o Route 18 Oxford-Woodstock Road-A40-Eynsham-Bampton - o Route 17 Cutteslowe - Oxford - o Route 94 Ambrosden-Charlton-Islip-Oxford - o Routes K1, K2 Kidlington local services, including link to Yarnton, Begbroke - o Route 25 Woodstock-Kirtlington-Wendlebury-Bicester	Y	Near Certain
Cherwell		- The following bus services should be updated: - o Regarding the S4 Banbury-Deddington-Kidlington-Oxford, 1 bus per hour each way, will become 2 buses per hour each way - o Bus service 500 will become 4 buses per hour with the following route: Begbroke P&R – Bladon – Langford Lane – A44 – Water Eaton P&R – Oxford - o Bus service 700 will become 4 buses per hour with the following route: Begbroke P&R – Bladon – Langford Lane – A44 – Water Eaton P&R – Headington - o Route 25A Oxford-Kirtlington-Upper Heyford-Bicester, 1 bus per hour each way, will become 2 buses per hour each way - o S5 will have two additional variants: i. S5a with 2 buses per hour and the following route: Glory Farm – Manorsfield Road – A41 – A34 – Bicester Road – Banbury Road – Headley Way – Brookes University ii. S5b with 2 buses per hour and the following route: Manorsfield Road – Launton Road – Charbridge Lane – South East Bicester link Road – A41 – A34 – Bicester Road – Banbury Road – Oxford (City Centre)	Y	Near Certain
City		Frequency update for services 700, 800 and 900	Y	Near Certain
City	NSS	Bus services serving Barton development (re-routing of bus service 8 and new shuttle service between Barton and John Radcliffe Hosp. with a frequency of 2bph);	Y	Near Certain
City		Revised routing and frequency as part of Connecting Oxford proposals	Y	Reasonably Foreseeable
Vale/South	66	Faringdon - Increase 66 service (Swindon-Oxford) to 3 buses/hour	Y	Near Certain
Vale/South	X39	Wallingford - Increase X39 service (Wallingford-Oxford) to 3 buses/hour	Y	Near Certain
Vale/South	280	Thame - Increase 280 (Thame - Oxford) to 4 buses/hour	Y	Near Certain
Vale/South	36 31	2 buses per hour Harwell-Crab Hill-Grove Airfield-Milton Park Didcot (service 36) plus diversion of 2 buses per hour Wantage Oxford through site (either x30 or 31)	Y	Near Certain
Vale/South	45 44VP 46	"North East Didcot, 4 buses per hour to Didcot Town Centre and Station and then 2 of these extended to Milton Park and on to Harwell"	Y	Near Certain
Vale/South	45 46	"Valley Park, 2 buses per hour Didcot-Wantage Road-Valley Park-Milton Park, plus 2 buses per hour Didcot - main road - Valley Park – Harwell"	Y	Near Certain
Vale/South	55 56	"Great Western Park, same pattern as at Valley Park, 4 per hour to Didcot Town Centre, 2 to Milton Park, 2 to Harwell"	Y	Near Certain

TECHNICAL NOTE

District	Service Number	Bus scheme description	2035 DS with WPL	Uncertainty Log
West	488	2 buses per hour (Chipping Norton – Banbury) (currently one bus per hour)	Y	Near Certain
West		The following bus services should be updated: S1, S2 and S7 (Frequencies depend on scenario)	Y	Near Certain
Park&Ride sites				
		Peartree	Y	Existing
		Water Eaton	Y	Existing
		Secourt	Y	Existing
		Redbridge	Y	Existing
		Thornhill	Y	Existing
		Begbroke	Y	More than likely
		Eynsham	Y	More than likely
Rail Schemes				
Evergreen 3	EWR3	Evergreen3 from Chiltern Railway consists in the creation of a new service between Oxford and London Marylebone, with a headway of 30 minutes all day.	Y	Complete
Henley-on-Thames	GW_N13 GW_S13	Shuttle service between Henley and Twyford with a frequency of 2 tph, allowing the transfer to the services to London and Oxford.	Y	Complete
North Cotswolds Line*		The services inherited from the Base Year have been substituted by the following (for all time periods):	Y	
	GW_N7 GW_S8	• Worcester Moreton-in-Marsh Oxford London Paddington – 1 tph	Y	More than likely
	GW_S3	• Great-Malvern Moreton-in-Marsh Oxford London Paddington – 1 tph	Y	More than likely
	GW_N10 GW_S10	• Kidderminster Moreton-in-Marsh Oxford London Paddington – 1 tph	Y	
	GW_S11 GW_N11	• Hanborough Oxford Didcot – 1 tph	Y	
	GW_S14 GW_N14	• Hanborough Oxford Culham Didcot – 1 tph	Y	More than likely
Culham Station		The following services now stop at Culham and Radley (in all time periods):	Y	
	EWR1	• Reading to/from Bedford – 1 tph	Y	?
	EWR2	• Reading to/from Milton Keynes – 1 tph	Y	?
Oxford to Didcot	GW_N14 &S14 GW_N11 &S11 GW_N7 &S8	Additionally, two more trains per hour stop at Radley and 1 train per hour stops at Appleton (in all time periods).	Y	?

TECHNICAL NOTE

District	Service Number	Bus scheme description	2035 DS with WPL	Uncertainty Log
Didcot Parkway	GW_N4 GW_S5	For the service between Swindon and London Paddington, 1 more train per hour was added to the ones inherited from the Base Year, making a total of 3 tph (only AM and PM).	Y	?
Banbury to Oxford	GW_S1 GW_N3	The direct service between Banbury and London Paddington was substituted by a shuttle between Banbury and Didcot (in AM and PM) and Banbury and Oxford (in IP) with a frequency of 1 tph.	Y	?
East West Rail		East West Rail comprises four new services:		Reasonably Forseeable
	EWR1	• Reading – Bedford with a headway of 60 minutes all day;	Y	Reasonably Forseeable
	EWR2	• Reading – Milton Keynes with a headway of 60 minutes all day;	Y	Reasonably Forseeable
	EWR5	• Bletchley – Milton Keynes with a headway of 60 minutes all day;	Y	Reasonably Forseeable
	EWR4	• Milton Keynes – Marylebone with a headway of 60 minutes all day.	Y	Reasonably Forseeable
Oxford to Heathrow	LHR	A service with 2 tph already exists between Oxford – Didcot Parkway – Reading – Heathrow – London Paddington. Updated journey time.	Y	Reasonably Forseeable

Appendix 6 – HRA Explanatory Note

HRA: Proposed approach to cumulative assessment of impact from traffic flows associated with 2040/2042 Local Plan growth in Oxfordshire on the Oxford Meadows SAC

1. Background

The assessment of Local Plan impacts on European sites is set out in national guidance: [Habitats regulations assessments: protecting a European site](#). Natural England has also published [NEA001: Advising CAs on Road Traffic and HRA June 2018](#) on its approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations.

Guidance acknowledges that the proposals within an authority's Local Plan may not, on their own, have an effect on a European site that is significant. However, an authority must consider whether this effect could be significant when combined with any other Local Plan that affects the same site. If, in combination, a Local Plan proposal could have a significant effect on the European site, an appropriate assessment must be undertaken.

2. [Oxford Meadows Special Area of Conservation \(SAC\): Zone of Influence](#)

For screening the air pollution effects of a Local Plan, likely significant effects are only considered likely within 10km (see [JNCC report](#), para 5.5). A 10km buffer applied to the [Oxford Meadows SAC](#) is shown in Figure 1 and shows that the five Oxfordshire districts are all within 10km of the site, with the A34 and A40 adjacent to the SAC.

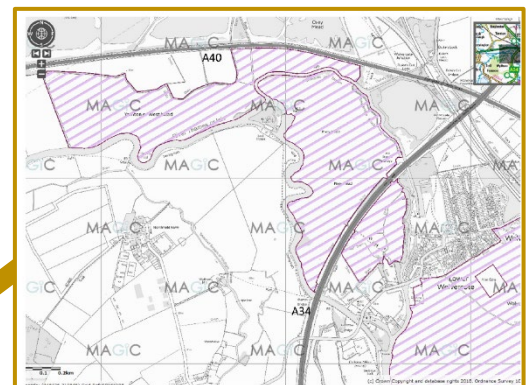
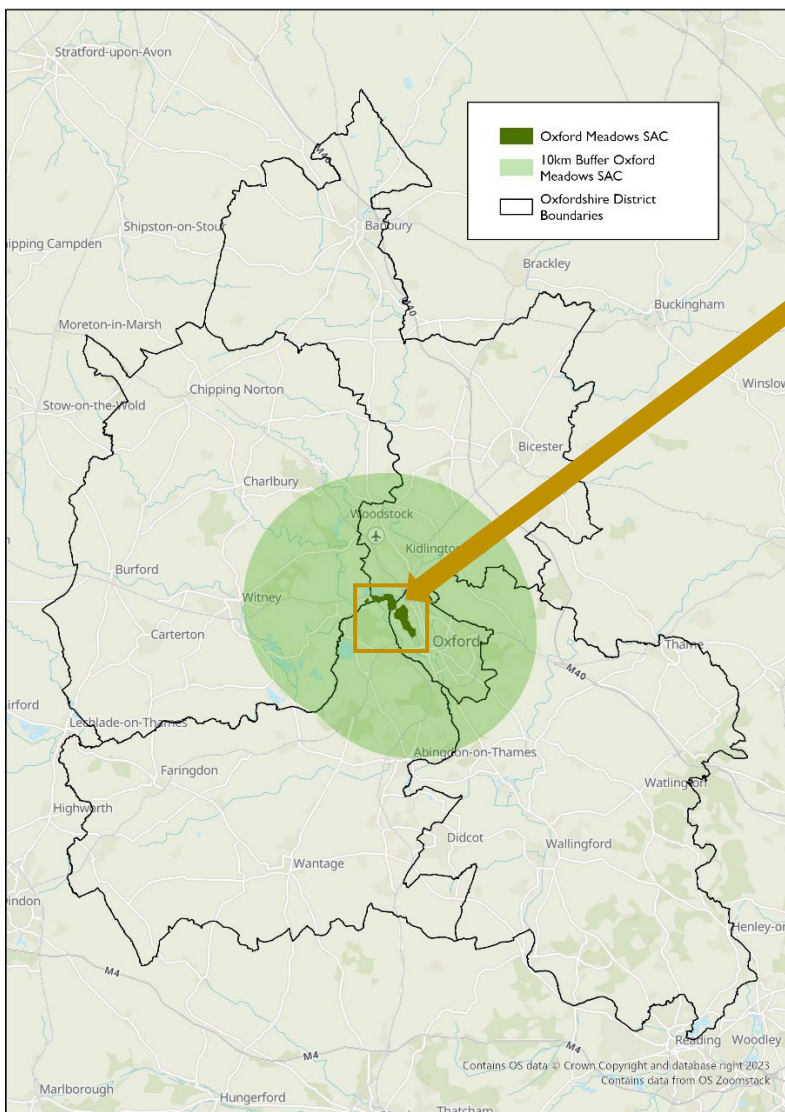


Figure 1: 10km buffer around Oxford meadows SAC

3. Emerging Local Plans in Oxfordshire

Within Oxfordshire, Local Plans are emerging for all five districts although West Oxfordshire District Council's Local Plan has not yet been through Regulation 18 consultation. The other Local Plans are further progressed and the cumulative impacts on European sites will therefore be considered for:

- Oxford City Local Plan
- South Oxfordshire & Vale of White Horse Joint Local Plan
- Cherwell Local Plan

4. Modelling approach to assessing Local Plan transport impacts

[DMRB guidance LA105](#) sets out the traffic scoping criteria that should be used to determine whether the air quality impacts of a project can be scoped out, or whether they require an assessment based on the changes between the 'do something' traffic (with the project) compared to the 'do minimum' traffic (without the project) in the opening year. The thresholds for requiring an assessment are where:

- Daily traffic flows will change by 1,000 AADT (Annual Average Daily Traffic) or more; or
- Heavy duty vehicle (HDV) flows will change by 200 AADT or more.

[NEA001](#) also presents the same assessment criteria as screening thresholds which if exceeded, will require further, more detailed work to be undertaken to ensure that there are no likely significant effects on the Oxford Meadows SAC.

This means that if the 'with' and 'without' Local Plan scenarios have a cumulative impact of less than 1,000 AADT for cars/Light Goods Vehicles (LGVs), and 200 for HDVs, no further assessment is required.

5. Scale of impacts

The change in traffic flow on the A40 and the A34 in the vicinity of the Oxford Meadows SAC is shown in Table 1 (Cars/ LGVs) and Table 2 (HDVs). Further detail regarding the derivation of traffic flow figures can be found in the forecasting reports for the individual Local Plans.

Table 1: Change in AADT flows 'with' and 'without' emerging Local Plans (Cars/LGVs)

Local Plan	A40 Two way change in AADT (from 'without' to 'with' Local Plan)	A34 Two way change in AADT (from 'without' to 'with' Local Plan)
South Oxfordshire & Vale of White Horse (S&V)	-22	-73
Oxford City	+15	+274
Cherwell	-448	-330
TOTAL (cumulative impact)	-455	-129

Table 2: Change in AADT flows 'with' and 'without' emerging Local Plans (HDVs)

Local Plan	A40 Two way change in AADT (from 'without' to 'with' Local Plan)	A34 Two way change in AADT (from 'without' to 'with' Local Plan)
South Oxfordshire & Vale of White Horse (S&V)	-8	-22
Oxford City	-13	-49
Cherwell	+26	-164
TOTAL (cumulative impact)	+5	-235

Therefore, in accordance with the DMRB LA105 Guidance and NE001 Advising CAS on Road Traffic and HRA June 2018, the assessment of air quality impacts from the three emerging plans (Oxford City, South Oxfordshire & Vale of White Horse and Cherwell) on the Oxford Meadows SAC can be screened out from further HRA assessment.