Wokingham Borough Council

Local Transport Plan 4 Sustainability Appraisal

Sustainability Appraisal Report

September 2023

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1 Introduction

1.1 Overview

1.1.1. Wokingham Borough Council (WBC) are currently preparing their Fourth Local Transport Plan (LTP4). This will replace the existing Wokingham Local Transport Plan 3 (LTP3)[1], which was adopted in 2011.

1.1.2. Wokingham Borough is located in Berkshire in the south of England, covering 179km^2. The Borough has higher car ownership than the national average. The transport network includes the M4, three A-roads and six railway stations which serve a total of five railway routes connecting Wokingham Borough to other parts of the South East, the Midlands, and west to Wales.

1.1.3. The road network in Wokingham Borough experiences high volumes of vehicular traffic. Car travel is the primary means of transport for many local journeys in the Borough. As of 2016, Wokingham Borough had limited electricity charging infrastructure (with 6 publicly accessible charging points), however in 2022 WBC received a grant for new charging infrastructure at 19 locations within the Borough, 12 of which will be located within residential areas[2].

1.1.4. The rail routes within the Borough provide services to Reading, London Waterloo, and Gatwick Airport, as well as stations throughout the Borough. The railways reach capacity during peak times, causing issues with congestion and unreliable journey times.

1.1.5. The Borough is rural in nature and the public transport network is dispersed, disconnected and unreliable, limiting accessibility to areas and services. Bus services are particularly limited in the evenings and at weekends.

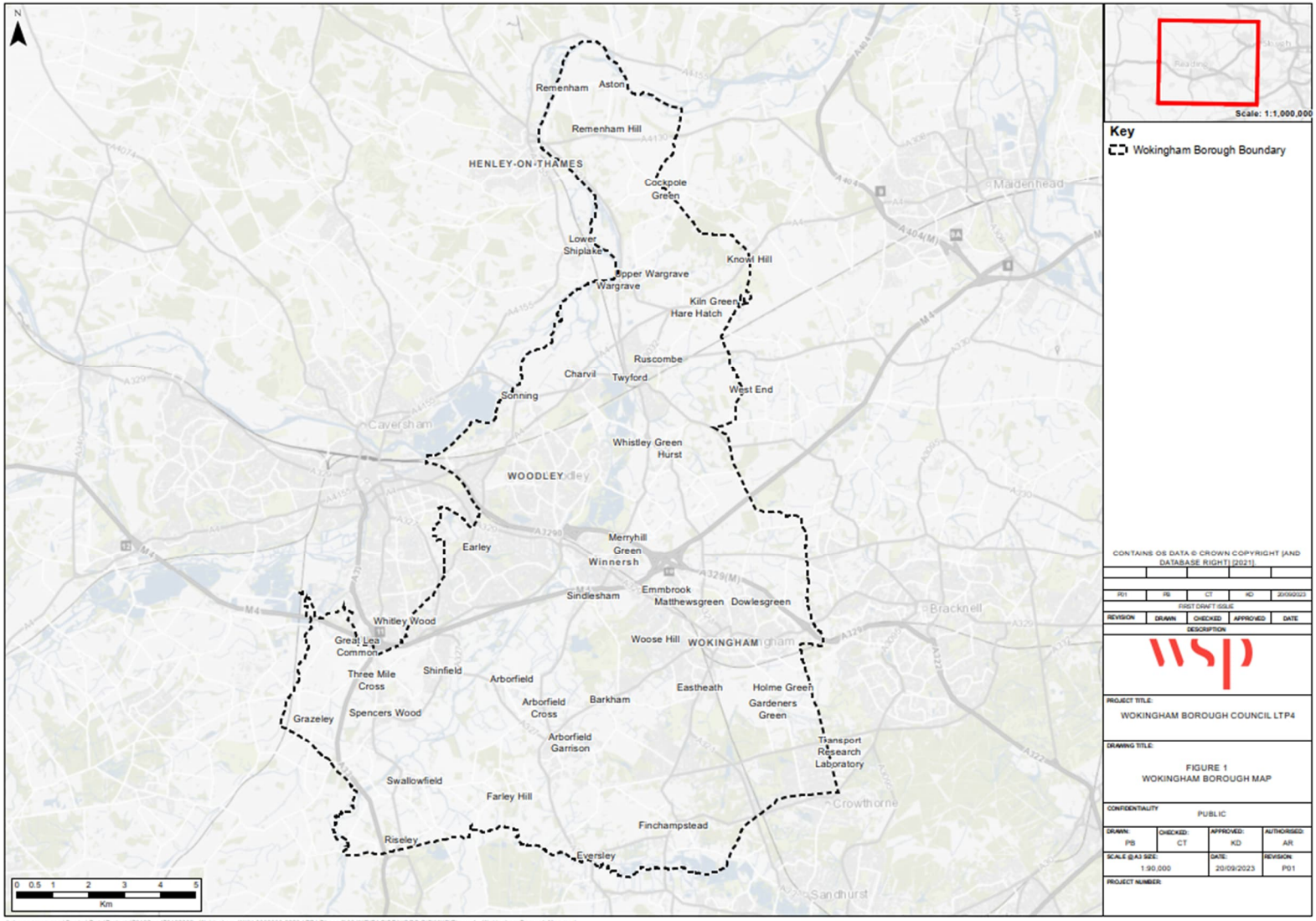
1.1.6. Within the Wokingham Borough in 2020, 18% of the total highway network was made up of Public Rights of Way (PRoW), bridleways, and the cycle network[3][4]. The routes are well used throughout the Borough. Issues with the routes include limited information,

[1] Wokingham Borough Council, Local Transport Plan 2011-2026 [online] Available at: https://www.wokingham.gov.uk/council-and-meetings/open-data/plans-policies-and-strategies/?assetdet91f252ff-550d-4cfa-a838-92ef2cb5f83c=210332&categoryesctl91f252ff-550d-4cfa-a838-92ef2cb5f83c=7749
[2] Wokingham Borough Council (2022) Locations Confirmed for new Electric Vehicle Chargers. Available at: https://news.wokingham.gov.uk/news/locations-confirmed-new-electric-vehicle-chargers/
[3] Wokingham Borough Council (2020). 'Rights of Way Improvement Plan 2020 – 2030'. Available at: https://www.wokingham.gov.uk/countryside-parks-and-conservation/footpaths-and-bridleways/public-rights-of-way-improvement-plan/
[4] Wokingham Borough Council (2020). 'Strategic Roads and Highways Map.' Available at: https://wokingham.maps.arcgis.com/apps/MapJournal/index.html?appid=b0a1cb1052f74527b89ed96d9e2145f6

accessibility for wheelchairs and pushchairs, seasonal restrictions, maintenance, and personal safety concerns.

1.1.7. The LTP4 will apply to transport systems, assets and resources within WBC's administrative boundary, shown in **Figure 1-1**, incorporating the towns and parishes of Arborfield, Barkham, Charvil, Earley, Finchampstead, Hurst, Sonning, Remenham, Ruscombe, Shinfield, Twyford, Wargrave, Three Mile Cross, Winnersh, Spencers Wood, and Woodley.

Figure 1-1 - Wokingham Borough Council Boundary



1.2 Local Transport Plans

1.2.1. The Government's 1998 White Paper on transport, 'A New Deal for Transport: Better for Everyone'[5], introduced the concept of Local Transport Plans (LTPs) to steer the development of national transport policies at the local level. The Transport Act 2000[6] (now amended by the Local Transport Act 2008[7]) then made it a statutory requirement for local transport authorities outside of London to produce LTPs having regard to Government guidance and policies on the environment.

1.2.2. The more recent Local Transport Act 2008[7] gave local authorities the freedom to decide for themselves how many years future LTPs should cover, including the option to set different time spans for the Strategy and implementation plan elements of the LTP.

1.2.3. The Local Transport Act 2008[7] makes particular reference to climate change mitigation and adaptation, but states that authorities should consider how their strategies and implementation plans relate to all relevant environmental issues, including air quality, noise, landscape and biodiversity.

1.2.4. The Department for Transport (DfT) are currently updating LTP guidance along with additional standalone quantifiable carbon reductions (QCR) guidance. When used as a part of the LTP development process, the QCR guidance will help local authorities make evidence-based decisions on the carbon impacts of their LTP at a strategic planning stage[8]. There is however no date confirmed for when this will be consulted upon.

1.3 Purpose of the Report

1.3.1. WBC has commissioned WSP to undertake a Sustainability Appraisal (SA) (this report) which will ensure that sustainability aspects are incorporated into the Local Transport Plan 4. The SEA (set out in **Figure 1-2** below) combines the following assessment processes:

- Strategic Environmental Assessment (SEA);
- Equalities Impact Assessment (EqIA); and
- Habitats Regulations Assessment (HRA).

1.3.2. This approach enables synergies and cross-cutting impacts to be identified and avoids the need to undertake and report on separate assessments. It also reduces duplication of assessment work. A single process can improve efficiencies in the assessment itself, as

[5] Department for Transport, A new deal for transport: better for everyone - White Paper, 1998 [online] available at:https://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/about/strategy/whitepapers/previous/anewdealfortransportbetterfo5695
[6] Transport Act 2000 [online] available at: https://www.legislation.gov.uk/ukpga/2000/38/introduction
[7] Local Transport Act 2008 [online] available at: https://www.legislation.gov.uk/ukpga/2008/26/contents
[8] Department for Transport, Transport decarbonisation: local authority toolkit [online] available at: https://www.gov.uk/government/collections/transport-decarbonisation-local-authority-toolkit

many of the issues covered in the different forms of assessment overlap. This process also helps to simplify outcomes and recommendations for policymakers.

1.3.3. More detail on the SEA methodology is provided in **Section 3**.

1.3.4. This report sets out the second stage of the SEA/ local planning process, which is the assessment of the draft local plan and preparation of the Draft SA Report (SEA Stage B). The first stage of the SEA process (Stage A), Scoping, was completed in July 2023. This stage includes the following:

- Assessment of draft visions, objectives, and outcomes;
- Assessment of reasonable alternatives;
- Assessment of cumulative effects;
- Outlining initial mitigation and enhancement measures;
- Outlining recommendations; and
- Setting out next steps.

1.3.5. See **Section 3.2** for the full description of SEA stages.

2 WBC Local Transport Plan 4

2.1 Background

2.1.1. The current WBC LTP3 and associated SEA were approved in 2011. WBC's LTP3 is applicable between 2011-2026 and requires a refresh to ensure that the overarching Strategy and policy statements remain consistent with the emerging Local Plan and to reflect a changed policy, funding and transport scheme delivery environment since 2011.

2.1.2. The emerging LTP4 provides the key mechanism for expressing how transport interventions will help WBC will achieve its vision and Strategic Objectives. The LTP4 will provide a strategy for the development of implementation plans; the first will be a short-term action plan (3 years), with further revisions of specific policies within the implementation plans during the life of the LTP4.

2.1.3. The LTP4 will comprise two elements, the Long Term 'Strategy' and the 'Action Plan'.

2.2 Elements of the Local Transport Plan

The Strategy

2.2.1. The LTP4 will take a place-based approach to addressing local problems and opportunities. Four different 'Place' types have been identified:

- Wokingham and Winnersh
  - 60,000 population;
  - Largest urban centre in Wokingham Borough;
  - Highest levels of self-containment and active travel in the Borough;
  - One quarter of residents work within Wokingham or Winnersh;
  - Larger employment draw to Bracknell than Reading;
  - The area is well connected to Reading and Bracknell through rail and bus services; and
  - The A329 serves as the primary corridor for travel between the two towns and suffers from congestion and poor air quality.
- North Wokingham
  - High levels of rail travel from Twyford to Reading, Maidenhead and London;
  - Low levels of active transport use;
  - Areas of rural, dispersed populations; and
  - Regular bus services on the A4 towards Reading and Maidenhead, but fewer services elsewhere in the area.
- Earley, Woodley and Shinfield
  - 90,000 population;
  - 1 in 3 people work in Reading;

- A329 main artery into Reading, Wokingham and A329(M) onto the M4;
- A33 links to the south and M4 from Shinfield;
- Mix of household types, reflective of a larger population;
- Travel to Reading accounts for nearly a third of trips from these areas;
- High frequencies of buses, and the highest levels of bus usage in the Borough;
- Low levels of walking and cycling for commuting trips; and
- Earley station provides services to Reading, Wokingham, Guildford and London, however this is not well utilised.

- South Wokingham
  - A more diverse range of travel destinations when compared to other parts of the Borough;
  - The Arborfield community is continuing to grow, with up to 3,500 new dwellings, primary and secondary schools;
  - Arborfield has higher levels of walking and cycling than other rural areas; and
  - Hourly bus services run between Arborfield, Wokingham and Reading, via Finchampstead and Shinfield.

2.2.1. The LTP4 describes how these individual places function and considers appropriate themes for these distinct areas.

2.2.2. Draft vision themes for the LTP4 have been formulated. These include:

- Create healthy and safe places;
- Reduce environmental impacts; and
- Grow the economy.

2.2.3. As part of the development of the LTP4, a number of objectives and outcomes have been developed for each vision theme from evidence, principles consultation and national/regional targets. **Tables 2-1, 2-2, and 2-3** outline the objectives and outcomes for the LTP4.

Table 2-1 - LTP4 Objectives and Outcomes – Create Healthy and Safe Places

Objective	Outcome and supporting text
Safer Streets for All	**Outcome:** Safer environment for all road users, with a 50% reduction in serious injuries from road traffic collisions. ■ Targeted infrastructure and, where appropriate, speed limit changes to improve road safety at identified cluster sites, including Wokingham Town Centre, A4, and B3349. ■ Trial and delivery of School Streets and safer routes to school across the Borough. ■ Increase the network of quieter rural roads and residential streets. ■ Boroughwide Cycle Skills Network Audit.
50% Active Travel in Towns	**Outcome:** Healthier and more active towns that prioritise the movement of people, with 50% of trips being made by foot or bicycle. ■ High quality cycle facilities as identified in the Borough's LCWIP. ■ Reduce the dominance of vehicles to enable improved pedestrian environment and space for businesses in town centers. ■ 20mph speed limits to improve safety for walking and cycling in towns. ■ Consider E-scooter hire schemes to improve door-to-door transport options. ■ Improve access to green space, especially across Lower Earley Way and to the River Loddon. ■ Increase engagement through My Journey and expand its support and promotion of road safety, public transport and active travel. ■ Secure cycle parking, including adapted cycle parking, at local destinations.
Thriving Villages and Rural Centers	**Outcome:** Villages and local centers that support local communities through a transport system that works for them. ■ Enhance pedestrian access, safety, EV charging, secure cycle parking and motorcycle parking facilities at local destinations.

Objective	Outcome and supporting text
	■ Support opportunities for temporary highway closures for local events to support vitality of rural villages. ■ Continued expansion of Greenways network, to create safer and more attractive environment for pedestrians, cyclists and, where appropriate, horse riding. ■ Identify local priorities for improving walking, cycling and horse riding and trial changes to increase network of low traffic rural/green lanes. ■ Update of active travel route web-based mapping and physical activity challenges.

Table 2-2 - LTP4 Objectives and Outcomes – Reduce Environmental Impacts

Objective	Outcome and supporting text
Net Zero Carbon Emissions	**Outcome:** Reduced impact on the environment of transport, and new innovative measures to support the transition to net zero emissions. ■ Reduction of total traffic movements on Wokingham Borough Council roads. ■ Collaborate with supporting partners and innovators in developing new solutions for decarbonising transport, including proposals from neighboring Local Authorities. ■ Support improved digital accessibility for local residents and businesses. ■ Electric Vehicle charging infrastructure in areas with limited off-street parking. ■ Promotion of peer-to-peer electric charging networks to meet growing demand for EV charging. ■ Energy generation at park and ride sites. ■ Explore potential for a network of shared electric vehicles (car clubs).

Objective	Outcome and supporting text
Clean Air, Removal of all Air Quality Exceedances	**Outcome:** Improved air quality and removal of all air quality exceedances in the Borough. ■ Reduction of traffic and/or changes to access and speed limits, to reduce pollution and remove air quality exceedances in Wokingham Town Centre. ■ Wokingham Town Centre Freight Strategy. ■ Twyford Town Centre improvements – improve air quality, safety for cycling and pedestrians, and reliability of public transport services. ■ Support the transition to zero emission buses and new vehicles across the Borough. ■ Support rail industry and train operators to decarbonize the rail network.
High Quality Travel Corridors	**Outcome:** Increased attractiveness and convenience of walking, cycling and public transport through improved facilities, better frequency and integration. Boroughwide: ■ Improve access to public transport, including disabled parking, enhancement of bus stops and level access improvements at stations and Tan House Bridge. ■ Work with partners to develop a lower fares structure through the Enhanced Bus Partnership. ■ Continue to support community dial-a-ride services. Earley, Woodley and Shinfield: ■ Increased bus frequency and improved bus journey times along priority bus corridors including the A4/A321, A33, A329 and A327. ■ High quality cycle facilities as identified in LCWIP including – A329: Winnersh Triangle – Earley – Royal Berkshire Hospital – Woodlands Avenue – Church Road – University – Lower Earley Way ■ Improved interchange and access facilities at Earley rail station.

Objective	Outcome and supporting text
	Wokingham & Winnersh: ■ Delivery of a high-quality sustainable transport corridor along the A329 connecting Reading – Winnersh – Wokingham – Coppid Beech Roundabout and Bracknell. ■ Improve access to and facilities at stations along the North Downs Line. South Wokingham: ■ Increase bus service frequency between Wokingham Town, Arborfield and Finchampstead, initially to half hourly with aspiration to develop a 15-minute service. ■ Upgrade active travel facilities along the B3349 Barkham Road to create an active travel corridor connecting Arborfield and Wokingham Town Centre. ■ Upgrade active travel facilities along the A321 Finchampstead Road. North Wokingham: ■ Improving the forecourt and interchange facilities at Twyford station with consideration of parking issues at the station and surrounding area. ■ Reduce bus service journey times and improve reliability along the A4 corridor. ■ Improve active travel facilities into Twyford including to and from Wargrave.

Table 2-3 - LTP4 Objectives and Outcomes – Grow the Economy

Objective	Outcome and supporting text
Protect and Enhance Strategic Road and Rail Connectivity	**Outcome:** Retained and enhanced strategic road and rail network for effective travel and freight movements. ■ Maintain safe and efficient access to the A329 (M) and M4.

Objective	Outcome and supporting text
	■ Increase service capacity along the North Downs Line. ■ Increase local service frequency on the Reading to Waterloo rail line. ■ Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight across the region. ■ Develop and implement freight management policies.
A Well-Maintained Transport Network	**Outcome:** A transport network that is well maintained for all modes, and which provides attractive and comfortable transport links for all users. ■ Test and trial measures that could reduce maintenance needs, and contribute towards targets for active travel, air quality, biodiversity and/or road safety. ■ Identify opportunities to link enhancement schemes with highway maintenance. ■ Adaption of network maintenance to increase resilience to a changing climate. ■ Work with operators to share operational and real time data to improve transport services and maintenance. ■ Increase use of lower carbon, lower maintenance and/or recycled materials in construction, maintenance and highway renewals. ■ Higher priority given to footpath and cycle path maintenance and gritting.
Support Sustainable Development	**Outcome:** Attractive transport connections and sustainable communities. ■ Development layouts in accordance with Wokingham 'Living Streets' design guide to provide streets that are attractive to and permeable for pedestrians and cyclists. ■ Continue to promote contributions to My Journey for all new developments as an option instead of Travel Plans. ■ Provide and retain appropriate levels of secure cycle parking, vehicular parking and electric vehicle charging provision. ■ High quality sustainable travel options to/from all strategic development locations. ■ Delivery of off-site infrastructure required to support new strategic development.

The Action Plan

2.2.4. An Action Plan has also been developed alongside the LTP4. The Action Plan includes interventions, that are grouped under the nine objectives within the LTP4, and three vision themes. The interventions within the Action Plan have also been outlined by Place type, in line with the LTP.

2.2.5. For full details of the interventions included within the Action Plan, see **Appendix A**.

3 Methodology

3.1 Introduction

3.1.1. Sustainability Appraisal is an iterative process that is undertaken during the preparation of a plan. Its role is to promote sustainable development by assessing environmental, social and economic impacts, as well as mitigating any potential adverse effects that the plan might otherwise have.

3.1.2. The SA combines the following assessment processes:

- Strategic Environmental Assessment (SEA);
- Equalities Impact Assessment (EqIA); and
- Habitats Regulations Assessment (HRA).

3.1.3. The SEA/SA process is carried out during the preparation of certain plans and strategies including local transport plans, local plans and spatial development strategies. Its role is to promote sustainable development by assessing the extent to which emerging plans will help to achieve relevant environmental, economic and social objectives.

3.1.4. SEA is used to describe the application of environmental assessment to plans and programmes in accordance with the 'Environmental Assessment of Plans and Programmes Regulations' (SI 2004/1633, known as the SEA Regulations)[9].

3.1.5. SEA is mandatory for plans and programmes which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste or water management, telecommunications, tourism, town and country planning or land use, and which set the framework for future development consent of projects listed in the Town and Country Planning (Environmental Impact Assessment) Regulations[10].

3.1.6. SEA only considers the environmental effects of a plan whilst SA also considers a plan's wider economic and social effects in addition to its environmental impacts. It is obligatory that SAs meet all of the requirements of the SEA Regulations.

3.1.7. The approach adopted for the SA element of the LTP4 follows that set out in the Practical Guide to SEA[11] and the Planning Practice Guidance to SEA[12]. SAs do however need to

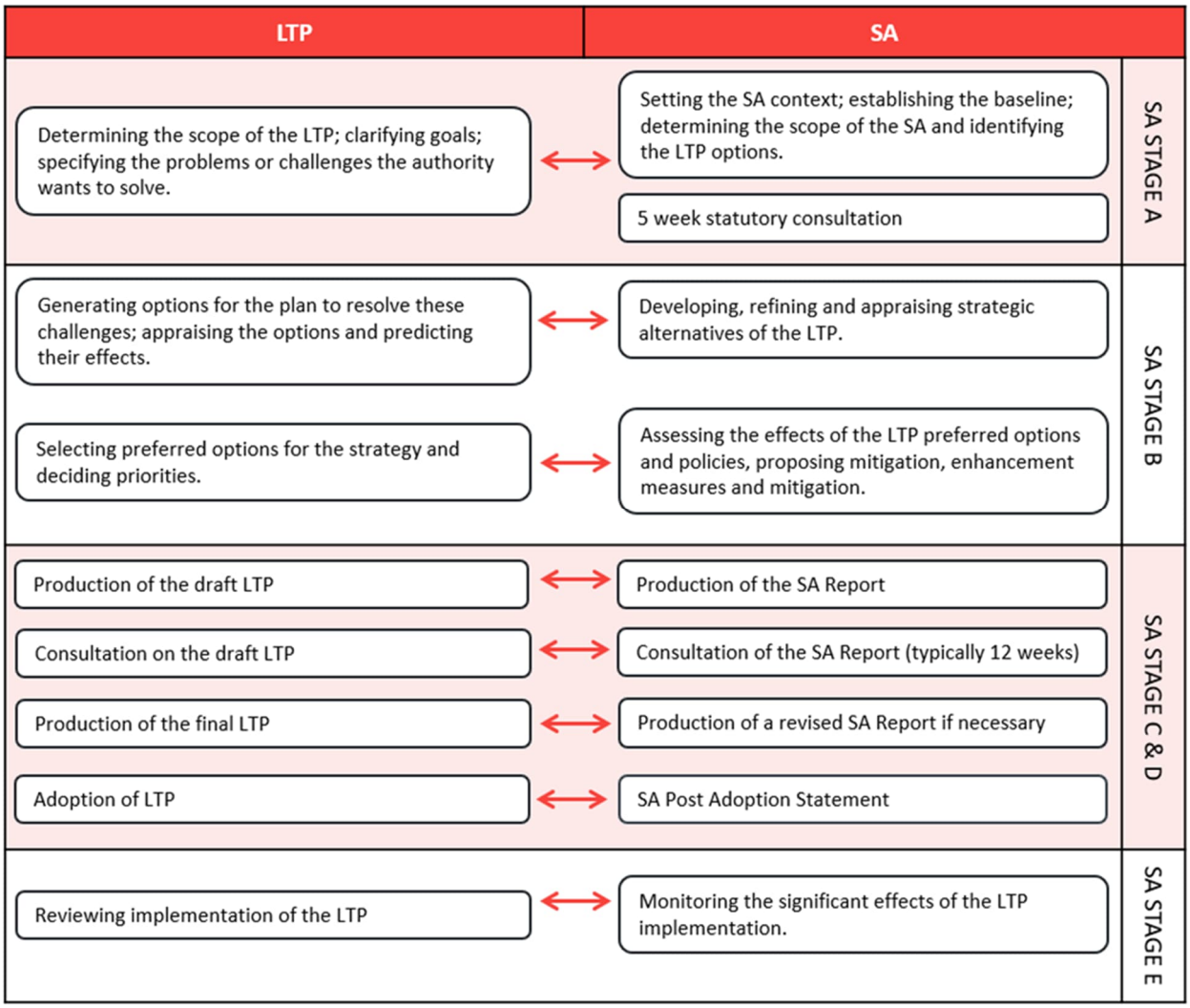
[9] SI 2004 No. 1633, The Environmental Assessment of Plans and Programmes Regulations 2004 [online] Available at: http://www.legislation.gov.uk/uksi/2004/1633/pdfs/uksi_20041633_en.pdf
[10] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 [online] Available at: http://www.legislation.gov.uk/uksi/2017/571/introduction/made
[11] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive. available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf
[12] Department for Communities and Local Government (2015) Strategic environmental assessment and sustainability appraisal. Available at: http://planningguidance.communities.gov.uk/blog/guidance/strategic-environmental-assessment-and-sustainability-appraisal/

meet all of the requirements of the SEA Regulations, so a separate strategic environmental assessment should not be required.

3.2 SEA/SA Process and Requirements

3.2.1. The integration of the SA with the LTP process is shown in **Figure 3-1**. This Report represents Stages B and C of the SEA process up to the 12 week consultation of the SA.

Figure 3-1 - SA and LTP Stages



Stage A: Scoping

3.2.2. As part of SEA/SA Stage A, a Scoping Report was completed in July 2023, which provided baseline information, highlighted key issues and opportunities for the LTP and set out the SEA Framework. Consultation on the Scoping Report took place in July 2023, which allowed the statutory consultees to provide comments on the scope of the SA, baseline information, the proposed methodology and the SA framework.

3.2.3. Comments were received from Natural England and Historic England on the SA Scoping Report and are outlined in **Table B-1** in **Appendix B**. **Table B-1** also provides our responses and actions taken in light of these comments. The Environment Agency were also consulted on the Scoping Report but failed to give a response.

3.2.4. The baseline information collected for the Scoping Report can be found in **Appendix C**.

Stage B: SA Assessment

3.2.5. Stage B comprises the assessment of the Draft LTP4 and Action Plan, against the SA Appraisal Framework objectives identified within the Scoping Report. This will aid the development of LTP4 and its policies.

3.2.6. The SEA Regulations also require consideration of reasonable alternatives. It is common practice for a SEA to consider what environmental effects would occur without the implementation of the plan (in this case the continuation of LTP3, and Action Plan Alternatives). This is done to allow the assessment of the likely effects that the implementation of the plan would have compared to any alternative plans (see **Section 8**).

3.2.7. The assessment of objectives, outcomes and alternatives is has been presented in matrix format and accompanied by explanatory text for each policy and strategy overall. The assessment criteria used are detailed in **Section 3.3**.

Stage C and D: Reporting and Consultation

3.2.8. The results, recommendations, mitigation and monitoring measures have been summarised in the SA Report (this report, Stage C).

3.2.9. In accordance with the SEA Regulations, the SA Report must be made available at the same time as the draft plan or programme, as an integral part of the consultation process, and the relationship between the documents clearly indicated (Stage D).

Stage E: Monitoring

3.2.10. This report sets out recommendations for monitoring the social, environmental and economic effects of implementing the Draft LTP4 (**Section 10**).

3.2.11. The purpose of monitoring is to measure the environmental outcome of a plan and the performance of a plan against pre-defined environmental objectives, targets, or inputs. If monitoring is carried out effectively it will contribute to managing uncertainty; improving knowledge; enhancing transparency, accountability and managing environmental information.

3.3 Report Methodology

3.3.1. Stage B and Stage C (stages included within this report) comprise the assessment of the draft LTP4, against the SEA Appraisal Framework objectives identified within the Scoping Report. This will aid the development of draft LTP4 and its objectives and outcomes.

3.3.2. This SA Draft Report will therefore cover the assessment of:

- Assessment of the LTP4 Vision, Strategic Objectives, and Outcomes;
- Assessment of Action Plan interventions; and
- Alternative policy scenarios and interventions.

Assessment of Effects

3.3.3. The assessment of vision, objectives and outcomes has considered the following:

- Overall effect significance (negative, positive, uncertain, potential for both negative and positive effect or negligible)
- Nature of effect (direct, indirect)
- Spatial Extent (local, regional, national)
- Reversibility of effect:
  - Reversible: The receptor can return to baseline condition without significant intervention
  - Irreversible: The receptor would require significant intervention to return to baseline condition
- Duration (short, medium or long term) – Short term: 0-5 years, Medium term: 5-10 years (up to the end of the plan period) Long term: 10+ years (beyond the plan period).

3.3.4. **Table 3-1** sets out the key to the assessment.

Table 3-1 – Key to Assessment

Effect Significance	Key
Potential for significant positive effects	++
Potential for minor positive effects	+
Potential for minor negative effects	-
Potential for significant negative effects	--
Uncertain effects – Uncertain or insufficient information on which to determine the appraisal at this stage	?
Potential for both positive and negative effects	+/-
Negligible / No effect	0
Magnitude (High / Medium / Low)	H / M / L
Nature of effect (direct / indirect).	D / I
Spatial Extent (local / regional / national)	L / R / N
Reversibility of effect (reversible / irreversible)	R / I
Permanence (Permanent / Temporary)	P / T
Duration (short / medium / long term).	ST / MT / LT

3.3.5. It should be noted that where uncertain and negligible effects have been identified, it has not been possible to determine the nature of effect, the spatial extent, the reversibility or the duration of effect. In this instance, the effect criteria cells have been left blank and a score of '0' given.

Assessment of Alternatives

3.3.6. The SEA Regulations require that an assessment of reasonable alternatives is undertaken.

3.3.7. For the LTP4, the assessment of alternatives will assess the continuation of the current LTP (LTP3). The assessment won't assess individual policies within these documents but will look at the application as a whole.

3.3.8. For the Action Plan, alternative interventions will be assessed. These have been taken from the long list of interventions.

3.3.9. A high-level summary of effects on each of the SEA objectives will be provided and each will be scored using the Key to Assessment set out in **Table 3-1** above. See **Section 7** for further details.

Cumulative Effects

3.3.10. The SEA Regulations require that cumulative effects are considered when identifying likely significant effects. Therefore, a number of plans and policies (local, regional and national) have been reviewed for potential cumulative effects, in addition to potential cumulative effects that could occur as a result of the implementation of the draft LTP4.

3.3.11. In addition, the assessment has considered the cumulative effects of neighbouring transport developments, including those beyond the borough boundary.

3.3.12. The assessment of cumulative effects has been undertaken in **Section 9** of this report.

Mitigation, Enhancement, and Monitoring Measures

3.3.13. The SEA Regulations require that mitigation measures are considered to prevent, reduce or offset any significant adverse effects on the environment as a result of implementing the plan.

3.3.14. Mitigation measures have been identified in relation to the assessment of visions, objectives and outcomes. These include both proactive avoidance of adverse effects and actions taken after potential effects have been identified. These are set out in **Section 10** of this report.

3.3.15. **Section 8** also includes enhancement measures, which aim to optimise positive impacts and enhance sustainability. The mechanism for delivery of mitigation and enhancement will ensure the prevention, reduction and offset of any significant adverse effects and promotion of enhancement opportunities on the environment.

3.3.16. The SEA Regulations require that monitoring is undertaken on a plan so that the significant effects of implementation can be identified and remedial action imposed, as well as measuring the benefits of enhancement. The purpose of the monitoring is to provide an important measure of the sustainability outcome of the final plan, and to measure the performance of the plan against sustainability objectives and targets. Monitoring is also used to manage uncertainty, improve knowledge, enhance transparency and accountability, and to manage sustainability information.

3.4 Assumptions and Limitations

3.4.1. The following assumptions and limitations have been identified:

- The preparation of the LTP4 alongside the SA has allowed for an iterative process of assessment and refinement in the narrative and policies within the Plan. Therefore, some

of the recommendations set out in this report may already have been addressed in the LTP4 and the SA will be updated to reflect this.

- The assessment of policies, and alternatives, has been undertaken as a desk-based exercise using the baseline information from the Scoping Report. No site visits have been undertaken specifically for the purposes of the SEA.
- The LTP4 does not propose other specific development sites with defined boundaries above those mentioned. As such, the main focus of the assessment for the SEA is of the strategic objectives (policy alternatives)..
- This SEA/SA has endeavoured to ensure that effects are predicted accurately; however, this can be challenging given limited understanding of precisely how the plan will be implemented. Given uncertainties there is inevitably a need to make some assumptions, however, these are made carefully and explained in detail within the assessment text.
- In some instances, given reasonable assumptions, it is not possible to predict 'significant effects'. However, it is possible to comment on the potential positive and negative effects of the draft plan and its alternatives in more general terms, therefore informing any likely developments of the LTP4 policy. This does mean that, at implementation phase, significant effects may still occur depending on the nature and location context of specific interventions.

3.5 Relationship with Other Processes

Equalities Impact Assessment

3.5.1. The Equality Act 2010 includes a public-sector equality duty that requires public organisations and those delivering public functions to: show due regard to the need to eliminate unlawful discrimination, harassment and victimisation; advance equality of opportunity; and foster good relations between communities.

3.5.2. The EqIA process focuses on assessing and recording the likely equalities effects as a result of a policy, project or plan. It seeks to ensure that the policy, project or plan does not discriminate or disadvantage people and enables consideration of how equality can be improved or promoted. The equality duty came into force in April 2011 and covers the following nine Personal Protected Characteristics:

- Age;
- Disability;
- Gender;
- Gender reassignment;
- Marriage and civil partnership;
- Pregnancy and maternity;
- Race;
- Religion or belief; and
- Sexual orientation.

Habitats Regulations Assessment

3.5.3. Under Article 6(3) of the EU Habitats Directive as transposed into the UK law by the Habitats Regulations[13], an assessment (referred to as an HRA) needs to be undertaken in respect of any plan or project which:

"Either alone or in combination with other plans or projects would be likely to have a significant effect on a site designated within the Natura 2000 network – these are Special Areas of Conservation (SACs), candidate SACs (cSACs), and Special Protection Areas (SPAs). In addition, Ramsar sites (wetlands of international importance), potential SPAs (pSPA) and in England possible SACs (pSACs), are considered in this process as a matter of law or UK Government policy. These sites are collectively termed 'European sites' in Habitats Regulations Assessment (HRA); and is not directly connected with, or necessary to, the management of the site".

3.5.4. Guidance on the Habitats Directive sets out four distinct stages for assessment under the Directive:

- Stage 1: Screening: the process which initially identifies the likely impacts upon a Natura 2000 site of a plan or project, either alone or in combination with other plans or projects, and considers whether these impacts are likely to be significant;
- Stage 2: Appropriate Assessment: the detailed consideration of the impact on the integrity of the Natura 2000 sites of the plan or project, either alone or in combination with other plans or projects, with respect to the site's conservation objectives and its structure and function. This is to determine whether there will be adverse effects on the integrity of the site;
- Stage 3: Assessment of alternative solutions: the process which examines alternative ways of achieving the objectives of the plans or projects that avoid adverse impacts on the integrity of the Natura 2000 site; and
- Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain: an assessment of whether the development is necessary for imperative reasons of overriding public interest (IROPI) and, if so, of the compensatory measures needed to maintain the overall coherence of the Natura 2000 network.

3.5.5. The first stage of the Habitats Regulations Assessment (screening) will be undertaken alongside this Draft SA Report, to support Regulation 18 consultation.

[13] The Conservation of Habitats and Species Regulations 2017, [online] Available at: http://www.legislation.gov.uk/uksi/2017/1012/contents/made

3.5.6. The HRA is driven by separate legislation to the SA and other forms of assessment. This means the HRA Report will be published separately to the SA Report and not included as an appendix to the SA Report.

4 Identifying Sustainability Issues

4.1 Sustainability Context

4.1.1. The SA Scoping Report was produced by WSP in 2021 and updated in July 2023, in support of the LTP4 SA. The SA Scoping Report presented the sustainability context of Wokingham Borough. The report presented baseline information across 14 SA topics and identified key sustainability issues and opportunities, which helped to form the SEA Framework.

4.1.2. **Table 4-1** below summarises the sustainability context of Wokingham Borough which was identified as part of the scoping process. The plans, policies and programmes identified in the Scoping Report, as well as the baseline can be found in **Appendix B** to the SA Report.

Table 4-1 - Sustainability Issues and Opportunities

SA Topic	Summary of Sustainability Issues and Opportunities
Natural Capital and Ecosystem Services	▪ New transport routes will need to be carefully planned so that they do not cause adverse effects on ecosystems with high (potential) ecosystem service provision. Given that ecosystem services are the benefits that nature provides to people, areas of high (potential) provision are often the green and blue spaces close to centres of population, as well as connecting habitats that link these with more remote designated habitats and landscapes. ▪ As transport corridors are typically linear, ensuring the connectivity of ecosystems is both an issue and an opportunity for the Transport Strategy. There is scope to focus on redevelopment of existing assets rather than build new, to focus development away from areas of high biodiversity and ecosystem service provision, and to enhance the quality of the transport 'soft estate' alongside existing and new transport corridors to improve habitat connectivity. ▪ Human health and quality of life can be improved by taking a natural capital approach to the Transport Strategy. For example, improving the quality of habitats (including tree planting, sowing wildflower mix rather than amenity grassland to improve biodiversity) alongside walking and cycling routes can help encourage more active lifestyles with benefits for people's physical and mental health and wellbeing. Views of vegetation from other modes of transport (e.g. along roads and railways) can also enhance mental wellbeing, for example by reducing stress levels. ▪ Enhancing the quality of transport 'soft estate' can also help improve the resilience of the transport network to future climate change, for example by reducing flood risk and providing shading and cooling benefits. ▪ Enhancing the quality of transport 'soft estate' can also help improve the resilience of the transport network to future climate change, for example by reducing flood risk and providing shading and cooling benefits. ▪ Human health and quality of life can be improved by taking a natural capital approach to the Transport Plan. ▪ Views of vegetation from other modes of transport (e.g. along roads and railways) can also enhance mental wellbeing, for example by reducing stress levels. ▪ There is scope to encourage the redevelopment of existing assets as well as build new, to focus development away from areas of high biodiversity and ecosystem service provision, and to enhance the quality of the transport 'soft estate' alongside existing and new transport corridors or to improve habitat connectivity.
Materials and Waste	▪ New transport infrastructure can lead to use of minerals and other materials, in addition to generating waste. The transport of waste and materials can lead to indirect effects from traffic such as congestion, air pollution and noise. ▪ There is a reliance upon the road network to transport materials, and it is unlikely that this will change. ▪ Increasing population of the County is likely to generate more waste which requires transportation. Construction of new transport infrastructure also has the potential to generate waste. ▪ Resource efficiency is important in the reduction of waste and conservation of resources. ▪ The LTP4 could promote opportunities to support a circular economy. ▪ Materials, including minerals, will be required in any new transport infrastructure schemes. The application of resource efficiency including use of recycled materials is important for reducing waste. There is also significant capacity for increasing the levels of recycled and secondary aggregate production used for transport infrastructure.
Soils	▪ Soil is an important natural resource for agriculture, food production, biodiversity and archaeological and geological purposes. Acknowledgement should be given to the detrimental impacts arising from soil compaction, erosion and cumulative pollution. ▪ It is important that any future development of the transport network in WBC does not have adverse impacts or lead to the degradation of Best and Most Versatile (BMV) (grades 1 to 3) agricultural land. ▪ Improvements to transport infrastructure will likely require land take. ▪ Land should be used in the most efficient manner. ▪ There's an opportunity to avoid development on some of the Borough's best and most versatile land and support the repurposing of existing infrastructure.
Biodiversity, Flora and Fauna	▪ Due consideration should be given to protecting and conserving WBC's biodiversity, particularly in light of the disturbance and habitat degradation that may arise from the construction of transport infrastructure and projected population increase. ▪ There are a number of statutory local, national and international sites designated for nature conservation within the country which may be affected by development, including transport infrastructure.

	▪ Habitats, particularly those designated as HPI and Ancient Woodland are at risk of being lost, damage or fragmented by development, including transport infrastructure. ▪ Species, including Species of Principal Importance and protected species, may also be affected by construction and operation of new infrastructure, both directly and indirectly. ▪ Biodiversity may be lost as the end result of development of new infrastructure resulting from the LTP4. ▪ LTP4 presents opportunities to be strategic in the enhancement of biodiversity at the landscape scale. ▪ The LTP4 presents opportunities to achieve biodiversity net gain (BNG) through the development of its policies and schemes. ▪ There is scope to encourage the redevelopment of existing assets as well as build new, to focus development away from areas of high biodiversity and ecosystem service provision, and to enhance the quality of the transport 'soft estate' alongside existing and new transport corridors to improve habitat connectivity. ▪ Enhancing biodiversity can also help improve the resilience of the transport network to future climate change, for example by reducing flood risk and providing shading and cooling benefits. ▪ Human health and quality of life can be improved by improving biodiversity. ▪ Views of vegetation during travel (e.g. along roads and railways) can also enhance mental wellbeing, for example by reducing stress levels. ▪ The LTP4 presents opportunities to be strategic in the landscape scale across the corridors (and, once the interventions are defined, also in relation to any necessary offsets beyond the boundary of specific developments). Existing biodiversity Opportunity Areas (Natural England) can be combined with priorities for wider ecosystem services benefits to deliver landscape wide environment gain for biodiversity and people.
Air Quality	▪ Within WBC, AQMA's are predominantly associated with transport sources and emissions. Potential adverse impacts affecting human health and the wider surrounding environment arising from transport sources will need to be given appropriate consideration. ▪ Where AQMAs are declared, due consideration of transport associated measures should be given to address their declaration. ▪ Addressing local problems associated with PM_{10}, $PM_{2.5}$, NO_x and NO_2 emissions to reduce air pollution. ▪ Although changes in technology mean that vehicles are producing fewer emissions, the number of vehicles on roads is expected to increase. This has the potential to affect air quality and as a consequence, human health, natural capital, and ecological sites. ▪ Ensuring that air quality continues to improve across WBC. ▪ There is the potential that improved transport links will facilitate traffic flows, reduce idling times and thus improving air quality locally. However, an improved highway network could also result in increased usage, thus increasing emissions. ▪ The UK Government's plan to end the sale of all new conventional petrol and diesel cars and vans by 2030 and support for work and home-based electric charging facilities, will promote use of hybrid and electric vehicles, with positive effects for air quality. ▪ The UK Government's commitment to end diesel haulage on the rail network by 2040 and introduce at least 4,000 more zero emission buses. ▪ Uptake of technological advances such as autonomous vehicles. These have the potential to further reduce emissions through reduction in the stop start nature of traffic, opening up the possibility of vehicle platooning[14]. ▪ Air quality issues across Wokingham Borough can be addressed by promoting a modal shift towards less polluting methods of transport (low carbon transport initiatives) and inclusive of active transport (e.g. cycling, walking etc.) into the LTP4 thereby leading to a higher standard of air quality.
Climate Change	▪ WBC has committed to reducing the Borough's carbon footprint to net zero carbon by 2030. Transport infrastructure is one of the largest contributors to greenhouse gas emissions and must be considered accordingly before progressing future schemes. ▪ Climate change is anticipated to exacerbate flood issues across WBC putting livelihoods, dwellings, businesses and lives at risk. ▪ The RAIN project[15] has been investigating the impact of severe meteorological occurrence on critical infrastructure across Europe. Conclusions highlighted that rail and road infrastructure were more vulnerable than power or telecommunications infrastructure since structural damage is not required for the system to fail.

[14] Platooning is a newly developed technology referring to referring to linking up the driving of vehicles, by maintaining a distance between vehicles to increase road capacities and decrease distances between vehicles.

[15] RAIN Project (2017). 'Risk Analysis of Infrastructure Networks in Response to Extreme Weather'. Available at: http://rain-project.eu/wp-content/uploads/2015/11/D2.2-Past-Cases-final.compressed.pdf

	▪ There is a need to plan for and implement/ facilitate climate change adaptation, in respect of rising temperatures, water scarcity and extreme weather events, particularly heavy rainfall/ flooding. ▪ There is a need to support the continued increase in infrastructure to support the demand in electric cars. ▪ Supporting climate change mitigation via promoting alternative methods of sustainable transport, and thereby limiting the contribution of transport to greenhouse gas emissions. ▪ Increasing the resilience of the local transport network to the effects of climate change. ▪ Supporting low emission fuels, infrastructure and associated technologies. ▪ Supporting green infrastructure enhancements. ▪ The continuation of the reduction in carbon dioxide (CO_2) emissions, where appropriate, alongside limiting emissions of other greenhouse gases.
Noise	▪ Transport noise may adversely impact sleep, health and wellbeing as well as disturb wildlife and there is potential for an increase in noise levels in the NIAs in Wokingham Borough. ▪ The natural environment, particularly tranquil areas, may experience an increase in transport-related noise pollution. ▪ There exists an opportunity to reforecast the understanding of transport noise profiles and exposure. This could account for the benefits from low-noise electrified road vehicles and reactions to climate change. A plan could be developed from this that accounts for the future and realises benefits for Wokingham Borough.
Landscape and Townscape	▪ The character and quality of Wokingham Borough's landscapes and townscapes can be eroded by the construction and operation of transport infrastructure, which may impact upon the distinctive historic character of settlements. ▪ Green Infrastructure (GI) describes the multifunctional network of green and blue spaces, landscapes, and natural elements within and between our cities, towns and villages. By connecting the centres of settlement into the surrounding landscape, GI can facilitate prosperous, active, healthy and happy communities. This network may be severed or reduced due to new transport infrastructure. ▪ Transport infrastructure has the potential to erode and adversely affect local character and distinctiveness. ▪ The design of transport infrastructure requires a landscape-led approach to design, to ensure the best placement and integration of the proposed development into the existing landscape, especially in sensitive locations. Landscape-led designs can help contribute to the climate change agenda, health and wellbeing, and tackling pollution in all its forms (such as air, light and noise). ▪ There is potential for transport to improve access to the countryside, to promote sustainable tourism and to provide greater awareness for the UK's AONBs and other designated areas. ▪ Increasing access to the countryside, whilst increasing pressure on those resources, can bring new audiences to tourist attractions and enable better appreciation of landscapes and townscapes through creating new views and vistas, providing information and enhancing access. ▪ The incorporation of 'Future Ready' Landscape principles into landscape-led designs would help ensure transport infrastructure is designed for longevity in the 21st century, for both its people and its natural environment.
Historic Environment	▪ Conserving the character of the Borough is key, particularly in light of government policy and the extent of development and pressure for continued development in the area. Transport infrastructure has the potential to erode and adversely affect local character and distinctiveness. ▪ Adverse impacts upon the setting of components of the historic environment. ▪ The impact of vehicular damage to historic structures, buildings and the fabric of the public realm in town and village centres. ▪ The impacts of vehicular pollution on historic buildings. ▪ The impacts of ancillary features, inclusive of marked parking bays, yellow lines etc. on the historic environment. ▪ The LTP4 presents opportunities for enhancing the understanding and appreciation of the significance of above ground heritage assets. This might be achieved for example, by reducing traffic volume, visibility and noise in the vicinity of a designated heritage asset and reducing existing detrimental effects on setting. ▪ Asset enhancement has the potential to lead to an increase in tourism and associated revenue, and education opportunities associated with Wokingham's cultural heritage. ▪ Protecting and enhancing the cultural and heritage identity of Wokingham Borough.
Water and Flood Risk	▪ Climate change is likely to increase the occurrence of flooding from all sources and hence raise the flood risk in Wokingham Borough, including to transport infrastructure.

	■ Pollution of the water environment can occur from run-off from roads and pavements after rainfall. ■ Increase in flood risk can occur through the loss of permeable surfaces due to new road construction. ■ Upgrading existing infrastructure also provides the opportunity to improve pollution control on older drainage systems. ■ New transport infrastructure could result in improved drainage, reducing surface water flooding.
Population	■ An ageing population for WBC is likely to place increased strain and demand on access to services, particularly healthcare, and public transport. Proposed sites for strategic development will need to be accounted for when choosing potential locations for new transport infrastructure. ■ The population in Wokingham Borough is increasing there will be additional movement associated with this growth. ■ The ageing population structure is likely to increase demand for access to services. ■ There are opportunities to improve access to rural areas through transport services, digital services and bring services to people. ■ There will be a need for adequate support and greater access to services and facilities for the elderly population, families with young children and single parent families. ■ There were 3.5 million disabled people in work in 2017, with the Government aiming to increase this to 4.5 million by 2027. By helping more disabled people into work, this will enable people to reach their potential and to achieve economic independence. ■ Transport networks should promote a range of sustainable transport modes to limit the effects of congestion, economic vitality, and residents' quality of life.
Health and Wellbeing	■ The population of Wokingham Borough is an ageing population, transport and future mobility will need to reflect their needs. ■ There may be inequalities in access to healthcare, jobs and other services associated with transport provision. ■ Active travel can play a role in reducing obesity and increasing health and wellbeing. ■ The transport plan could present opportunities to enhance walking and cycling routes and encourage the use of non-motorised forms of transport. ■ There will be opportunities to provide inclusive services to meet the needs of older residents. ■ There will be opportunities to improve public transport users' confidence in returning to public transport post-Covid.
Economy and Employment	■ Economic issues linked to transport include barriers to growth, enabling greater access to well-paid and satisfying employment within a flexible labour market characterised by diversity in activity and transferable and complementary knowledge solutions. Supporting sustainable economic development which mitigates or combats the effects of climate change is a key issue. ■ Good access to customers is important, transport infrastructure is noted as an area of improvement to enable this. ■ Sustaining and supporting economic growth across the country in light of the withdrawal from the EU and economic issues brought about by the Covid-19 pandemic. ■ The impact of factors such as Brexit, Covid-19, new vehicle and energy technologies, disruptive digital technologies, changing working patterns and preferences and extreme climactic events will play a part in determining the types of transport investment which will most benefit the economy. ■ Improved connectivity between business clusters and housing markets (both planned and existing) in the county will improve access to the skills pool as well supporting improvements in productivity.

4.2 Future Evolution of the Baseline

4.2.1. The declining trend in the provision of many ecosystem services and biodiversity is expected to continue, with projected population growth and industrial development anticipated to place increasing pressure on sensitive wildlife sites within WBC[16], as well contribute to the deterioration, loss and fragmentation of habitats.

4.2.2. The population of WBC is anticipated to increase by increase by 1% a year and reach 180,900 by 2037[16]. This is likely to increase the number of private vehicles on the roads, resulting in associated increases in noise pollution, air pollution, and contamination of surface water run-off and could restrict the ability of existing roadside habitats (including trees) to reduce these impacts.

4.2.3. The number of people aged 65 and over is also anticipated to increase to 60% of WBC's population by 2020[16], increasing pressure on health and community facilities. In addition, the growing population is likely to place pressure on public transport methods such as rail and buses.

4.2.4. With a growing population and increased development the potential for generating waste is increasing. Additionally, economic growth and rising population within the Borough will place additional pressures upon agricultural land. It is likely that land available for development will become more of a premium and intensify competition for land amongst developers. This is likely to also increase the demand for development on greenfield land.

4.2.5. Another issue facing Wokingham Borough is climate change. Key challenges include flooding from a variety of sources, extreme weather events, increases in hotter, drier summers, and increases in annual precipitation in the Borough. Climate change also has the potential to further fragment and deteriorate the region's ecosystems and biodiversity.

4.2.6. WBC has committed to reducing the Borough's carbon footprint to net zero carbon by 2030. However, projected population increase and development within the Borough is anticipated to increase carbon dioxide emissions.

4.2.7. The historic environment is increasingly under threat from development pressures. In addition to loss of green infrastructure and heritage assets, new infrastructure to provide for a growing population affects visual amenity and heritage setting.

4.2.8. Increasing population and development within the Borough is anticipated to place strain on water resources and may lead to a decrease in water quality. Increased development and population will also increase the number and likelihood of properties being at risk of flooding.

[16] RSPB (2019). 'State of Nature' Available at: https://nbn.org.uk/stateofnature2019/reports/

4.3 Sustainability Appraisal Framework

4.3.1. A Sustainability Appraisal Framework has been produced to guide the assessment process of the LTP4. The framework (set out in **Table 4-2** below) summarises the main sustainability issues in Wokingham Borough across each environmental topic, and the subsequent sustainability objectives and appraisal questions to be used to assess emerging strategy objectives and action plans.

Table 4-2 - Sustainability Appraisal Framework

SA Topic	SA Objective	SA Supporting Appraisal Questions
Natural Capital and Ecosystem Services	**SA1:** To maintain and enhance the provision of ecosystem services from the Borough's natural capital and contribute to environmental net gain.	Will the policy or proposal: ■ Protect the Borough's natural capital? ■ Enhance or increase provision of ecosystem services from the county's natural capital?
Materials and Waste	**SA2:** To conserve natural resources, increase resource efficiency and reduce generation and disposal of waste.	Will the policy or proposal: ■ Result in substantial use of resource and generation of waste? ■ Encourage the sustainable use of material assets and minimise waste? ■ Promote a circular economy? ■ Reduce impacts from infrastructure development and maintenance on mineral resources?
Soils	**SA3:** To protect soils and minimise the loss of Best and Most Versatile Land.	Will the policy or proposal: ■ Reduce impacts from infrastructure development and maintenance on soil and mineral resources? ■ Result in the loss of agriculturally important land?
Biodiversity, Flora and Fauna	**SA4:** To protect and enhance the Borough's biodiversity, fauna and flora, including designated sites for nature conservation notable and protected species. **SA5:** Enhance the connectivity between habitats through the creation of green corridors and preservation / enhancement of the Green Infrastructure Network.	Will the policy or proposal: ■ Cause damage to locally and nationally designated sites or protected species though infrastructure provision, traffic or maintenance? ■ Maintain and enhance biodiversity? ■ Seek opportunities for biodiversity net gain? ■ Enhance the Green Infrastructure network? ■ Enhance habitat connectivity?
Air Quality	**SA6:** To reduce traffic related air pollution in AQMAs where possible and enhance air quality elsewhere in Wokingham Borough.	Will the policy or proposal: ■ Support measures to reduce levels of air pollution? ■ Help to improve air quality? ■ Support measures for the reduction of congestion and traffic levels particularly in AQMAs and congestion hot-spots?
Climate Change and Greenhouse Gases	**SA7:** To reduce emissions of greenhouse gases in line with WBC's net zero commitment by 2030. **SA8:** Ensure that the local transport network builds resilience to climate change.	Will the policy or proposal: ■ Plan a transport system which is more resilient to cope with the impacts of climate change? ■ Increase the resilience of people, infrastructure and the natural environment to the impacts of climate change (including flood risk, extreme weather, heat and cold?) ■ Support the transition to net zero greenhouse gas emissions? ■ Reduce embodied carbon within developments? ■ Alleviate risk of flooding and support natural flood management? ■ Promote a reduction in private vehicle use?

Noise	**SA9:** To reduce noise from transport related sources in particular, Noise Important Areas and to protect tranquil areas.	Will the policy or proposal: ▪ Increase/ decrease levels of noise? ▪ Maintain levels of noise in NIAs?
Landscape and Townscape	**SA10:** To protect and where possible, enhance the quality, character and diversity of the existing landscape.	Will the policy or proposal: ▪ Improve the quality and condition of the landscape and townscape? ▪ Respect, maintain and strengthen local character and distinctiveness? ▪ Promote high quality design?
Historic Environment	**SA11:** To conserve and enhance the Borough's historic environment, including heritage resources, historic buildings, historic landscapes and archaeological features.	Will the policy or proposal: ▪ Conserve and or enhance heritage assets, their setting and the wider historic environment? ▪ Contribute to the better management of heritage assets and tackle heritage at risk? ▪ Improve the quality and condition of the historic environment? ▪ Respect, maintain and strengthen local character and distinctiveness? ▪ Promote high quality design? ▪ Impact the historic environment through issues such as contamination, changes to the preservation conditions on a site etc? ▪ Impact the preservation of archaeological assets? ▪ Improve access and accessibility to heritage assets?
Water and Flood Risk	**SA12:** To protect and where possible, enhance water quality of the county's rivers, groundwater and coast. **SA13:** To reduce vulnerability to flooding of transport infrastructure and ensure that the risk of surface water flooding is not increased.	Will the policy or proposal: ▪ Support the protection and enhancement of water bodies? ▪ Improve water quality? ▪ Increase or decrease the risk of surface water flooding?
Population	**SA14:** To increase the capacity and efficiency of the transportation network to support demographic changes, including increasing travel and sustainable modes of transport.	Will the policy or proposal: ▪ Help to reduce inequalities, particularly for those people and communities most vulnerable? ▪ Improve access to transport for all inclusively? ▪ Provide better connectivity (particularly in rural areas) to facilities and services?
Health and Wellbeing	**SA15:** To improve the health and well-being of the population through access to transport, active travel and reductions in pollution.	Will the policy or proposal: ▪ Promote healthier lifestyles? ▪ Increase walking and cycling? ▪ Improve quality, quantity and equality of access to green and blue space and increase opportunities for recreation? ▪ Promote health enhancing environments, behaviours and activities for local communities?
Economy and Employment	**SA16:** To sustain economic growth, enable well paid employment and competitiveness across Wokingham Borough through provision of reliable and accessible transport networks.	Will the policy or proposal: ▪ Improve access to employment centres? ▪ Improve connectivity between business clusters and housing markets? ▪ Increase connectivity and help alleviate congestion, reducing journey times? ▪ Support flexible working patterns?

5 Assessment of LTP4 Visions and Objectives

5.1 Introduction

5.1.1. This assessment of the Draft LTP4 Visions and Objectives is summarised below and presented in full in **Appendix D**.

5.1.2. The three vision themes assessed are:

- Create Liveable, Healthy and Safe Places;
- Reduce Environmental Impacts; and
- Grow the Economy.

5.1.3. Within these vision themes, the 9 individual objectives assessed are:

- Safer Streets for All;
- 50% Active Travel in Towns by 2030
- Thriving Villages and Rural Centres.
- Net Zero Emissions;
- Clean Air;
- High Quality Sustainable Travel Corridors;
- Access for Everyone;
- Protect and Enhance Strategic Road and Rail Connectivity;
- A Well-Maintained Transport Network; and
- Support Sustainable Development;

5.1.4. A matrix approach has been used for the assessment which has used the significance criteria identified in **Table 3-1**. **Table 5-1** overleaf provides an overview on the performance of the LTP objectives against each SEA objective and **Table 5-2** shows the summary of effects based on each SEA objective.

5.2 Summary of Vision and Objective Assessment Findings

Table 5-1 - Assessment of Vision Themes and Objectives

Vision Theme	Objective	SA1: Natural Capital	SA2: Materials and Waste	SA3: Soils	SA4: Biodiversity	SA5: Green Infrastructure	SA6: Air Quality	SA7: Greenhouse Gases	SA8: Climate Resilience	SA9: Noise	SA10: Landscape and Townscape	SA11: Historic Environment	SA12: Water Quality	SA13: Flooding	SA14: Population	SA15: Health	SA16: Economy and Employment
Create Healthy and Safe Places	Safer Streets for All, 50% Reduction in KSIs	+	?	?	+	?	+/-	+/-	?	+	++	+	0	?	++	++	+/-
Create Healthy and Safe Places	50% Active Travel in Towns by 2030	0	0	0	+	0	+	+	0	+	+	+	0	0	+	++	+
Create Healthy and Safe Places	Thriving Villages and Rural Centres	0	0	0	0	?	+	+	0	+	+	+	0	0	++	++	+
Reduce Environmental Impacts	Net Zero Carbon Emissions	+/-	0	0	+	0	++	++	?	+	+	+	0	0	+/-	+	+
Reduce Environmental Impacts Reduce Environmental Impacts	Clean Air, Removal of All Air Quality Exceedances	0	0	0	+	0	++	++	0	0	+	+	0	0	+	+	+/-
Reduce Environmental Impacts	High Quality Sustainable Travel Corridors - Boroughwide	0	?	?	+/-	0	+	+	0	0	0	0	0	0	++	+	+
Reduce Environmental Impacts	High Quality Sustainable Travel Corridors – Earley, Woodley and Shinfield	0	?	?	+	+	+	+	?	+/-	+	+	0	0	++	+	+
Reduce Environmental Impacts	High Quality Sustainable Travel Corridors – Wokingham and Winnersh	?	?	?	+/-	+	+	+/-	?	+/-	+/-	+/-	0	?	+	0	+
Reduce Environmental Impacts	High Quality Sustainable Travel Corridors – South Wokingham	?	?	?	+/-	-	++	+/-	?	+/-	+/-	-	0	?	++	+	+

Reduce Environmental Impacts	**High Quality Sustainable Travel Corridors – North Wokingham**	?	?	?	+/-	-	++	+/-	?	+/-	+/-	-	0	?	++	+	+
Grow the Economy	**Protect and Enhance Strategic Connectivity and Freight**	0	?	?	-	0	+/-	+/-	0	0	0	0	0	?	+	+	+
Grow the Economy	**A Well-Maintained Transport Network**	0	+	0	0	+	+	0	++	0	+	0	0	0	0	?	0
Grow the Economy	**Enable Sustainable Development**	0	0	0	?	0	+	+/-	?	0	++	+	0	0	+	+	+

Table 5-2 - Summary of Significant Effects

SA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
SA1: Natural Capital	0	0	3	Three of the objectives have resulted in uncertain effects (High Quality Sustainable Travel Corridors – Wokingham and Winnersh, High Quality Sustainable Travel Corridors - South Wokingham, and High Quality Sustainable Travel Corridors – North Wokingham). This is generally where objectives may result in developments which could give rise to a loss of natural capital, but the overall design of proposals is known yet known. There may be opportunities to provide natural capital enhancements as part of design.
SA2: Materials and Waste	0	0	7	Developments that may arise from High Quality Sustainable Travel Corridors (Boroughwide, Earley, Woodley and Shinfield, Wokingham and Winnersh, South Wokingham, and North Wokingham), Protect and Enhance Strategic Connectivity and Freight, and Safer Streets for All, 50% Reduction in KSIs have the potential to be resource intensive and could generate significant amounts of construction waste. As the location and design of developments is currently not yet known, uncertain effects have been identified.
SA3: Soils	0	0	7	Uncertain effects have been identified for High Quality Sustainable Travel Corridors, Protect and Enhance Strategic Connectivity and Freight, and Safer Streets for All, 50% Reduction in KSIs as a result of developments that may arise. There is potential that development may result in land take surrounding existing highways and active travel routes. If brownfield land is utilised to develop existing routes, there is potential for positive effects. However, development locations are currently now known.
SA4: Biodiversity	0	0	1	The Enable Sustainable Development objective has resulted in uncertain effects on biodiversity. The objective includes the use of Wokingham Living Streets guidance; this guidance has not yet been published. It is therefore not known if biodiversity net gain measures will be included within development and therefore whether biodiversity will benefit significantly.
SA5: Green Infrastructure	0	0	2	Uncertain effects have been identified as a result of Safer Streets for All, 50% reduction in KSIs, and Thriving Villages and Rural Centres objectives. There is potential that development may result in green infrastructure measures to be included within development, improving green infrastructure, however the nature of developments is currently unknown.
SA6: Air Quality	4	0	0	Four objectives have resulted in significant positive effects upon air quality; Net Zero Carbon Emissions, Clean Air, Removal of All Air Quality Exceedances, High Quality Sustainable Travel Corridors – South Wokingham, and High-Quality Sustainable Travel Corridors – North Wokingham. Generally, these objectives encourage a modal shift away from private transport, towards public and active travel options. They also result in a reduction of private vehicles on Wokingham Borough's roads, and encouraging the use of sustainable vehicles, such as EV's. This results in a reduction in vehicle related emissions, improving air quality.
SA7: Greenhouse Gases	2	0	0	Significant positive effects have been identified for Net Zero Carbon Emissions and Clean Air, Removal of All Air Quality Exceedances. These objectives result in fewer traffic movements, and increased use of low emission vehicles such as EVs and zero emission buses. This contributes to decarbonising the transport network, reducing GHG emissions on the Borough's roads.

SA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
SA8: Climate Resilience	1	0	7	One significant positive effect has been identified for climate resilience as a result of Well Maintained Transport Network. The objective includes climate resilience measures, and is likely to include heat and rainfall resilience measures to protect the transport network against the chronic and acute effects of climate change. Uncertain effects have been identified whereby developments, and their individual climate resilience measures, are currently not clear. There is potential that these developments could include climate resilience measures, for example SuDS, however this has not yet been determined.
SA9: Noise	0	0	0	No significant or uncertain effects have been identified for noise as a result of LTP4 objectives. However, a number of minor positive effects and mixed positive and negative effects have been identified. These have been explored in **Appendix D**.
SA10: Landscape and Townscape	2	0	0	Both Enable Sustainable Development and Safer Streets for All, 50% Reduction in KSIs have resulted in significant positive effects. These objectives result in the improvement of the public realm and Borough's streetscapes, as well as improving the setting of the landscape and townscapes. Generally, this is through positive development, reducing vehicles, and through the development of attractive streets and active travel routes.
SA11: Historic Environment	0	0	0	No significant or uncertain effects have been identified for noise as a result of LTP4 objectives. However, a number of minor positive effects have been identified, and two minor negative effects. For full details of these, see **Appendix D**.
SA12: Water Quality	0	0	0	No significant or uncertain effects have been identified for water quality as a result of LTP4 objectives. Equally, no other effects have been identified, with negligible scores for all objectives. None of the objectives target water quality measures; effects on water quality are likely to be determined by the location and nature of developments arising from the LTP4.
SA13: Flooding	0	0	5	Uncertain effects have been identified for five objectives. These objectives have the potential to result in development that may be located within flood zones and increase flood risk through increased hard standing. As the location of these developments is currently not known, increases in flood risk cannot currently be determined. There is potential that developments located close to flood zones may include flood resilience measures, resulting in reduced flood risk.
SA14: Population	6	0	0	Six objectives have resulted in significant positive effects upon population. Generally, these objectives target improved transport infrastructure and services for current and future generations. They also provide inclusive access to public and active travel modes, providing for a diverse range of groups within the community.
SA15: Health	3	0	1	The three objectives within the Create Healthy and Safe Places theme (Safer Streets for All, 50% Reduction in KSIs, 50% Active Travel in Towns by 2030, and Thriving Villages and Rural Centres) have resulted in significant positive effects on health. Safer Streets for All and 50% Active Travel in Towns by 2030 result in improved safety along transport routes within the Borough, reducing the number of KSI on the Borough's roads. Additionally, these objectives improve physical activity amongst the population, and provide improved access to community facilities. A Well Maintained Transport Network has resulted in uncertain effects on health. This objective includes trial measures to improve road safety – it is currently unclear what measures will be trialled, and if any measures will be carried forward.

SA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
SA16: Economy and Employment	0	0	0	No significant or uncertain effects have been identified for economy and employment as a result of LTP4 objectives. However, a number of minor positive effects and mixed positive and negative effects have been identified. These have been explored in **Appendix D**.

6 Findings from other Assessments

6.1 EqIA Assessment Summary

6.1.1. Overall, the policies will likely result in positive impacts on protected characteristic group members in the Borough. The policies aim to address a wide range of issues, identified by the key themes within the EqIA baseline.

6.1.2. The main protected characteristic groups that will particularly benefit include:

- Age – A range of age groups will experience benefits as a result of the proposed policies. Older people who are typically inhibited from accessing public transport services as a result of digital barriers to viewing travel times and cost will benefit from the LTP4's support of improvements to digital accessibility. Equally, young people who find themselves reliant on public transport due to the cost of purchasing a private vehicle will benefit from the policies intended expansion of the Electric Vehicle network (car clubs). Attractive and permeable streets for pedestrians under this policy will benefit all age groups by encouraging the uptake of active travel and the subsequent experience of its associated health benefits.
- Disability – Exposure to poor air quality can impact pre-existing respiratory conditions for those individuals whose disability involves long-term respiratory health conditions. The LTP4 aims to reduce traffic movement to remove air quality exceedances in Wokingham Town Centre. The associated health benefits of this policy will be particularly beneficial to this group. Additionally, improvements to infrastructure at rail and bus terminals will make boarding and alighting a much easier process for those with mobility issues, creating a more accessible environment in which to utilise public transport.; and
- Pregnancy and Maternity– Pregnant women or those who are travelling with small children may require the use of adapted cycles such as bike seats. The LTP4 intends to improve the provision of cycle parking throughout the borough, including the provision of adapted cycle parking. This will make travel an easier, more accessible option for pregnant women and mothers. Moreover, the presence of uneven surfaces and lack of dropped kerbs can all also limit the mobility of mothers using pushchairs. Improvements to the public realm will tackle this issue, making pedestrian routes more accessible to these users.

6.1.3. There is potential for low negative impacts upon:

- Gender reassignment;
- Sex; and
- Sexual Orientation.

6.1.4. The assessment concludes that there will likely be a neutral impact for the following protected characteristic groups, assuming no unforeseen barriers emerge:

- Religion or belief;

- Armed forces communities; and
- Marriage and civil partnerships.

6.2 HRA Assessment Summary

6.2.1. The HRA provides guidance on the likely data sources, information requirements and the process of HRA Screening, recommending further stages of assessment (Appropriate Assessment) if necessary. It also provides an indication of where the ecological implications of the LTP4 will lie and which Habitats sites are vulnerable to known pressures, threats and existing air quality impacts.

6.2.2. There are no Habitats sites within WBC's administrative area, however there are a four that fall within 10km (i.e. the identified Zone of Influence) of the WBC boundary and as such there will be implications for some of these Habitats sites from the measures within the LTP4.

6.2.3. The majority of measures have been screened out due to their nugatory or beneficial effects on Habitats sites, but a number remain, where they will require development of additional infrastructure, may result in a redistribution of traffic on the local road network leading to changes in traffic flows/speed/composition on roads which fall within 200m of the identified Habitats sites and/or increase public access to Habitats sites. Due to the high-level nature of the measures, some are screened in for further assessment at this stage following the precautionary principle embedded within the HRA process as the location, scale and extent of effects is currently unknown.

6.2.4. These measures, therefore, have potential for Likely Significant Effects (LSE) on nearby Habitats sites relating to increased traffic and further, detailed assessment is considered necessary to satisfy the requirements of the Habitats Regulations.

6.2.5. There is the potential for additional effects, or severity of effects, arising 'in-combination' where the Habitats sites lie within neighbouring authority areas and are crossed by strategic highway routes. This is informed by the precautionary approach and high-level assessment of effects from the LTP4.

7 Assessment of Action Plan

7.1 Introduction

7.1.1. The assessment of the Action Plan has been summarised below. Full assessment of the action plan can be found in **Appendix A**.

7.1.2. The Action Plan includes 69 interventions that have been developed based on Vision Themes, Objectives, and Place type. The interventions have been grouped by theme and objective into the following categories:

- Create Healthy and Safe Places
  - Safer Streets for All
    - Road Safety
    - School Travel
  - 50% Active Travel in Towns
    - Infrastructure
    - Access to Cycling
    - Standards
    - Engagement
  - Thriving Villages and Rural Centres
    - Rural Centres
    - Active Travel
- Reduce Environmental Impacts
  - Net Zero Emissions
    - Road Traffic
    - Digitalisation
    - Zero Emission Vehicles
  - Clean Air
    - Access
    - Freight
    - Public Transport
  - High Quality Sustainable Travel Corridors
    - Access for All
    - Public Transport
    - Cycle Network
- Grow the Economy

- Protect and Enhance Strategic Connectivity
  - Strategic Network
  - Public Transport
  - Freight
- A Well-Maintained Network
  - Operational Maintenance
- Sustainable Development
  - Development Policy
  - Sustainable Design
  - Public Transport
  - Infrastructure Delivery

7.1.3. A matrix approach has been used for the assessment which has used the significance criteria identified in **Table 3-1**. **Table 7-1** overleaf provides an overview on the performance of the Action Plan Interventions against each SA objective and **Table 7-2** show the summary of significant and uncertain effects based on each SA objective.

7.2 Summary of Action Plan Assessment

Table 7-1 - Assessment of Action Plan

Vision Theme	Objective	Category	SA1: Natural Capital	SA2: Materials and Waste	SA3: Soils	SA4: Biodiversity	SA5: Green Infrastructure	SA6: Air Quality	SA7: Greenhouse Gases	SA8: Climate Resilience	SA9: Noise	SA10: Landscape and Townscape	SA11: Historic Environment	SA12: Water Quality	SA13: Flooding	SA14: Population	SA15: Health	SA16: Economy and Employment
Create Healthy and Safe Places	**Safer Streets for All**	Road Safety	0	0	0	+	0	+	+	0	+	+	+	0	0	++	+	0
Create Healthy and Safe Places	**Safer Streets for All**	School Travel	0	0	0	+	0	+	+	0	+	+	+	0	0	0	++	0
Create Healthy and Safe Places	**50% Active Travel in Towns**	Infrastructure	?	-	-	+/-	?	+/-	+	?	+/-	+	+	0	0	+	+	++
Create Healthy and Safe Places	**50% Active Travel in Towns**	Access to Cycling	0	0	0	+/-	0	+/-	+	0	+/-	+	+	0	0	+	+	+
Create Healthy and Safe Places	**50% Active Travel in Towns**	Standards	0	0	0	?	?	+	+	?	+	+	+	0	0	+	+	0
Create Healthy and Safe Places	**50% Active Travel in Towns**	Engagement	0	0	0	+	0	+	+	0	+	+	+	0	0	+	++	0
Create Healthy and Safe Places	**Thriving Villages and Rural Centres**	Rural Centres	0	0	0	+	+	+	+	0	+	+	+	0	0	+	++	+
Create Healthy and Safe Places	**Thriving Villages and Rural Centres**	Active Travel	0	0	0	+/-	+/-	+	+	0	+	+	+	0	0	+	++	+

Reduce Environmental Impacts	**Net Zero Carbon Emissions**	Road Traffic	0	-	0	+/-	0	+	+	0	+	+	+	0	0	++	+	+
Reduce Environmental Impacts	**Net Zero Carbon Emissions**	Digitalisation	0	0	0	0	0	+	+	0	+	+	+	0	0	+/-	0	+
Reduce Environmental Impacts	**Net Zero Carbon Emissions**	Zero Emission Vehicles	0	?	+	+	0	++	+/-	0	+	+/-	+/-	0	0	+	+	0
Reduce Environmental Impacts	**Clean Air**	Access	?	0	0	+	?	+	+	0	0	?	+	0	0	0	+	0
Reduce Environmental Impacts	**Clean Air**	Freight	0	0	0	?	0	+	+	0	?	+	+	0	0	0	+	?
Reduce Environmental Impacts	**Clean Air**	Public Transport	0	0	0	+	0	++	++	+	+	0	+	0	0	0	+	0
Reduce Environmental Impacts	**High Quality Sustainable Travel Corridors**	Access for All	0	?	?	+/-	0	++	?	0	+	+	+	0	0	++	+	++
Reduce Environmental Impacts	**High Quality Sustainable Travel Corridors**	Public Transport	0	0	0	+	0	++	?	0	+/-	+/-	+/-	0	0	++	+	++
Reduce Environmental Impacts	**High Quality Sustainable Travel Corridors**	Cycle Network	0	-	-	+/-	0	+	+	0	+	+	+	0	0	+	++	+
Grow the Economy	**Protect and Enhance Strategic Connectivity**	Strategic Network	0	?	?	?	0	+	0	0	+	?	?	0	0	+	+	+
Grow the Economy	**Protect and Enhance Strategic Connectivity**	Public Transport	0	?	?	+/-	0	+	+/-	0	+/-	+	+	0	0	+	+	+
Grow the Economy	**Protect and Enhance Strategic Connectivity**	Freight	0	0	0	0	0	?	?	0	?	?	?	0	0	0	?	?

Grow the Economy	**A Well-Maintained Transport Network**	Operational Maintenance	0	+	0	0	0	+	+	+	?	0	0	0	0	?	0	?
Grow the Economy	**Sustainable Development**	Development Policy	+	0	0	+	?	+	+	0	+	+	+	?	?	++	++	+
Grow the Economy	**Sustainable Development**	Sustainable Design	+	?	?	+	?	+	++	+	+	+	+	0	0	++	++	+
Grow the Economy	**Sustainable Development**	Public Transport	0	0	0	+	0	+	?	0	+	+	+	0	0	+	+	+
Grow the Economy	**Sustainable Development**	Infrastructure Delivery	-	-	-	+/-	?	+/-	+	?	+/-	+/-	+/-	?	?	++	+	+

Table 7-2 - Summary of Action Plan Significant Effects

SA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
SA1: Natural Capital	0	0	2	The Access category, within Clean Air, has resulted in uncertain effects on natural capital. There is potential for the enhancement of habitats and green and blue spaces within developments arising from this category. However, the design of these improvements is currently unclear. Similarly, the Infrastructure category within 50% Active Travel in Towns has the potential to enhance natural capital, or result in loss of natural capital, depending on development design.
SA2: Materials and Waste	0	0	5	Four categories of interventions have resulted in uncertain effects upon materials and waste: Net Zero Emissions - zero emission vehicles; High Quality Sustainable Travel Corridors - access for all; Protect and Enhance Strategic Connectivity - public transport; Protect and Enhance Strategic Connectivity – strategic network; and Sustainable Development - sustainable design. These categories have the potential for resource intensive development, however, the exact nature of development arising from these interventions and the level of resources required are currently unclear.
SA3: Soils	0	0	4	High Quality Sustainable Travel Corridors - access for all, Protect and Enhance Strategic Connectivity - public transport; Protect and Enhance Strategic Connectivity – strategic network, and Sustainable Development - sustainable design interventions, have resulted in uncertain effects on soils. These categories include interventions that are likely to result in construction, and the potential for land take. However, the scale and location of land take will be determined by scheme design, which is currently unclear.
SA4: Biodiversity	0	0	3	A number of categories result in minor positive effects on biodiversity, detailed in full within **Appendix A**. Uncertain effects have been identified as a result of 50% Active Travel in Towns – standards category. This category includes new active travel design guidance, which has the potential to include biodiversity net gain measures and reduce impacts on biodiversity. However, the measures included within the design guidance is currently unclear, therefore these effects cannot be established. Protect and Enhance Strategic Connectivity – strategic network, and Clean Air – freight have the potential to result in disturbance or loss of habitats if constriction works are required. However, individual scheme design is currently unclear.
SA5: Green Infrastructure	0	0	6	Six categories have resulted in uncertain effects on green infrastructure. There is potential for the enhancement of habitat connectivity and green infrastructure improvements within developments arising from these categories. However, the design of these improvements is currently unclear.
SA6: Air Quality	4	0	1	Four categories have resulted in significant positive effects on air quality. Generally, these categories result in the encouragement of a modal shift away from private vehicles, encouraging not only active and public transport but also sustainable fuelled vehicles such as EVs. Reducing the number of private vehicles and petrol and diesel fuelled vehicles on the Borough's roads improves air quality throughout the Borough. Uncertain effects have been identified for the freight category within Protect and Enhance Strategic Connectivity. The interventions in this category include the development of freight management policies. However, the nature of these policies is

SA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
				currently unclear. There is potential for these interventions to improve air quality if a reduction in road freight and increase in sustainable freight vehicles is implemented.
SA7: Greenhouse Gases	2	0	4	Two categories have resulted in significant positive effects upon greenhouse gases (Clean Air – public transport and Sustainable Development – sustainable design). Generally, these interventions have resulted as a result of encouraging a modal shift away from private vehicles and encouraging sustainable fuelled vehicles and active or public transport. This results in a reduction in vehicle related GHGs on within Wokingham Borough. Uncertain effects have also been identified for four categories where there is potential for a reduction, or increase, in greenhouse gases. Generally, this is attributed as a result of reductions in private vehicle use but increases in public transport and other vehicle movements.
SA8: Climate Resilience	0	0	3	Uncertain effects have been identified for 50% Active Travel in Town – standards, 50% Active Travel in Towns – infrastructure, and Sustainable Development – infrastructure delivery as there are potential for these interventions to include improved climate resilience measures, including heat resilience and flood risk mitigation measures.
SA9: Noise	0	0	3	The majority of categories have resulted in minor positive effects on noise, through vehicle reductions on Borough roads. This is detailed in full in **Appendix A**. Uncertain effects have been identified for Clean Air – freight, Protect and Enhance Strategic Connectivity – freight, and A Well-Maintained Network – operational maintenance. It is uncertain if interventions within these categories will result in increases in noise within the Borough, including increases within NIAs. With regards to freight, it is possible that a well managed freight network could result in reductions in noise levels, however these management methods are currently unclear.
SA10: Landscape and Townscape	0	0	3	The majority of categories within the Action Plan have resulted in minor positive effects on landscape and townscape, improving the landscape setting and public realm. Three categories have resulted in mixed positive and negative effects. These effects are detailed within **Appendix A**. Clean air – access, Protect and Enhance Strategic Connectivity – strategic network, and Protect and Enhance Strategic Connectivity – freight have resulted in uncertain effects on landscape and townscape. These categories include interventions that are not yet detailed. These interventions have the potential to enhance the local landscape and townscape if there are reductions in the number of freight vehicles, or design improving the public realm.
SA11: Historic Environment	0	0	2	The Protect and Enhance Strategic Connectivity – freight category has resulted in uncertain effects on the historic environment. The interventions within this category have the potential to enhance the setting of heritage assets through a reduction in road freight, improving air quality and noise, reducing the degradation of assets. However, the interventions within this category are currently unclear. Protect and Enhance Strategic Connectivity – strategic network has also resulted in uncertain effects as construction works may arise, degrading the setting of local heritage assets.

SA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
				The majority of options have resulted in minor positive effects on the historic environment. These effects are detailed within **Appendix A**.
SA12: Water Quality	0	0	2	Sustainable Development – development policy and Sustainable Development – infrastructure delivery have resulted in uncertain effects as there is potential for these interventions to include water quality mitigation methods within development.
SA13: Flooding	0	0	2	Sustainable Development – development policy and Sustainable Development – infrastructure delivery have resulted in uncertain effects as there is potential for these interventions to include flood risk mitigation methods, such as SuDS, within development.
SA14: Population	7	0	1	Seven categories have resulted in significant positive effects on population. Generally, these interventions provide improved infrastructure for current and future populations. Additionally, these interventions also improve accessibility to public transport and active travel for communities inclusively. The interventions also include improving the connectivity of rural areas. A Well-Maintained Transport Network – Operational Maintenance has resulted in uncertain effects as there is potential for works associated with this category to reduce disturbance on local populations. However, this is likely to be determined by the developments arising from these interventions.
SA15: Health	7	0	1	Significant positive effects have been identified for seven categories within the Action Plan. Generally, categories have resulted in improved physical health as a result of encouraging physical activity through active travel and improving air quality within the Borough. Additionally, there are improvements to health as the proposed interventions improve the safety of the transport network and reducing the number of KSI and accidents on the Borough's roads. Uncertain effects have been identified as a result of the Protect and Enhance Strategic Connectivity – freight interventions. It is currently unclear if the interventions within this category will reduce road freight and to what extent and improve health through air quality improvements.
SA16: Economy and Employment	3	0	3	Three categories have resulted in significant positive effects upon economy and employment. These categories have resulted in improved connectivity across the Borough, including rural areas, and improving the access to employment opportunities and town centres. There is also potential for the improvement of local economies through these interventions. Uncertain effects have been identified for categories and interventions that have the potential to alter employment opportunities within the Borough, particularly through changes in freight and maintenance activities.

8 Assessment of Alternatives

8.1 Introduction

8.1.1. The SEA Regulations require an assessment of the plan and its “reasonable alternatives”, in addition to those proposed within the draft plan. Without this, there cannot be a proper environmental evaluation of the preferred plan.

8.1.2. The assessment of reasonable alternatives does not need include all possible alternatives, but only those that are realistic. The assessment of alternatives has looked at both alternative strategy scenarios as well as alternative Action Plan interventions.

8.2 Assessment of Alternative LTP4 Objectives

8.2.1. The development of the LTP4 Strategy has not at this stage identified any key Strategy alternatives, so the assessment of policy alternatives has assessed the ‘do nothing’ scenario – the continuation of the existing LTP3.

8.2.2. **Table 8-1** below provides a summary of the application of these scenarios. It uses the same key to effects outline in **Table 3-1**.

Table 8-1 – Assessment of Policy Alternative Scenarios

SA Objective	Summary of Existing LTP3 Effects	Significance.
SA1: Natural Capital	Natural capital is under threat from climate change, with changing temperatures and extreme weather events resulting in the loss, degradation and movement of species and habitats. The absence of a climate change policy within LTP3 means that climate change could continue to present a risk to biodiversity and natural capital. Whilst the LTP3 acknowledges the need to protect the natural environment, it does not include a policy to protect the natural environment or consider this within policies. Since the publication of the LTP3, the 25 Year Environment Plan (2018) has been published, which outlines the Government's ambition to leave our environment in a better state than we found it and the steps proposed to take to achieve that ambition. It is clear that the LTP3 is outdated and may not support the national agenda of environmental net gain.	--
SA2: Materials and Waste	Developments to the transport network which may come forward as a result of LPT3 such as new roads, rail stations and interchanges all have the potential to be resource intensive and result in large amounts of land take and waste. Since the adoption of LTP3, there has been more of a drive towards efficient use of resources and supporting a circular economy, as encouraged through the publication of the Clean Growth Strategy and the 25 Year Environment Plan. This may mean that the potential for intensive land use as a result of LTP3 may no longer be up to date with current standards surrounding the use of environmental resources.	--
SA3: Soils	The LTP3 does state intentions for any new land use to be efficient and better integrated with transport options. However, developments to the transport network which may come forward as a result of LPT3 such as new roads, rail stations and interchanges all have the potential to negatively impact Wokingham's agriculturally and geologically important land through land take, sterilisation, contamination and disturbance during both construction and operational phases. These developments could result in the loss of the Borough's best and most versatile land. There are no specific objectives targeting the protection of geological and agriculturally important land to mitigate this. This could ultimately lead to their degradation should the proposed developments go ahead.	-
SA4: Biodiversity **SA5: Green Infrastructure**	Any new developments that may come forward have the potential to negatively impact habitats, species and biodiversity. This could be through land take and both construction disturbance, particularly through noise and air quality changes. Potential development may occur in areas of high ecological value, where current levels of noise pollution are low and air quality is good. Upon analysis of current and future trends, it is clear that the LTP3 has failed to combat declining biodiversity in Wokingham, as has been the national trend. This is particularly apparent by the net increase in private fossil fuel vehicles throughout Wokingham. Whilst the LTP3 acknowledges the need to protect biodiversity, the plan does not include measures to protect biodiversity or contribute to biodiversity net gain. Since the publication of the LTP3, the 25 Year Environment Plan (2018) has been published, which outlines the Government's ambition to leave our environment in a better state than we found it and the steps proposed to take to achieve that ambition. It is clear that the LTP3 is outdated and may not support the national agenda of environmental and biodiversity net gain.	--
SA6: Air Quality	Air quality is identified as a key issue within LTP3, effecting both the environment and human health. In Wokingham the air quality is generally good, with localised hot spots for air quality problems being caused by road transport, namely along the M4, A329 (M) and within Wokingham Borough's urban centres. In these locations, measures to ease congestion such as the improvement of junctions will mitigate some of the negative effects on air quality. The LTP3 includes policy HW10, to implement an air quality action plan. Additionally, a number of policies within the LTP3 contribute to improving public and active travel services (AT1, AT2, AT3, PT1, PT2, PT3, PT4, PT5, PT6, PT7, PT8, PT9, PT10, PT11, PT12, PT13). The increased use of public transport, walking and cycling will help to reduce the number of vehicles on the road, in particular the number of private cars, resulting in a reduction in emissions and therefore, an improvement on the air quality.	+

SA7: Greenhouse Gases	The LTP3 supports the transition to a low carbon economy, supporting the reduction in GHGs in line with Government targets. The plan seeks to reduce GHGs from transportation, including from congestion, private vehicles, and public transportation (HW1, PT13). The plan also considers the reduction of emissions from street lighting (HW9), seeking to reduce emissions from this source. Additionally, the LTP3 also contributes to encouraging the use of active travel, reducing private vehicle use and therefore reducing emissions (AT1, AT2, AT3).The continuation of these policies is likely to result in further reductions in GHGs across Wokingham Borough. Since the development of the LTP3, the Government has updated the legislation regarding GHG emissions, outlining the target of 100% reduction in greenhouse gases on 1990 levels by 2050. The LTP3 is therefore outdated in its measures to tackle levels of GHGs. The LTP3 also supports the use of electric vehicles and electric vehicle charging. However, since the development of the plan there has been an increased uptake in the use of electric and low carbon fuelled vehicles. The plan is considered outdated in this area and does not outline improvements to infrastructure at a scale to support the increase in use of these vehicles. Climate change presents a growing risk to weather in Wokingham, with increased rainfall events, higher temperatures, and increased extreme weather events including flooding. The LTP3 includes policy HW8 which aims to create a transport network resilient to extreme weather events including snow and ice. However, this policy does not include measures for climate change weather events. This policy may no longer be suitable to the changing climatic risks within the Borough	**-**
SA8: Climate Resilience		
SA9: Noise	LTP3 relates challenges facing quality of life with the intrusive effects of transport, such as noise from high volumes of traffic. The policies within LTP3 that encourage or improve sustainable and active transport modes will in turn help to reduce noise pollution. The LTP3 includes policy HW11, which seeks to reduce noise pollution and ensure that mitigation measures are integrated within new development to minimise noise for those living close to key noise sources within the Borough. The LTP3 does, however, support a number of schemes to increase the number and frequency of public transport vehicles like buses and trains, which will contribute to reducing private vehicle noise. However, there is potential that increased services could ultimately contribute to noise pollution through both construction and operational phases. Additionally, LTP3 does not address the current and future changes in to the transport network in Wokingham Borough, for example through increasing numbers of private vehicles. The future changes to Wokingham's population are likely to contribute to increases in noise pollution, which the LTP3 does not address.	**+/-**
SA10: Landscape and Townscape	As part of the LTP3's goals for transport, the plan aims to protect and enhance the landscape and townscape of Wokingham. Policies within the Active Travel Policy Options and Public Transport Policy Options encourage the use of alternative transport modes, aiding in reducing traffic and therefore reducing the effects of noise and vibration on landscapes. Policy HW12 also includes measures to improve the public realm through reducing street clutter. However, new development and improving connectivity to rural areas may affect the tranquillity and setting. This could be due to the increased traffic, construction and operation phase disturbance (light, noise, and air pollution), and visitor pressure. Development may also require land take which could result in negative effects on the Borough's landscape. The LTP3 does not include a policy on the protection of the Borough's valuable townscapes and landscapes, therefore, it is unlikely that development will take potential negative effects into consideration. Without the support of the LTP, development could be insensitively designed, and a large amount of land could be taken leading to the degradation of landscape and townscape.	**+/-**
SA11: Historic Environment	Wokingham Borough has a number of heritage assets, including conservation areas, listed buildings and scheduled monuments. The LTP3 acknowledges the need to conserve and enhance the historic environment of Wokingham Borough. The LTP also acknowledges the impacts that poor air quality has upon heritage assets. The transition to sustainable transport modes as part of LTP3 will help to reduce emissions and the number of vehicles on the road which will result in improving the air quality and noise pollution. As air pollution is a key factor in the degradation of surfaces of historical buildings and monuments, action to improve air quality has the potential to indirectly benefit the historic environment. The reduction in noise pollution will also help to improve tranquillity and unique setting of the heritage assets.	**+/-**

	However, the LTP3 does not include a specific policy, or acknowledgment within policy, to conserving heritage assets and their settings. Without this, there is potential that development may result in degradation of the setting of heritage assets through insensitive design, therefore reducing their significance.	
SA12: Water Quality	While the LTP3 includes policy objectives to consider improvements to the water environment and water quality, the plan does not include any policy measures to address water quality within Wokingham Borough. There are a number of key water bodies within Wokingham, including the River Lodden, the River Thames, and a number of large water bodies, that are subject to WFD targets. The exclusion of water quality considerations within the LTP3 therefore has the potential to reduce water quality within the Borough if not considered within development.	**--**
SA13: Flooding	There have been multiple instances of flooding within Wokingham Borough, with significant flooding occurring in recent years; 1993, 2000, 2003, 2007, 2013, 2015, 2016, 2017, and 2020. Policy HW8 addresses the need for a resilient highway network during extreme weather events. However, this does not include flood risk measures. Whilst the LTP3 acknowledges flood risk within the Borough, and the likely increases in flood events as a result of climate change, the plan does not include a specific measure to address flood risk within the Borough. As climate change is likely to exacerbate both the chronic and acute effects of climate change, including flooding, the LTP3 is therefore outdated and unfit for purpose under our changing climate.	
SA14: Population	Wokingham's LTP3 policies will continue to address current and future population connectivity and efficiency issues of the transport network. A key part of LTP3 is to improve connectivity to rural destinations through improving buses (including new buses and increased service frequency) and improved integration between bus and rail services. Accessibility and inclusion are well addressed within LTP3, with policies to improve ticketing, and improvements in access to public transport for all citizens. This promotes a fairer, more inclusive society. However, policy HW12, outlines reductions in street clutter, including reductions in signage. Reducing signage may reduce wayfinding through the Borough, limiting the movements of those with disabilities, the elderly, or visitors who may not know their way around. Despite LTP3's recognition of a growing population, policies regarding capacity do not reflect this, and will likely not be robust enough as a result to support the projected population growth in Wokingham of 1% growth by 2037. The population in Wokingham is ageing, with an estimated 20% predicted to be over 65 by 2027. This is likely to place increased demand on public transport services and the LTP does not acknowledge it.	**+/-**
SA15: Health	The LTP3 ensures a focus on improving health and healthy communities within Wokingham Borough. The LTP3 recognises the challenges of modern-day life (sedentary lifestyles, car use) and the problems incurred (increased prevalence of medical conditions such as obesity and heart disease). This allows the LTP to encourage active travel as an easy and beneficial mode for people to incorporate into their everyday lives in order to pursue healthier lifestyles. The LTP sets out to achieve this by making active travel easier and more attractive through infrastructural improvement, as well as addressing perceptions of key barriers to active travel like safety and convenience. Equally, LTP3's mission to transition to more sustainable modes of transport (including public transport) will also work to improve the overall health of the population by reducing noise pollution and improving air quality. Both of these will have beneficial effects on the health and wellbeing of the population in Wokingham Borough. The LTP3 also places emphasis on improving the physical safety of its residents, including school children, through highways improvements, speed limit changes and reducing the fear or crime. While there is a recognition that active travel can improve mental wellbeing, there is no specific action to actively uphold this, and more could be done within the LTP3 to allow for the beneficial effects of active travel on mental health. Especially in the wake of the Covid-19 pandemic, more people are finding comfort in connecting with outdoor spaces, and so greater emphasis should be placed on the importance of maintaining and enhancing this link. Additionally, LTP3 does not address post Covid-19 perceptions, whereby some members of the public no longer feel comfortable or safe using public transport. This is especially reflected within vulnerable groups who may be unable to access public transport due to health concerns. The current LTP3 is therefore insufficient to meet the needs of Wokingham Borough's changing behaviours when it comes to active travel, d public transport and mental health awareness.	**+/-**

SA16: Economy and Employment	LTP3 is still relevant to the improvement of connectivity across Wokingham to support greater access to employment. The continued connectivity improvements through better buses (including new buses and increased service frequency), reduced car use, improved ticketing, and improved rail services will increase Wokingham Borough residents' access to employment, including those in rural communities. Improved connectivity will also provide greater access to education in the Borough, resulting in a higher proportion of skilled workers in high wage industries, supporting the growth of their already present and diverse knowledge sectors. Additionally, the LTP recognises, and provides, improved connectivity to Reading. This provides improved economic opportunities for employment in the Borough. The Plan also includes measures to improve active travel connectivity to employment opportunities (policy AT1). This, alongside improvements to public transport services provides improved journey reliability to employment areas. LTP3 does not tackle any degree of investment to improve broadband infrastructure across the county, meaning it is not fit to account for the new shift towards working from home brought about by the Covid-19 pandemic. A lack of digital inclusion will disadvantage peoples access to employment under current circumstances, as well as opportunities for businesses to grow. However this is not significant enough to negate improvements made by LTP3.	+

8.3 Assessment of Alternative Action Plan Interventions

8.3.1. As per the SEA regulations, the SA needs to consider and compare all reasonable alternatives as the plan evolves and assess these against the baseline environmental, economic and social characteristics of the Borough. Reasonable alternatives are the different realistic options considered by the plan-maker in developing the policies in the plan. The SA has therefore assessed reasonable alternative Action Plan Interventions. Action Plan Alternative Interventions have been derived from the long-list of interventions proposed during the development of the Action Plan. In total, 19 alternative schemes were assessed. The details of the assessment have been detailed below – Table 8-2 presents an overview of the alternative sites performance whilst the findings of the assessments have been detailed in Table 8-2.

8.3.2. The assessment of alternative action plan interventions has resulted in a higher number of negative effects compared to the proposed site action plan interventions. These have generally been identified for Biodiversity (SA4) and Noise (SA9) due to the land take and therefore habitat loss required for the interventions, and the increase in traffic in the Noise Important Areas (NIA) along the M4.

8.3.3. A number of these interventions are likely to result in rerouting of freight and private vehicles within the Borough, leading to location specific positive and negative effects on Air Quality (SA6), Greenhouse Gases (SA7), and Noise (SA9). These are especially going to impact the NIAs and Air Quality Management Areas (AQMAs) located throughout the Borough. Similarly, traffic shifts within the Borough will lead to location specific positive and negative effects on Landscape and Townscape (SA10) and Historic Environment (SA11) through changes to setting and damage from air pollution,3especially within the Conservation Areas within the Borough.

8.3.4. Uncertain effects have been identified for Greenhouse Gases (SA7) where it is unclear whether the interventions will introduce low carbon public transport methods including green buses and decarbonised rail services.

8.3.5. Uncertain effects have also been identified for Flooding (SA13), as the exact locations and works proposed are unclear at this stage, and there are areas within Flood Zone 3 within the vicinity of these sites.

Table 8-2 - Assessment of Action Plan Alternatives

Scheme	SA1: Natural Capital	SA2: Materials and Waste	SA3: Soils	SA4: Biodiversity	SA5: Green Infrastructure	SA6: Air Quality	SA7: Greenhouse Gases	SA8: Climate Resilience	SA9: Noise	SA10: Landscape and Townscape	SA11: Historic Environment	SA12: Water Quality	SA13: Flooding	SA14: Population	SA15: Health	SA16: Economy and Employment
Free travel to school review	0	0	0	0	0	?	?	0	?	0	0	0	0	++	?	+
Digital Kerbside Management	0	0	0	0	0	+	+	?	+	+	+	0	0	0	?	?
Demand Responsive Transport north	0	0	0	0	0	?	?	0	?	?	?	0	0	+	+	+
Parish Gateways	0	0	0	-	?	0	0	0	0	?	0	0	0	0	+	0
Ped/cycle access to Green Park Station	0	0	0	+	?	+	+	?	+	+	+	0	0	+	+	+
Twyford Gardens Rail station	0	?	?	-	?	+/-	?	?	+/-	+/-	+/-	0	?	+	0	+
Demand Responsive Transport south	0	0	0	0	0	?	?	0	?	?	?	0	0	+	+	+
Mereoak Park and Ride, increased capacity	?	-	-	?	?	+/-	+/-	?	+/-	+/-	+/-	0	0	+	+	+
Wokingham Station Bus access	0	?	0	0	0	+	+	0	+	?	+	0	0	0	0	+
Wokingham Level Crossing	0	0	0	0	0	+/-	+/-	0	+/-	+/-	+/-	0	0	0	+	+
Vehicle size/routing review and signage strategy	0	0	0	0	0	+/-	+/-	0	+/-	+/-	+/-	0	0	0	0	0
Wokingham Level Crossing- Bus	0	0	0	0	0	+/-	+/-	0	+/-	+/-	+/-	0	0	+	0	+
New Motorway junction between M4 J10 and J11	-	--	--	--	?	+/-	+/-	?	-	+/-	+/-	0	?	0	-	+
A329 (M)(Smart Corridor	0	?	?	?	0	+	+	0	0	0	0	0	?	0	-	+
A329 Coppid Beach Junction improvements	0	-	-	0	?	?	?	0	?	0	0	0	0	0	0	+

Table 8-3 - Summary of Action Plan Alternative Effects

SA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
SA1: Natural Capital	0	0	1	Uncertain effects have been identified for the Mereoak Park and Ride, increased capacity. There is potential for increased development at this site, which may result in loss of natural capital. However, this is currently uncertain.
SA2: Materials and Waste	0	1	3	Uncertain effects have been identified for four interventions. At this stage it is uncertain if significant quantities of materials will be required for the construction of some of the schemes, and how much of this material will be reused or recycled, or if these schemes will incorporate sustainable design measures. There is potential for these developments to be resource intensive. Significant negative effects have been identified for the New Motorway Junction Between M4 J10 and J11. This measure is likely to result in resource intensive development.
SA3: Soils	0	1	2	There is potential for significant negative effects have been identified for the New Motorway Junction Between M4 J10 and J11 as this development is likely to result in large scales of land take, and loss of agricultural land. There is potential for land take as a result of development of these interventions. However, at this stage it is uncertain if these interventions will result in significant loss of agricultural land.
SA4: Biodiversity	0	1	2	There is potential for significant negative effects have been identified for the New Motorway Junction Between M4 J10 and J11. This measure is likely to result in large scale land take, and has the potential for a loss of habitats and species as a result of this, particularly those residing in hedgerows in the area. There is potential for some interventions to result in habitat loss, however the significance of this is uncertain at this stage as the location of development and its proximity to designated sites is unclear.
SA5: Green Infrastructure	0	0	6	There is potential for a number of interventions to result in the loss of, or improvement to green infrastructure. Schemes have the potential to include green infrastructure measures, however this is not known at this stage and is likely to be determined by individual design.
SA6: Air Quality	0	0	4	A number of the schemes promote a modal shift away from the use of private vehicles, reducing the air quality impacts from private vehicles within the Borough however the levels of these are not significant. Uncertain effects have been identified where an increase in public transport is anticipated, as it is unclear if low emissions vehicles will be used as part of these interventions.
SA7: Greenhouse Gases	0	0	5	A number of the schemes promote a modal shift away from the use of private vehicles, reducing GHG emissions from private vehicles within the Borough however the levels of these are not significant. Uncertain effects have been identified where an increase in public transport is anticipated, as it is unclear if low emissions vehicles will be used as part of these interventions.
SA8: Climate Resilience	0	0	5	Uncertain effects have been identified for climate resilience as the interventions have the potential to include climate resilience measures, such as heat resilience and SuDS, within the development design. However, this is currently unknown.

SA Objective	Number of Significant Effects			Summary of Significant Effects
	++	--	?	
SA9: Noise	0	0	4	A number of the schemes promote a modal shift away from the use of private vehicles, reducing the traffic noise from private vehicle, however the levels of these are not significant. Schemes also result in the rerouting of vehicles, reducing noise impacts in some locations but increasing them in others. Uncertain effects are anticipated where it is unclear if increasing public transport provision would result in an overall decrease in traffic noise.
SA10: Landscape and Townscape	0	0	4	A number of schemes aim to reroute private and freight vehicles throughout the Borough, reducing the impacts of these vehicles on the landscape and townscape in some locations but increasing them in others. These effects are not anticipated to be significant. Uncertain effects are anticipated where the traffic will shift to increased public transport, as it is unknown if these interventions will increase the overall number of vehicles on the road.
SA11: Historic Environment	0	0	2	A number of schemes aim to reroute private and freight vehicles throughout the Borough, reducing the impacts on the historic environment in some locations through damage from air pollution and setting impacts but increasing them in others. Uncertain effects are anticipated where the traffic will shift to increased public transport, as it is unknown if these interventions will increase the overall number of vehicles on the road.
SA12: Water Quality	0	0	0	The action plan alternatives are not anticipated to impact water quality.
SA13: Flooding	0	0	3	Uncertain effects have also been identified for Flooding as the exact locations and works proposed are unclear at this stage, and there are areas within Flood Zone 3 within the vicinity of these sites.
SA14: Population	1	0	0	A number of schemes aim ensure that transport modes and infrastructure will meet both current and future population growth, however only Free Travel to School Review has the potential to increase social interaction and community cohesion between families, and therefore has significant effects. The majority of Action Plan alternative interventions result in minor positive effects.
SA15: Health	0	0	1	A number of schemes encourage a modal shift from private vehicles to public transport, increasing physical activity rates and reducing air pollution which impacts health. These effects are not anticipated to be significant. Uncertain effects are anticipated where it is not known if improving free travel to school provision will increase physical activity rates.
SA16: Economy and Employment	0	0	1	A number of schemes increase the connectivity of those without private vehicles to job opportunities through provision of public transport and road improvement schemes. These effects are not anticipated to be significant. Uncertain effects are anticipated where the economic impacts of digital kerbside management are not yet known.

9 Cumulative Effects

9.1 Introduction

9.1.1. The SEA Regulations require that cumulative effects are considered when identifying likely significant effects. Cumulative effects arise, for instance:

- Where several individual policies and sites have a combined effect on an objective; or
- Where several policies and sites each have insignificant effects but together have a significant effect.

9.1.2. The significance of cumulative effects resulting from a range of activities, or multiple incidences of one activity, may vary based on factors such as the nature of the proposed sites and policies and the sensitivity of the receiving communities and environment.

9.1.3. This section therefore presents the findings of the following:

- Consideration of how different proposed visions and objectives within WBC LTP4 may interact and cause cumulative effects on a receptor (Intra-project effects); and
- How the proposed visions and objectives within WBC LTP4 could cause cumulative effects in association with other plans, policies and projects in the surrounding area (Inter-project effects).

9.2 Intra Project Effects

9.2.1. The SEA assessment of visions and objectives drew out potential intra-project cumulative effects. These have been identified in Table 9-2.

Table 9-1 below outlines the key to effects for intra-project cumulative effects.

Table 9-1 – Key to Cumulative Effects

Effect	Key
Positive cumulative effect	+
Negative cumulative effects	-
Mixed cumulative effects	+/-
No overall cumulative effects	0

Table 9-2 – Intra-Project Cumulative Effects Summary

SA Objective	Net Zero Carbon Emissions	Clean Air, Removal of All Air Quality Exceedances	High Quality Sustainable Travel Corridors	Well-Maintained Transport Network	Enable Sustainable Development	Protect and Enhance Strategic Connectivity and Freight	50% Active Travel in Towns by 2030	Safer Streets for All, 50% Reduction in KSIs	Thriving Villages and Town Centres	Action Plan	Summary
SA1: Natural Capital	+/-	+	-	0	+	0	0	+	0	+/-	There is potential for negative effects upon natural capital as a result of developments that may come forward. Developments could result in land take, resulting in loss of natural capital. Additionally, construction work has the potential to disturb these areas through noise, dust spoiling and air quality reductions. However, positive cumulative effects may occur as there is potential that improvements to air quality across the Borough as a result of options and objectives may reduce degradation of natural capital and preserve this asset.
SA2: Materials and Waste	0	0	-	+	0	-	0	-	0	-	There is potential for negative cumulative effects arising from developments that may come forward. If a number of developments were to arise at the same time that require additional materials, there is potential for negative effects. However, Well Maintained Transport Network contributes to potential positive cumulative effects through its use of recycled materials in construction and contributing to a circular economy. Therefore if this objective is considered within development, there is potential for positive cumulative effects.
SA3: Soils	0	0	-	0	0	-	0	-	0	-	Potential negative cumulative effects have been identified for soils due to the potential for multiple developments that may come forward, requiring additional land take. Land take may result in loss of BMV or agricultural land, depending on the location of development.
SA4: Biodiversity	+	+	-	0	+	-	+	+	0	+/-	There is the potential for negative cumulative effects on biodiversity if multiple large scale developments were to come forward. Depending upon the number and type of options selected and their proposed location, there is potential for a cumulative loss of land, which could lead to damaged and segregated habitats. However, there is the potential for positive cumulative effects. These developments may provide biodiversity enhancements through reductions in habitat disturbance, as well as preserving habitats and species through improved air quality.

SA Objective	Net Zero Carbon Emissions	Clean Air, Removal of All Air Quality Exceedances	High Quality Sustainable Travel Corridors	Well-Maintained Transport Network	Enable Sustainable Development	Protect and Enhance Strategic Connectivity and Freight	50% Active Travel in Towns by 2030	Safer Streets for All, 50% Reduction in KSIs	Thriving Villages and Town Centres	Action Plan	Summary
SA5: Green Infrastructure	0	0	+/-	+	0	0	0	+	+	+/-	There are potential positive effects on green infrastructure if multiple developments were to come forward, including additional measures to connect and enhance green infrastructure linking population centres which may otherwise be lost of severed through a lack of maintenance or through other development. However, there is potential that during development and construction of developments arising from the LTP4, green infrastructure may be lost or disturbed, resulting in potential negative cumulative effects.
SA6: Air Quality	+	+	+	+	+	+/-	+	+	+	+/-	Temporary negative cumulative effects have the potential to result during the construction phase, if multiple developments, with overlapping construction periods, were to come forward. Construction of these developments may reduce the air quality through an increase in particulate matter and dust. However, the development of new public transport infrastructure and active travel infrastructure will enable more people to use public transport modes instead of the use of a private car, helping to improve air quality. Therefore, there is also the potential for positive cumulative effects to result if multiple developments were to come forward. Additionally, the Clean Air policy which is the removal of all air quality exceedances, contributes to improving air quality within the AQMAs in the Borough.
SA7: Greenhouse Gases	+	+	+/-	0	+/-	+/-	+	+/-	+	+/-	If multiple developments were to come forward there is the potential for negative cumulative effects on GHGs, due to the construction required for new developments. In the longer term, there is potential that if multiple developments were to arise, positive cumulative effects on GHGs may arise due to the improvement in infrastructure reducing the number of private vehicles on roads, as well as reducing congestion on the Borough's roads.

SA Objective	Net Zero Carbon Emissions	Clean Air, Removal of All Air Quality Exceedances	High Quality Sustainable Travel Corridors	Well-Maintained Transport Network	Enable Sustainable Development	Protect and Enhance Strategic Connectivity and Freight	50% Active Travel in Towns by 2030	Safer Streets for All, 50% Reduction in KSIs	Thriving Villages and Town Centres	Action Plan	Summary
SA8: Climate Resilience	++	0	-	+	+/-	0	0	0	0	+/-	The addition of increased use of hard standing surfaces as part of the proposed developments will increase surface water runoff. Therefore, a number of new developments could result in potential negative cumulative effects on flooding, particularly for those sites located within flood zone 2 or 3. However, the incorporation of sustainable urban drainage systems (SUDs) which will help to reduce overall flood risk within the Borough, and climate resilience measures is likely to be development specific. If SUDs are included within multiple developments there is potential for positive cumulative effects.
SA9: Noise	+	0	+/-	0	0	0	+	+	+	+/-	The development of transport interventions may result in potential positive cumulative effects on noise. The improvement of public transport and active travel corridors is likely to reduce the number of private vehicles and congestion on the Borough's roads, reducing noise. However, there is potential for negative cumulative effects on noise if multiple developments were to arise at the same time as during construction there are likely to be cumulative increases in noise. Additionally, there is potential for cumulative increases in traffic noise during construction as a result of delays and increased congestion.
SA10: Landscape and Townscape	+	+	+/-	+	+	0	+/-	+/-	+/-	+/-	There is the potential for negative cumulative effects on townscapes and landscapes if multiple developments were to come forward in close proximity to greenbelt land, parks and open spaces and areas with high townscape values. During construction of these new developments there is the potential for disturbance to the setting and tranquillity of these areas. However, positive cumulative effects may arise due to good design of the proposed developments and improvements to the public realm, parks and open spaces and the natural environment.

SA Objective	Net Zero Carbon Emissions	Clean Air, Removal of All Air Quality Exceedances	High Quality Sustainable Travel Corridors	Well-Maintained Transport Network	Enable Sustainable Development	Protect and Enhance Strategic Connectivity and Freight	50% Active Travel in Towns by 2030	Safer Streets for All, 50% Reduction in KSIs	Thriving Villages and Town Centres	Action Plan	Summary
SA11: Historic Environment	+	+	+/-	+	+	0	+	+/-	+/-	+/-	There is the potential for negative cumulative effects on the historic environment if multiple developments were to come forward in close proximity to heritage assets. During construction of these new developments there is the potential for disturbance to the historic environment due to noise, vibration and temporary reductions in air pollution (dust soiling). However, positive cumulative effects may arise due to the historically sensitive design of proposed developments to fit in with the setting of any surrounding designated heritage assets. The LTP4 may also result in a cumulative increase in protection and preservation of heritage assets in the Borough, particularly through improved air quality. This could result in better understanding and appreciation of the historic environment.
SA12: Water Quality	0	0	+/-	0	0	0	0	0	0	+/-	There is potential for negative cumulative effects if multiple developments were to come forward. There is potential for cumulative increase in surface water runoff, and impacts on surface water and groundwater, particularly from physical alteration as a result of development from the action plan as well as developments associated with high quality sustainable travel corridors. Water quality measures are likely to be specific to each development, but there may be cumulative benefits as a result of traffic reductions, reducing pollution load in runoff, or the inclusion of SuDS, if implemented across multiple developments.
SA13: Flooding	0	0	+/-	0	0	+/-	0	+/-	0	+/-	There are potential negative cumulative effects on flooding if multiple developments were to arise within flood zone areas. Developments could result in an increase in impermeable surfaces, increasing flood risk. Flood risk measures are likely to be development specific, but there may be cumulative benefits if implemented across multiple developments.
SA14: Population	+	+	+	+/-	+	+	+	+	+	+	Positive cumulative effects are anticipated for population as the LTP4 objectives and action plan develop WBC's transport infrastructure for current and future generations. Objectives including high quality sustainable travel corridors, enable sustainable development, and 50% active travel in towns by 2030 also include measures to inclusively improve transport and active travel facilities across the Borough. The LTP4 also provides improved transport accessibility to communities across the Borough, including rural areas. However, the development of freight within the Borough may result in negative cumulative effects.

SA Objective	Net Zero Carbon Emissions	Clean Air, Removal of All Air Quality Exceedances	High Quality Sustainable Travel Corridors	Well-Maintained Transport Network	Enable Sustainable Development	Protect and Enhance Strategic Connectivity and Freight	50% Active Travel in Towns by 2030	Safer Streets for All, 50% Reduction in KSIs	Thriving Villages and Town Centres	Action Plan	Summary
SA15: Health	+	+	+	+	+	+	+	+	+	+	There are potential positive cumulative effects on health as a result of all LTP4 objectives and the Action Plan. The strategy and action plan contribute to improving healthy lifestyles due to increased physical activity through active travel and air quality improvements, as well as improving mental wellbeing through improved access to services, leisure and transport.
SA16: Economy and Employment	+	+	+	+	+	+	+	+	+	+	Positive cumulative effects are anticipated for economy and employment. The LTP4 improves transport and active travel connectivity across the Borough, improving access to employment locations and town centres. The objectives and Action Plan also improve connectivity to the wider region, including Reading and London, improving access to employment. There are also positive cumulative effects anticipated as a result of improvements to journey time reliabilities. The development of improved transport links is also likely to improve town centre economies.

9.3 Inter-Project Effects

9.3.1. **Table 9-3** below outlines the sources of potential inter-cumulative effects, whilst **Table 9-4** details the cumulative effects identified for each of the SA Topics in relation to these policies and plans. This uses the same key to effects as set out in **Table 9-1** above.

Table 9-3 - Sources of Inter-Cumulative Effects

Policy or Plan	Plan Details
Transport for the South East's (TfSE) Regional Transport Strategy, 2020	Wokingham Borough is located within the TfSE Region. The Transport Strategy sets out how the TfSE aims to achieve its vision across the region. This includes ensuring the delivery of a high quality, sustainable and integrated transport system that supports increased productivity to grow the South East and UK economy and compete in the global marketplace. It aims to facilitate the development of a high quality, sustainable and integrated transport system that works to improve safety, quality of life and access to opportunities for all. The Strategy acknowledges the key relationship London has with the South East and how it is reliant upon strong transport links with towns, cities and international gateways outside of London, which is reflected strongly in commuting patterns between both regions.
Neighbouring Local Transport Plans	Local transport plans in neighbouring Boroughs (Reading, Bracknell Forest, West Berkshire, Royal Borough of Windsor and Maidenhead), counties (Hampshire, Buckinghamshire, and Oxfordshire), and local authorities (Hart District, South Oxfordshire District, and Basingstoke and Deane District) enable Local Authorities to plan for transport in their areas. They can identify both strategic policy and implementation plans for delivering this policy. Therefore, they identify policy options for implementing transport improvements, including different modes of transport. They also prioritise a number of areas and schemes for development over the plan period. The plans include: ■ Reading Transport Strategy 2040; ■ Bracknell Forest Local Transport Plan 3; ■ Royal Borough of Windsor and Maidenhead Local Transport Plan 4 (not yet adopted); ■ West Berkshire Local Transport Plan 3; ■ Hampshire County Council, Draft Local Transport Plan 4; ■ Oxfordshire County Council, Local Transport and Connectivity Plan 2022-2050;

Policy or Plan	Plan Details
	■ Buckinghamshire Council, Local Transport Plan 5 (not yet adopted); and ■ Basingstoke Transport Strategy.
Neighbouring Local Plans and Strategies	Local Plans in neighbouring Boroughs (Reading, Bracknell Forest, West Berkshire, Royal Borough of Windsor and Maidenhead), counties (Hampshire, Buckinghamshire, and Oxfordshire), and local authorities (Hart District, South Oxfordshire District, and Basingstoke and Deane District)influence cross-boundary development improvements. ■ Reading Borough Local Plan; ■ Bracknell Forest Local Plan (not yet adopted); ■ Royal Borough of Windsor and Maidenhead, Borough Local Plan 2013-2033; ■ West Berkshire Local Plan; ■ Hart Local Plan 2032; ■ South Oxfordshire Local Plan 2011-2035; ■ Buckinghamshire Local Plan (not yet adopted); ■ Basingstoke and Deane Local Plan (not yet adopted); ■ West Berkshire Active Travel Strategy; and ■ Oxfordshire Active Travel Strategy.
Nationally Significant Infrastructure Projects (NSIPs)	There are 18 NSIPs located within the South East Region, including decided, and pre application developments: ■ East West Rail; ■ Southampton to London Pipeline Project; ■ Cleve Hill Solar Park; ■ Rampion Offshore Wind Farm; ■ Lower Thames Crossing; ■ M3 Junction 9 Improvement; ■ Hampshire Water Transfer and Water Recycling Project; ■ Rampion 2 Offshore Wind Farm; ■ A27 Arundel Bypass; ■ Stonestreet Green Solar; ■ Botley West Solar Farm; ■ Cory Decarbonisation Project; ■ Sea Link; ■ Oxfordshire Strategic Rail Freight Interchange; ■ Western Rail Link to Heathrow; ■ Perrys Farm Hazardous Waste Management Facility; ■ River Thames Scheme; and ■ Slough Multifuel Extension Project.

Table 9-4 - Intra-Project Cumulative Effects Summary

SA Objective	Transport for the South East	Neighbouring Local Transport Plans	Neighbouring Local Plans and Strategies	Nationally Significant Infrastructure Projects	Summary
SA1: Natural Capital	**+/-**	**+/-**	**+/-**	**+/-**	There is potential for cumulative loss of natural capital if multiple developments, across similar timeframes were to come forward. Although it is assumed that any protected species or sites would be mitigated at a project level, there are wider impacts on natural capital. There is potential for positive effects through the incorporation of natural capital approaches (TfSE, Local Transport Plans, Local Plans) and the enhancement of existing sites providing natural capital.
SA2: Materials and Waste	**+/-**	**+/-**	**+/-**	**-**	There is potential for negative cumulative effects upon materials and waste as a result of large-scale projects (NSIPs). Additionally, if developments across similar timeframes were to come forward, this has potential to negatively affect materials and waste. However, strategies and plans (TfSE, Local Transport Plans, Local Plans) include circular economy principles that may contribute to potential positive effects on waste.
SA3: Soils	**0**	**+/-**	**+/-**	**+/-**	Potential negative cumulative effects on soils may arise as a result of a number of large scale projects, such as NSIPs, coupled with other development in the Borough and surrounding area. This could lead to a cumulative loss of land, some of which may be BMV land and not brownfield land. However, positive cumulative effects could arise if the majority of the of proposed developments are situated on brownfield sites.
SA4: Biodiversity	**+/-**	**+/-**	**+/-**	**+/-**	There is potential for cumulative loss, damage or fragmentation of statutory and non-statutory sites and habitats if multiple developments, across similar timeframes were to come forward. Although it is assumed that protected species would be mitigated at a project level, there are wider impacts on biodiversity. There is potential positive effects through the incorporation of biodiversity net gain (TfSE, East West Rail) and green infrastructure (TfSE, Local Transport Plans, Local Plans).
SA5: Green Infrastructure	**+/-**	**+/-**	**+/-**	**0**	There is potential for the cumulative loss of green infrastructure if multiple developments, across similar timeframes were to come forward. However, there is potential positive effects through the incorporation of green infrastructure incorporations within developments (TfSE, Local Transport Plans, Local Plans).
SA6: Air Quality	**+**	**+/-**	**+/-**	**+/-**	Temporary negative cumulative effects have the potential to result during the construction phase, if multiple developments were to come forward. Construction of these developments may reduce the air quality through an increase in particulate matter and dust. Positive cumulative effects will result through the development of sustainable transport schemes. In combination with the Local Transport Plan's objectives, this will increase access to public transport modes, reducing the use of a private car, and therefore improving air quality. Further positive cumulative effects will result from the reduction in journey times and congestion on the highway network.

SA Objective	Transport for the South East	Neighbouring Local Transport Plans	Neighbouring Local Plans and Strategies	Nationally Significant Infrastructure Projects	Summary
SA7: Greenhouse Gases	**+/-**	**+/-**	**+/-**	**+/-**	There is potential for increased development to increase transport related greenhouse gas emissions, particularly where this leads to increases in vehicular traffic as well as embodied carbon due to development. However, there may be cumulative benefits from transport initiatives (including East West Rail, TfSE and neighbouring transport plans) and low carbon developments (as set out in neighbouring local plans) in reducing greenhouse gases.
SA8: Climate Resilience	**0**	**0**	**+**	**0**	Climate change adaptation measures are likely to be specific to each development, but there may be cumulative benefits if implemented across multiple plans (as set out in neighbouring Local Plans).
SA9: Noise	**+/-**	**+/-**	**-**	**-**	There may be cumulative reductions in noise from transport initiatives (TfSE, neighbouring local transport plans) encouraging a move towards sustainable transport modes, reducing road traffic noise. However, temporary negative cumulative effects have the potential to result during the construction phase, if multiple developments were to come forward during the same timeframe.
SA10: Landscape and Townscape	**+/-**	**+/-**	**+/-**	**-**	The provision of public realm improvements through neighbouring local plans and strategies, neighbouring transport plans, and TfSE could help to increase and improve the open space offering as well as the setting of the borough's townscape and landscape. This will result in positive cumulative effects. However, multiple developments (in particular tall buildings in neighbouring boroughs) could result in a cumulative loss of open spaces.
SA11: Historic Environment	**+/-**	**+/-**	**+/-**	**-**	There is potential for both positive and negative, direct and indirect cumulative effects on nationally and locally designated heritage assets, and their unique settings. This is in addition to cumulative effects on undesignated and unknown assets, which are also important. However, well-designed developments and infrastructure could present opportunities to enhance the quality of visual amenity of heritage assets by managing public access to or from the historic features. This could have additional cumulative benefits for identity, health and wellbeing and placemaking.
SA12: Water Quality	**+/-**	**+/-**	**+/-**	**+/-**	There is potential for cumulative impacts on surface water and groundwater quality, particularly from physical alteration as a result of development. Water quality measures are likely to be specific to each development, but there may be cumulative benefits if implemented Borough-wide.
SA13: Flooding	**+/-**	**+/-**	**+/-**	**+/-**	There is potential for cumulative increase in surface water runoff and flood risk, particularly from physical alteration as a result of development and increases in impermeable surfaces. Drainage

SA Objective	Transport for the South East	Neighbouring Local Transport Plans	Neighbouring Local Plans and Strategies	Nationally Significant Infrastructure Projects	Summary
					measures are likely to be specific to each development, but there may be cumulative benefits if implemented Borough-wide
SA14: Population	+	+	+/-	+	There is a potential for negative cumulative effects to result if multiple developments were to come forward as a result of neighbouring local plans due to the increased strain on existing community facilities due to the increased demand from new populations. Positive effects would result from the provision of new infrastructure and transport schemes, improving access and connectivity to community facilities and services, especially for the people who cannot drive or do not have access to a private car. Further positive cumulative effects would result following the introduction of the new public transport schemes (TfSE, neighbouring local transport plans). This will enable people who cannot drive or own a private car to have greater access to education, jobs, and community facilities.
SA15: Health	0	+	+/-	+/-	There is a potential for negative cumulative effects to result if multiple housing developments as part of neighbouring local plans were to come forward, due to the increased strain on existing community health facilities resulting from the increased demand from new populations. The provision and improvements to the active travel, public realm and open spaces, as part of developments arising from neighbouring local transport plans and neighbouring plans, will result in positive effects on the health and wellbeing of the population in the region. This is because access to greenspace can provide better mental health and wellbeing outcomes including reduced levels of depression, anxiety and enhanced quality of life, as well as helping to- bind communities together, reduce loneliness, and mitigate the negative effects of air pollution and excessive noise.
SA16: Economy and Employment	+	+	+	+	There are likely to be positive cumulative economic benefits across the borough following the developments of neighbouring Local Plans, neighbouring local transport plans, TfSE and NSIPs, alongside the Local Plan. These developments are likely to result in increased connectivity across London and the wider south east region, an increase in employment opportunities, and improved access to employment.

10 Mitigation, Enhancement and Monitoring

10.1 Mitigation and Enhancement Measures

10.1.1. Mitigation of significant negative effects of the plan and enhancement of positive effects are a key purpose of SA. The SEA Regulations require that mitigation measures are considered to prevent, reduce or offset any significant adverse effects on the environment of implementing the plan. The measures are known as ‘mitigation’ measures. Mitigation measures include both proactive avoidance of adverse effects and actions taken after potential effects are identified.

10.1.2. The mitigation measures proposed in **Table 10-1** are designed to avoid or reduce the effects identified as potentially negative through the policy assessments on the SA Objectives. The table also includes enhancement measures, that aim to optimise positive impacts and enhance sustainability.

10.1.3. As this is the SA draft reporting stage, these measures are subject to change as the preferred policies and sites are refined and updated. Vision and Objective specific mitigation measures have been included within **Appendix D**, with Action Plan specific mitigation included within **Appendix A**.

10.1.4. The SA Assessment has identified recommendations identified throughout the assessment of the LTP4 and Action Plan. These have been taken from the SA Report, EqIA and HRA. It should be noted that these are different from the mitigation measures, as they focus on potential changes to the LTP, rather than measures identified in response significant effects. These recommendations have been put forward to WBC and changes will be considered by WBC during the preparation of the LTP4.

Table 10-1 - Proposed Mitigation and Enhancement Measures

SA Objective	Mitigation/Enhancement	Mechanism
SA4: Biodiversity	Consideration needs to be given to the potential effects of construction and operation of developments (noise, vibration and air pollution) on international, national and locally designated sites of importance for biodiversity. Sites should be surveyed prior to development to establish all habitats and species in the area. In order to maximise sustainability benefits and compliance with national biodiversity policy, transport interventions must commit to at least 10% biodiversity net gain. Infrastructure schemes should incorporate design measures that lessen the impact on biodiversity and include enhancements through the application of the Mitigation Hierarchy. Where a transport project is likely to have a significant effect on the natural environment the avoidance-mitigation-compensation hierarchy applies, for example, less damaging alternatives should be sought with regards impacts to high value ecological and landscape receptors.	Project level design and assessment (including noise assessments/ surveys) Inclusion within preferred Local Plan policies
SA6: Air Quality SA9: Noise	Consideration needs to be given to the potential effects of construction and operation of the interventions on local noise and air quality receptors including schools and residential buildings. Measures to discourage individual car trips over other alternative transport modes (active, shared and public transport) should be implemented.	Inclusion within preferred Local Plan policies
SA7: Greenhouse Gases	Any form of construction and operation should be undertaken as sustainably as possible, making use of tools and processes, such as circular economy, waste hierarchy and should consider BREEAM and BREEAM Infrastructure. Measures to discourage individual car trips over other alternative transport modes (active, shared and public transport) should be implemented.	Project level design and assessment Inclusion within preferred Local Plan policies
SA10: Landscape and Townscape	Sensitive design should be considered within the action plans to ensure positive effects on local townscapes and landscapes. Measures to discourage individual car trips over other alternative transport modes (active, shared and public transport) should be implemented, to improve the landscape and townscape setting.	Project level design and assessment Project level landscape and visual impacts assessments Inclusion within preferred Local Plan policies
SA11: Historic Environment	Sensitive design should be considered within the action plans to ensure positive effects on local historic assets. Measures to discourage individual car trips over other alternative transport modes (active, shared and public transport) should be implemented, to reduce the air quality related damage to historic assets. Development should consider impacts on designated areas including the Conservation Areas within Wokingham. Where development is located within designated areas, a process of trial trenching should be undertaken to record and register what buried archaeological assets. Where action plan interventions are located within, or 500m outside of a designated historic assets, visual effects assessment should be undertaken to determine magnitude of impact and possible mitigation.	Historic Landscape Characterisation Project level design and assessment Inclusion within preferred Local Plan policies

SA Objective	Mitigation/Enhancement	Mechanism
SA13: Flooding	Where developments are located within flood zones or flood risk areas, SuDS should be included with scheme design. If located within a flood zone, the Environment Agency would need to permit any work to ensure there is no increase in flood risk, taking into account climate uplifts.	Project level design and assessment
SA14: Population	Ensure that the action plan interventions are accessible for all, including low income groups. Consideration needs to be given to those who may not have the same understanding of or access to technology (for example the elderly, those with learning difficulties or in low income groups). Where public transport developments are proposed, consideration should be given to the accessibility of vulnerable groups, to ensure they are able to access public transport and services are inclusive.	Inclusion within preferred Local Plan policies Project level design and assessment
SA15: Health	Active travel provision should be accessible for all, including those using hand cycles.	Inclusion within preferred Local Plan policies Project level design and assessment
SA16: Economy and Employment	Action plan interventions should remain accessible for all to ensure connectivity with employment opportunities. Where possible, developments should work with local businesses and employers to source materials and workforces.	Project level design and assessment

10.2 Monitoring Measures

10.2.1. The SEA Regulations require that monitoring is undertaken on a plan so that the significant effects of implementation can be identified, and remedial action imposed. The purpose of the monitoring is to provide an important measure of the sustainability outcome of the final plan, and to measure the performance of the plan against sustainability objectives and targets. Monitoring is also used to manage uncertainty, improve knowledge, enhance transparency and accountability, and to manage sustainability information.

10.2.2. The aim of monitoring is to check whether the plan is having the significant effects that were predicted in the SA, and to deal with any unforeseen problems.

10.2.3. **Table 10-2** below sets out some of those monitoring measures which would be suitable in monitoring those uncertain residual effects outlined above.

Table 10-2 – Potential Monitoring Measures

Potential Effects	Key Performance Indicators	Targets
SA4: Potential negative effects on Biodiversity	Biodiversity net gain achieved through the interventions.	For all relevant developments to deliver a minimum of 10% Biodiversity Net Gain
SA6: Potential negative effects on Air Quality	To monitor air quality levels within existing AQMAs and ensure they don't exceed existing baseline levels.	Improvements in air quality within AQMAs in line with air quality targets.
SA9: Potential negative effects on noise	Monitor the number of noise important areas. Develop Noise Action Plans to tackle specific arising issues if required.	No increase in the number of noise important areas.
SA10: Potential negative effects on Landscape and Townscape	Landscapes benefiting from conservation and enhancement measure as a result of the action plan interventions.	No greenfield land lost as a result of the interventions.
SA11: Potential negative effects on the Historic Environment	The number of historic assets (statutory and non-statutory) negatively affected by the interventions. The number of historic assets (statutory and non-statutory) benefiting from conservation and enhancement measure as a result of the interventions.	No historic assets negatively affected by the interventions.

Potential Effects	Key Performance Indicators	Targets
SA13: The number of potential interventions located in Flood Zone 3	Number of interventions supported by a flood risk assessment.	For all relevant interventions to incorporate suitable flood resilience and mitigation measures

11 Next Steps

11.1.1. In accordance with the SEA Regulations, the SA Report must be made available at the same time as the draft plan or programme, as an integral part of the consultation process, and the relationship between the documents clearly indicated.

11.1.2. WBC is seeking the views of statutory consultees (Environment Agency, Historic England, and Natural England) on the results of the SEA. This SA Report will be consulted upon alongside the draft LTP4.

11.1.3. The general public will also be encouraged to comment on the SA Report and guided by the following questions:

- To what extent do you agree with the assessment outcomes of the Integrated Sustainability Appraisal report?
- Do you think the proposed measures are sufficient to address the outcomes in the Integrated Sustainability Appraisal?

11.1.4. Following consultation on this report, any necessary amendments will be made in responses to consultation comments and a finalised version of the report will be issued, alongside a post-adoption statement. The post-adoption statement will document how environmental, health, and socio-economic considerations, the views of consultees, and the outcomes of the SA have been taken into account in the adopted LTP4.

11.1.5. It should be noted that the HRA undertaken for the LTP4, will be consulted on separately with just Natural England.

11.1.6. An indicative timetable of the remaining stages of the SA and LTP4 have been included in **Table 11-1** below.

Table 11-1 – Indicative Local Transport Plan 4 and SA Timetable

SA/ LTP Stages	Timescales
SA Report and LTP4 Consultation	tbc
Post-consultation SA and LTP4 updates	tbc
Publication of LTP4 and final SA	tbc
Post Adoption Statement (as above)	tbc

Appendix A

Assessment of Action Plan

Appendix B

Scoping Report Consultation Comments

Appendix C

Scoping Report, SEA Policy Review and Baseline Information

Appendix D

Assessment of LTP4 Vision and Objectives

Appendix E

Equalities Impact Assessment

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wsp.com

Wokingham Borough Council

Local Transport Plan 4 Sustainability Appraisal

Appendix A – Assessment of Action Plan

September 2023

Wokingham Borough Council

Local Transport Plan 4 Sustainability Appraisal

Appendix A – Assessment of Action Plan

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Contents

Tables

Introduction

Tables A-1 to **A-27** below report the assessment of the LTP4 Action Plan's interventions as grouped under the following vision themes, objectives and categories:

Table A-1: LTP4 Action Plan Vision Themes, Objectives and Categories

Vision Theme	Objective	Category
Reduce Environmental Impacts	Net Zero Carbon Emissions	Road Traffic Digitalisation Zero emission vehicles
	Clean Air, Removal of all Air Quality Exceedances	Access Freight Public Transport
	High Quality Travel Corridors	Access for all Public Transport Cycle Network
Grow the Economy	Protect and Enhance Strategic Road and Rail Connectivity	Strategic Network Public Transport Freight
	A Well-Maintained Transport Network	Operational Maintenance
	Support Sustainable Development	Development Policy Sustainable Design Public Transport Infrastructure Delivery
Create Healthy and Safe Places	Safer Streets for All	Road Safety School Travel
	50% Active Travel in Towns	Infrastructure

		Access to Cycling Standards Engagement
	Thriving Villages and Rural Centres	Rural Centres Active Travel

The assessment of the interventions will predict the following:

- Overall effect significance (negative, positive, uncertain, both positive and negative or negligible);
- Nature of effect (direct, indirect);
- Spatial extent (local, regional, national, international);
- Reversibility of effect:
  - Reversible: The receptor can return to baseline condition without significant intervention;
  - Irreversible: The receptor would require significant intervention to return to baseline condition.
- Duration (short, medium or long term) – Short term: 0-5 years, Medium term: 5-10 years (up to the end of the plan period) Long term: 10+ years (beyond the plan period).

Table A-2 below shows the key to effects that have been used within the assessments below. It should be noted that where uncertain and neutral effects have been identified, it has not been possible to determine the nature of effect, the spatial extent, the reversibility or the duration of effect. In this instance, these cells have been left blank.

Table A-2: Key to Effects

Effect Significance	Key
Potential for significant positive effects	++
Potential for minor positive effects	+
Potential for minor negative effects	-
Potential for significant negative effects	--
Potential for both positive and negative effects	+/-
Uncertain effects	?
Negligible / No effect	0
Magnitude (High / Medium / Low)	H / M / L
Nature of effect (direct / indirect)	D / I
Spatial extent (local / regional / national)	L / R / N
Reversibility of effect (reversible / irreversible)	R / I
Permanence (Permanent / Temporary)	P / T
Duration (short / medium / long term)	ST / MT / LT

Vision Theme: Create Healthy and Safe Places

OBJECTIVE: SAFER STREETS FOR ALL

Category: Road Safety

The interventions included are:

- Targeted infrastructure and speed limit changes to improve road safety on A4 and B3349 (Boroughwide)
- 20mph speed limit in town centres (Wokingham & Winnersh / Edge of Reading)
- Ongoing Cycle Training Program to schools (Bikeability) and Adult Cycle Training (Boroughwide)

Table A-3: Assessment of effects associated with – Safer Streets for All – Road Safety interventions

Vision Theme	Create Healthy and Safe Places							
Objective	Safer streets for All							
Category	Road Safety							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	L	I	R	R	P	LT	There are anticipated minor positive effects on biodiversity through speed limit changes which are likely to reduce pollution, minimising disturbance and degradation on local habitats and species in treeline borders in the town centres within Wokingham and Winnersh and the Edge of Reading.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	L	D	R	R	P	LT	Minor positive effects are anticipated through speed limit changes in town centres within Wokingham and Winnersh and the Edge of Reading which will reduce emissions and therefore improve air quality, including within Wokingham Town Centre AQMA. Cycle training programmes also encourage a modal shift away from the use of private vehicles, reducing the resultant pollution across the Borough.
SA7: Greenhouse Gases	+	L	D	R	R	P	LT	Minor positive effects are anticipated as speed limit changes will reduce GHG emissions in the Borough. Cycle training programmes also encourage a modal shift away from the use of private vehicles, reducing the resultant GHG emissions across the Borough.
SA8: Climate Resilience	0							

SA9: Noise	+	L	I	R	R	P	LT	Cycle training programmes encourages a modal shift way from the use of private vehicles, reducing traffic noise across the Borough. Speed limit changes may also result in reduced road traffic noise.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	Cycle training programmes encourages a modal shift away from the use of private vehicles. Along with reduced speed limits, this will improve the setting of the local landscape and townscape.
SA11: Historic Environment	+	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Indirectly, positive effects are anticipated for the historic environment through improvements to air quality from the speed limit changes and a shift from use of private vehicles. This is particularly likely to occur for heritage assets within Wokingham Town Centre Conservation Area.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	++	M	I	R	I	P	LT	A cycling training programme and improvements to road safety through speed limit changes encourage more people to utilise active travel, which promotes community cohesion through the cycling training programme and the provision for more to undertake social cycling trips
SA15: Health	+	L	D	L	R	P	LT	Minor positive effects are anticipated through speed limit changes in town centres within Wokingham and Winnersh and the Edge of Reading which is anticipated to improve local air quality, and therefore the health of local populations. Speed limit changes throughout the Borough are also anticipated to result in improved road safety. A cycling training programme is likely to encourage those without experience to cycle, resulting in health benefits.
SA16: Economy and Employment	0							
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality, greenhouse gases, health, population, historic environment, landscape and townscape, biodiversity, and noise.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified for this category.							
Recommendations	It is recommended that cycle training is accessible for all abilities and requirements, including hand cycles.							

Category: School Travel

The interventions included are:

- Promote sustainable and active travel at schools through the school Modeshift Awards Scheme (Boroughwide)
- School Street Pilot(s) (Wokingham & Winnersh / Edge of Reading
- Roll out of School Streets (Boroughwide)

Table A-4: Assessment of effects associated with – Safer Streets for All – School Travel interventions

Vision Theme	Create Healthy and Safe Places							
Objective	Safer Streets for All							
Category	School Travel							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	L	I	L	R	P/T	LT	There are minor positive anticipated effects to biodiversity as encouraging active travel at a young age can have lasting impressions and has the potential to encourage long term change, reducing private vehicle use on the roads, improving air quality and noise levels near habitats. Short term, it is anticipated to reduce the number of private vehicles around school streets, improving air quality and noise in smaller localised areas resulting in minor positive effects for biodiversity.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	L	D	L	R	P/T	LT	There are minor positive anticipated effects to air quality, as encouraging active travel and regulating speeds in school streets will both result in reductions to emissions, improving air quality around school areas.
SA7: Greenhouse Gases	+	L	D	L	R	P/T	LT	There are minor positive anticipated effects on Greenhouse gases, as encouraging active travel and regulating speeds around school streets would either reduce private vehicle use around school streets, or reduce emissions through reducing vehicles speeds.
SA8: Climate Resilience	0							
SA9: Noise	+	L	D	L	R	P/T	LT	There are minor positive anticipated effects on noise, as encouraging active travel and regulating speeds around school areas would either encourage the shift from private vehicle use or reduce speeds around these areas, both of which are anticipated to reduce vehicle noise around schools.

SA10: Landscape and Townscape	+	L	D	L	R	P/T	LT	There are minor positive anticipated effects on landscape and townscape, as encouraging a shift to active travel can result in reduced private vehicles in the area, reducing noise and improving the town setting.
SA11: Historic Environment	+	L	D	L	R	P/T	LT	There are minor positive anticipated positive effects on Historic environment, as encouraging active travel and regulating speeds in school streets would improve air quality, reducing degradation of historic assets within close proximity.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	0							
SA15: Health	++	M	D	L	R	P/T	LT	Ther are moderate positive anticipated effects on health, as encouraging active travel at schools is predicted to improve physical health in the younger population. Regulating speeds in school streets will also have a positive impact on health as active travellers are at less risk if vehicles are driving slower. Slower vehicles will also reduce emissions, resulting in improved air quality and reducing risk of respiratory disease.
SA16: Economy and Employment	0							
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality, greenhouse gases, health, historic environment, landscape and townscape, biodiversity, and noise through an increased use of active travel and speed regulations.							
Mitigation and Enhancement Measures	There are no category specific recommendations identified.							
Recommendations	More accessible active travel routes are recommended, development should be developed in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to allow all bikes, including adapted bicycles, to utilise routes safely.							

OBJECTIVE: 50% ACTIVE TRAVEL IN TOWNS

Category: Infrastructure

The interventions included are:

- High quality walking and cycling facilities and routes as identified in the Boroughwide LCWIP (Boroughwide)
- Reduce dominance of vehicles in town centres and residential areas (Wokingham & Winnersh, Edge of Reading)

Table A-5: Assessment of effects associated with – 50% Active Travel in Towns – Infrastructure interventions

Vision Theme	Create Healthy and Safe Places							
Objective	50% active travel in towns							
Category	Infrastructure							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	?							Uncertain effects have been identified as there is potential for construction works arising from the development of walking and cycling facilities to result in loss of natural capital. However, there is also potential for improvements in natural capital depending on scheme design.
SA2: Materials and Waste	-	M	D	L	I	P	ST	Negative effects have been identified as there is potential for construction works arising from the development of walking and cycling facilities to be resource intensive and result in high levels of waste.
SA3: Soils	-	M	D	L	I	P	ST	Negative effects have been identified as there is potential for construction works arising from the development of walking and cycling facilities to result in land take.
SA4: Biodiversity	+/-	M	D	L	R	P/T	ST/LT	Creation of high quality active travel routes is anticipated to have minor positive effects to biodiversity, as more active travel options would encourage the transition from private vehicle use which would reduce vehicle emissions and improve air quality and reduce noise around local habitats. However, there is potential for construction works to result in loss of biodiversity, and disturbance through noise and dust spoiling.
SA5: Green Infrastructure	?							Uncertain effects have been identified as there is potential for construction works arising from the development of walking and cycling facilities to result in loss of green infrastructure. However, there is also potential for improvements to green infrastructure depending on scheme design.
SA6: Air Quality	+/-	M	D	L	R	P/T	ST/LT	Creation of high quality active travel routes is anticipated to have minor positive effects to air quality, as more active travel options would encourage the transition from private vehicle use which would reduce vehicle emissions and improve air quality in Wokingham. Additionally, reducing vehicle dominance in town centres will improve air quality within the town centre. There is, however, potential for construction works resulting in dust spoiling and plant emissions, temporarily reducing air quality.

SA7: Greenhouse Gases	+	L	D	L	R	P/T	LT	Creation of high quality active travel routes is anticipated to have minor positive effects on greenhouse gases, as more active travel options would encourage the transition from private vehicle use which would reduce vehicle emissions Boroughwide.
SA8: Climate Resilience	?							Uncertain effects have been identified as there is potential for scheme design to include climate resilience and adaptation measures. However, this is currently unknown.
SA9: Noise	+/-	M	D	L	R	P/T	ST/LT	Creation of high quality active travel routes is anticipated to have minor positive effects upon noise, as more active travel options would encourage the transition from private vehicle use which would reduce vehicle noise. This particularly likely to reduce vehicle noise within town centres. However, there is also potential for construction works, temporarily increasing noise levels.
SA10: Landscape and Townscape	+	M	I	L	R	P/T	LT	Creation of high quality active travel routes is anticipated to have minor positive effects to landscape and townscape, as more active travel options would encourage the transition from private vehicle use which would reduce vehicle presence, noise, and improve the area setting. It is also likely to result in enhancements to the townscape of town centres.
SA11: Historic Environment	+	L	I	L	R	P/T	LT	Creation of high quality active travel routes is anticipated to have minor positive effects to the historic environment, as the interventions are likely to reduce vehicle emissions, improving the air quality and therefore reducing degradation of historic assets in the area.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	D	L	R	P/T	LT	Creation of high quality active travel routes is anticipated to have minor positive effects to population as more active travel could encourage social trips, as well as commuting trips, improving the general health of the population.
SA15: Health	+	M	D	L	R	P/T	LT	Creation of high quality active travel encourages more physical activities amongst the population. Active travel promotes the shift from private vehicle use, which not only improves general health of the population, improvements in air quality would result from reduced vehicle use, which would in turn reduce respiratory health risks.
SA16: Economy and Employment	++	M	D	L	R	P/T	LT	Not only would creation of high quality active travel facilities create more work opportunities for the local construction industry, but the routes would also create better links between communities for people who don't have access to private vehicle use. Enabling and supporting local events that support vitality of rural villages would also have a moderate positive effect on local economy and employment.
Potential Cumulative / Synergistic Effects	There are potential for positive cumulative effects upon air quality, greenhouse gases, health, population, landscape and townscape, historic environment, economy and employment, and noise through an increased use of active travel within the Borough. There are potential negative cumulative effects upon noise, air quality, materials and soils as a result of construction works and potential land take.							
Mitigation and Enhancement Measures	SA2: Circular economy principles should be implemented where possible to minimise waste. SA2/SA3: Developments should utilise existing sites and infrastructure where possible to minimise land take. SA10/SA11: Sensitive design should be implemented within development to ensure that the setting of local assets is preserved and enhanced.							

Recommendations	More accessible active travel routes are recommended. Development should be developed in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to allow all bikes, including adapted bicycles, to utilise routes safely. It is recommended that the inclusion of green infrastructure is implemented within developments, providing benefits across green infrastructure, water quality, and flood risk.

Category: Access to Cycling

The interventions included are:

- Provide a range of secure cycle parking options at local destinations (Boroughwide)
- Investigate feasibility of on-street cycle or e-scooter hire scheme (Wokingham & Winnersh, Edge of Reading)

Table A-6: Assessment of effects associated with – 50% Active Travel in Towns – Access to Cycling interventions

Vision Theme	Create Healthy and Safe Places							
Objective	50% active travel in towns							
Category	Access to cycling							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+/-	L	I	L	R	P/T	ST/LT	There are minor indirect anticipated positive effects to biodiversity, as increased cycle and e-scooter facilities is likely to reduce the number of private vehicles on roads, by encouraging the shift to active travel this would improve local air quality in Wokingham. This would also result in a reduction in noise disturbance to local habitats. However, there is potential for small scale construction arising from these interventions to disturb local biodiversity through noise and dust spoiling.
SA5: Green Infrastructure	0							
SA6: Air Quality	+/-	L	I	L	R	P/T	ST/LT	There are minor indirect anticipated positive effects to air quality, as increased cycle and e-scooter facilities is likely to reduce the number of private vehicles on roads, improving local air quality in Wokingham. However, there is potential for small scale construction arising from these interventions to decrease air quality through dust spoiling.
SA7: Greenhouse Gases	+	L	I	L	R	P/T	LT	There are minor indirect anticipated positive effects to greenhouse gasses, as increased cycle and e-scooter facilities is likely to reduce the number of private vehicles on roads, improving local emissions levels in Wokingham.
SA8: Climate Resilience	0							
SA9: Noise	+/-	L	I	L	R	P/T	ST/LT	There are minor indirect anticipated positive effects to noise, as increased cycle and e-scooter facilities is likely to reduce the number of private vehicles on roads, by encouraging the shift to active travel, this would improve noise levels in Wokingham.

								However, there is potential for small scale construction arising from these interventions to temporarily increase noise.
SA10: Landscape and Townscape	+	L	I	L	R	P/T	LT	There are minor indirect anticipated positive effects to landscape and townscape, as increased cycle and e-scooter facilities would encourage the switch to active travel options instead of private vehicles which would reduce noise in the area and improve the setting of existing assets.
SA11: Historic Environment	+	L	I	L	R	P/T	LT	There are minor indirect anticipated positive effects to landscape and townscape, as increased cycle and e-scooter facilities would encourage the switch to active travel options instead of private vehicles, which would reduce air quality in the area and reduce degradation of historical assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	I	L	R	P/T	LT	Improved cycle and e-scooter facilities encourage social trips, as well as commuting trips, improving the general health of the population.
SA15: Health	+	L	I	L	R	P/T	LT	Improved cycle storage would encourage more active travel activities amongst the population. It could also encourage the transition from private vehicle use; improvements in air quality would result from reduced vehicle use, which would in turn reduce respiratory health risk.
SA16: Economy and Employment	+	L	D	L	R	P/T	LT	Improved cycle storage and e-scooter facilities could create opportunities for the population without access to private vehicle use to commute to employment further afield.
Potential Cumulative / Synergistic Effects	There are potential for positive cumulative effects upon air quality, greenhouse gases, economy, health, population, historic environment, landscape and townscape and noise through an increase in cycling and e-scooter usage . There are potential negative cumulative effects on noise, air quality and biodiversity from construction works.							
Mitigation and Enhancement Measures	SA2: Circular economy principles should be implemented where possible to minimise waste. SA9/SA6/SA4: A CEMP should be developed to minimise construction effects resulting from development.							
Recommendations	Appropriate active travel route signage at e-scooter or cycle storage is recommended to enable place finding and improve the use of e-scooters and bikes.							

Category: Standards

The interventions included are:

- New active travel design guidance (Boroughwide)

Table A-7: Assessment of effects associated with – 50% Active Travel in Towns – Standards interventions

Vision Theme	Create Healthy and Safe Places							
Objective	50% active travel in towns							
Category	Standards							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	?	L	I	L	R	P/T	LT	There are uncertain effects identified for biodiversity, as new active travel design guidance could result in more environmentally friendly /sustainable designs to reduce impacts on biodiversity during the construction and operational phases. However, design guidance is currently unknown.
SA5: Green Infrastructure	?							There are opportunities for new design guidance to include green infrastructure requirements. However, the design guidance is currently uncertain.
SA6: Air Quality	+	L	I	L	R	P/T	LT	There are minor anticipated positive effects predicted to air quality, as new active travel design guidance could result in more applications for active travel schemes. This could then result in more of the population switching from private vehicle use to active travel, which would reduce emissions and improve local air quality.
SA7: Greenhouse Gases	+	L	I	L	R	P/T	LT	There are minor anticipated positive effects predicted to greenhouse gases, as new active travel design guidance could result in more applications for active travel schemes. This could then result in more of the population switching from private vehicle use to active travel, which would reduce greenhouse gases emissions .
SA8: Climate Resilience	?							There is potential that new design guidance may include measures to improve climate resilience along routes, through the inclusion of heat resilience and flood resilience measures. However, this is likely to be determined by individual scheme design.
SA9: Noise	+	L	I	L	R	P/T	LT	There are minor anticipated positive effects predicted to noise, as new active travel design guidance could result in more applications for active travel schemes. This could then result in more of the population switching from private vehicle use to active travel, which would reduce noise levels boroughwide.

SA10: Landscape and Townscape	+	L	I	L	R	P/T	LT	There are minor anticipated positive effects predicted to landscape and townscape, as new active travel design guidance could result in more applications for active travel schemes. The design guidance is also likely to include measures for high quality design, improving the public realm.
SA11: Historic Environment	+	L	I	L	R	P/T	LT	There are minor anticipated positive effects predicted to landscape and townscape, as new active travel design guidance could result in more applications for active travel schemes. This could then result in more of the population switching from private vehicle use to active travel, which would improve air quality boroughwide and reduce degradation of historic assets. There is also potential that the development of design guidance is likely to include high quality, sensitive design, improving the setting of heritage assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	I	L	R	P/T	LT	New active travel design guidance could result in more active travel schemes, which once operational, could provide improved connectivity for the local population. Additionally, this is likely to result in inclusive design to allow access for all population groups.
SA15: Health	+	L	I	L	R	P/T	LT	New active travel design guidance could result in more active travel schemes, which once operational, could encourage social trips, as well as commuting trips, improving the general health of the population. If successful, more active travel routes would also encourage the shift from private vehicle use and improve air quality, this would reduce the risk of respiratory disease.
SA16: Economy and Employment	0							
Potential Cumulative / Synergistic Effects	Provided new design guidance results in increased active travel scheme applications, there is potential for cumulative positive effects upon air quality, health, population, historic environment, landscape and townscape, greenhouse gases, and noise through an increased use of active travel within the Borough.							
Mitigation and Enhancement Measures	There are no category specific recommendations identified.							
Recommendations	Design guidance should be developed in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to allow all bikes, including adapted bicycles, to utilise routes safely.							

Category: Engagement

The interventions included are:

- Increase My Journey engagement to promote sustainable and active travel (Boroughwide)

Table A-8: Assessment of effects associated with – 50% Active Travel in Towns – Engagement interventions

Vision Theme	Create Healthy and Safe Places							
Objective	50% active travel in towns							
Category	Engagement							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	L	D	L	I	P/T	LT	There are anticipated minor positive effects on biodiversity as promoting active travel is likely to reduce the number of private vehicles on roads, improving local air quality in Wokingham. This would also result in a reduction in noise disturbance to local habitats.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	M	D	L	R/I	P/T	LT	There are anticipated positive effects on air quality as promoting active travel could result in a reduction in private vehicle use in towns therefore improving air quality in more heavily populated areas.
SA7: Greenhouse Gases	+	M	D	L	R/I	P/T	LT	There are anticipated positive effects on greenhouse gas emissions as promoting active travel could result in a reduction in private vehicle use in towns therefore, significantly reducing greenhouse gas emissions in towns around Wokingham
SA8: Climate Resilience	0							
SA9: Noise	+	M	D	L	R/I	P/T	LT	There are anticipated positive effects on noise levels as promoting active travel result in a reduction in private vehicle use in towns therefore, significantly reducing noise levels in towns Boroughwide.
SA10: Landscape and Townscape	+	L	D	L	I	P/T	LT	There are anticipated minor positive effects on landscape and townscape as promoting active travel could contribute to encouraging a modal shift away from private car use, reducing the number of vehicles on the Borough's roads, reducing noise and improving the landscape and townscape setting.
SA11: Historic Environment	+	L	I	L	R	P/T	LT	An increased awareness of active travel facilities are anticipated to have minor positive effect on the historic environment. This would be a result of the shift from private

								vehicle use to active travel options. This shift would improve air quality reducing degradation of heritage assets. Reduced vehicles in the area would also improve the assets setting.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	I	L	R	P	LT	Raised awareness of active travel facilities encourage social trips, as well as commuting trips, improving the opportunities for the local population to access active travel.
SA15: Health	++	M	D	L	R	P	LT	Raised awareness of active travel encourages more physical activities amongst the population. Active travel promotes the shift from private vehicle use, which not only improves general health of the population, but also improves air quality, which would in turn reduce respiratory health risks.
SA16: Economy and Employment	0							
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon health, population, historic environment, landscape and townscape, biodiversity, air quality, greenhouse gases, and noise through an increased use of active travel within the Borough.							
Mitigation and Enhancement Measures	There are no category specific recommendations identified.							
Recommendations	Support should be provided to individuals without the means or knowledge to access digital services, to ensure they can maintain access to the information they require.							

OBJECTIVE: THRIVING VILLAGES AND RURAL CENTRES

Category: Rural Centres

The interventions included are:

- New EV charge points and secure cycle facilities at local centres (Boroughwide)
- Enhance pedestrian access and safety in local service centres (South Wokingham/ North Wokingham)
- Enable and support local events that support vitality of rural villages (South Wokingham/ North Wokingham)

Table A-9: Assessment of effects associated with – 50% Active Travel in Towns – Engagement interventions

Vision Theme	Thriving Villages & Rural Centres							
Objective	Create Healthy and Safe Places							
Category	Rural Centres							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	L	I	L	R	P/T	LT	There are anticipated minor positive effects on biodiversity as improved pedestrian access and cycle storage facilities are likely to reduce the number of private vehicles on roads, improving local air quality and reducing noise disturbance affecting local habitats and species.
SA5: Green Infrastructure	+	L	D	L	R	P/T	LT	There are anticipated minor positive effects on green infrastructure as improved EV charging facilities would encourage the transition to electric vehicles therefore reducing GHG emissions and improving air quality boroughwide.
SA6: Air Quality	+	L	D	L	R	P/T	LT	There are anticipated positive effects on air quality as improved EV charging facilities, cycle storage and pedestrian access all encourage the transition away from either combustion engines, or private vehicle use, resulting in a reduction in polluting road traffic emissions boroughwide.
SA7: Greenhouse Gases	+	L	D	L	R	P/T	LT	There are anticipated positive effects on air quality as improved EV charging facilities, cycle storage and pedestrian access all encourage the transition away from either combustion engines, or private vehicle use, resulting in a reduction in GHG emissions boroughwide.
SA8: Climate Resilience	0							

SA9: Noise	+	L	D	L	R	P/T	LT	There are anticipated positive effects on noise as improved EV charging facilities, cycle storage and pedestrian access all encourage the transition away from either combustion engines, or private vehicle use, resulting in a reduction in noise from vehicles Boroughwide.
SA10: Landscape and Townscape	+	L	D	L	R	P/T	LT	Positive effects have been identified for landscape and townscape as improved cycle storage and pedestrian access contributes to encouraging a modal shift away from private car use, reducing the number of vehicles on the Borough's roads, reducing noise and improving the landscape setting.
SA11: Historic Environment	+	L	I	L	R	P/T	LT	Active travel facilities are anticipated to have minor positive effect on the historic environment. This would be a result of the shift from private vehicle use to active travel options. This shift would improve air quality reducing degradation of heritage assets. Reduced vehicles in the area would also improve the assets setting.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	I	L	R	P	LT	Improved cycle storage and pedestrian access encourage social trips, as well as commuting trips, improving the general health of the population. The interventions also contribute to connecting rural communities for those without access to private vehicles.
SA15: Health	++	M	D	L	R	P	LT	Improved cycle storage and pedestrian access encourage more physical activities amongst the population. Pedestrian access would also encourage the transition from private vehicle use; improvements in air quality would result from reduced vehicle use, which would in turn reduce respiratory health risks.
SA16: Economy and Employment	+	L	D	L	R	P	LT	Improving pedestrian access is anticipated to allow cross-community employment for people without access to private vehicles. Enabling and supporting local events that support vitality of rural villages would also have a positive effect on local economy and employment through encouraging visitors and investment in rural communities.
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon economy, health, population, historic environment, landscape and townscape, green infrastructure, biodiversity, air quality, greenhouse gases, and noise through an increased use of active travel and EV usage within the Borough.							
Mitigation and Enhancement Measures	There are no category specific recommendations identified.							
Recommendations	It is recommended that pedestrian routes and EV charging facilities are made accessible. Footways should be designed in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to utilise routes safely.							

Category: Active Travel

The interventions included are:

- Continued delivery of the network of Greenways (Boroughwide)
- Identify local priorities for quiet rural roads/green lanes to improve waking, cycling and horse riding (Boroughwide)
- Update of active travel route web based mapping (Boroughwide)
- Improved walking and cycling routes within Twyford and between Twyford and Wargrave (North Wokingham)

Table A-10: Assessment of effects associated with – 50% Active Travel in Towns – Engagement interventions

Vision Theme	Thriving Villages & Rural Centres							
Objective	Create Healthy and Safe Places							
Category	Active Travel							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+/-	M	D	L	R	P/T	LT	There are anticipated minor positive effects on biodiversity as improved cycle and active travel facilities are likely to reduce the number of private vehicles on roads, improving local air quality in north and south Wokingham. This would also result in a reduction in noise disturbance to local habitats. Greenways could also protect sensitive or priority habitats. However, there is the potential for land take as a result of the expansion of Greenways and the improvement of walking and cycling routes, resulting in loss of habitats.
SA5: Green Infrastructure	+/-	M	D	L	R	P/T	LT	There are anticipated moderate positive effects on green infrastructure resulting from continued delivery of the network of Greenways. However, improvement of cycleways and footpaths may result in vegetation removal or habitat degradation if enhancements involve land take.
SA6: Air Quality	+	L	D	L	R	P/T	LT	Minor positive effect is anticipated to local air quality as active travel facilities are likely to reduce the number of private vehicles on the roads. Minor improvement to Twyford crossroads AQMA is also anticipated as a result of improved cycle routes and footpaths in North Wokingham.
SA7: Greenhouse Gases	+	L	D	L	R	P/T	LT	Minor positive effect is anticipated as more active travel options would likely result in less private vehicle usage, reducing greenhouse gasses produced in north and south Wokingham.
SA8: Climate Resilience	0							

SA9: Noise	+	L	D	L	R	P/T	LT	Minor positive effect is anticipated as a result of improved active travel facilities. The shift from private vehicle usage could result in improved noise levels within various NIAs between Twyford and Wargrave.
SA10: Landscape and Townscape	+	L	I	L	R	P/T	LT	Positive effects have been identified for landscape and townscape as improved cycle and active travel facilities contributes to encouraging a modal shift away from private car use, reducing the number of vehicles on the Borough's roads, reducing noise and improving the landscape setting.
SA11: Historic Environment	+	L	I	L	R	P/T	LT	Active travel facilities are anticipated to have minor positive effect on the historic environment. This would be a result of the shift from private vehicle use to active travel options. This shift would improve air quality reducing degradation of heritage assets. reduced vehicles in the area would also improve the assets setting.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	I	L	R	P	LT	Improved active travel facilities encourage social trips, as well as commuting trips, improving the general health of the population. The interventions also contribute to connecting rural communities for those without access to private vehicles.
SA15: Health	++	M	D	L	R	P	LT	Improved active travel facilities encourage more physical activities amongst the population. Active travel facilities would also encourage the transition from private vehicle use; improvements in air quality would result from reduced vehicle use, which would in turn reduce respiratory health risks.
SA16: Economy and Employment	+	M	D	L	R	P	LT	The development of routes would create better links between communities for people who don't have access to private vehicle use. Improving the connectivity between communities provides improved access to employment opportunities, services, and facilities.
Potential Cumulative / Synergistic Effects	There is potential for positive long term cumulative effects upon economy, health, population, historic environment, landscape and townscape, air quality, greenhouse gases, and noise through an increased use of active travel within the Borough. There are potential for negative cumulative effects on biodiversity and green infrastructure through the loss of these areas during land take.							
Mitigation and Enhancement Measures	SA14: Design should be inclusive to ensure accessibility to all social groups. SA4/SA5: Where possible the loss of biodiversity and green infrastructure should be resisted.							
Recommendations	It is recommended that active travel facilities are made accessible. Development should be in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to allow all bikes, including adapted bicycles, to utilise routes safely.							

Vision Theme: Reduce Environmental Impacts

OBJECTIVE: NET ZERO EMISSIONS

Category: Road Traffic

The interventions included are:

- Reduce the impact of traffic movements on Wokingham Borough Council Roads (Boroughwide)
- Promote car sharing and Liftshare for businesses (Boroughwide)

Table A-11: Assessment of effects associated with Net Zero Emissions - Road Traffic related interventions

Vision Theme	Reduce Environmental Impacts							
Objective	Net Zero Emissions							
Category	Road Traffic							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	-	M	D	L	I	P	ST/LT	There is potential for interventions under this category to result in construction works. Construction is likely to utilise new materials and result in the production of waste.
SA3: Soils	0							
SA4: Biodiversity	+/-	M	D/I	L	R/I	P	LT	There are anticipated minor positive effects on biodiversity as the reduction in the impact of traffic movements and encouraging lift sharing, is likely to contribute to reduced traffic noise and air quality impacts, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering heavily used routes. However, there are potential for negative effects arising from construction works, which could result in the disturbance of habitats and species in local habitats.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	M	D/I	L/R	R	P	MT/LT	Minor positive effects are anticipated as reducing the impact of traffic movements and encouraging lift sharing is likely to reduce the number of vehicles on roads, improving air quality. This is particularly likely to occur within heavily congested areas of the Borough where there are high levels of traffic and poor air quality. There is potential that this may also improve air quality within AQMAs, however as the details of interventions are not currently known, this cannot currently be quantified.
SA7: Greenhouse Gases	+	M	D	R	R	P	LT	Minor positive effects are anticipated as a reduction in vehicle numbers through lift sharing contributes to reducing GHGs attributed to private vehicles. Additionally,

Vision Theme	Reduce Environmental Impacts							
Objective	Net Zero Emissions							
Category	Road Traffic							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
								encouraging lift contributes to reducing congestion, minimising vehicle idling time and additional emissions.
SA8: Climate Resilience	0							
SA9: Noise	+	L	D	L	R	P	LT	Encouraging residents to car share and reducing the impact of traffic movements is likely to result in improvements to noise levels on the Borough's roads through a reduction in vehicle numbers. However, this is not likely to result in a high level of noise reduction, particularly on heavily used routes.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	Reducing the impact of vehicles, and reducing the number of vehicles through lift sharing, is likely to result in indirect positive effects upon the landscape of the Borough due to a reduction in noise pollution and congestion, improving landscape and townscape setting.
SA11: Historic Environment	+	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Indirectly, positive effects are anticipated for the historic environment through improvements to air quality. This is particularly likely to occur for heritage assets located close to heavily used roads within the Borough such as listed buildings. Additionally, reduction in car numbers is likely to positively affect the setting of these heritage assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	++	M	D	L	R	P	LT	Encouraging car share between residents could result in minor positive effects upon population, as this encourages social cohesion and social interactions between residents. Additionally, this may provide access to private vehicles for those who do not own their own vehicles or are not able to drive. However, there is potential for barriers to some groups in accessing car share services (for example, the elderly, low-income, or neurodiverse groups). Additionally, there may be safety concerns for some social groups in using these services, for example, women.
SA15: Health	+	M	D/I	L	R	P	LT	Minor positive effects on health are identified as these interventions are anticipated to improve local air quality, and therefore the health of local populations, particularly those living close to heavily used routes. Poor air quality is a known factor exacerbating respiratory illnesses, therefore any improvements to air quality reduce this health risk. Additionally, encouraging car sharing and providing social interactions is likely to improve mental wellbeing amongst those sharing vehicles.

Vision Theme	Reduce Environmental Impacts							
Objective	Net Zero Emissions							
Category	Road Traffic							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA16: Economy and Employment	+	M	D	R	R	P	LT	Encouraging lift sharing provides increased access to employment opportunities, particularly for those who may not have access to their own private vehicle. This access to employment also extends further than the Borough's boundary, with the potential for improved access to employment areas in Reading. Additionally, encouraging lift sharing and reducing the impact of vehicles on the Borough's roads has the potential to improve journey times, through reductions in congestion.
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality, greenhouse gases, and noise through a reduction in vehicle numbers on the Borough's roads.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified for this category.							
Recommendations	There are no category specific recommendations identified.							

Category: Digitalisation

The interventions included are:

- Improved digital accessibility for local residents and businesses (Boroughwide)
- Encourage online service delivery (Boroughwide)
- Support Development of Mobility as a service (MaaS) applications (Boroughwide)

Table A-12: Assessment of effects associated with Net Zero Emissions - Digitalisation related interventions

Vision Theme	Reduce Environmental Impacts							
Objective	Net Zero Emissions							
Category	Digitalisation							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	0							
SA5: Green Infrastructure	0							
SA6: Air Quality	+	L	I	R	L/R	P	LT	Minor positive effects are anticipated due to a reduction in traffic movements through encouraging the use of online services rather than in-person or postal exchanges. Development of Mobility as a Service applications should encourage increased use of public transport, reducing private traffic movements in the area. This is particularly likely to occur within heavily congested areas of the Borough where there are high levels of traffic and poor air quality. There is potential that this may also improve air quality within AQMAs, however as the details of interventions are not currently known, this cannot currently be quantified.
SA7: Greenhouse Gases	+	L	I	R	R	P	LT	Minor positive effects are anticipated due to a reduction in GHG emissions from private vehicle as a result of increased use of online services and encouraged use of public transport.
SA8: Climate Resilience	0							
SA9: Noise	+	L	I	L	R	P	LT	Minor positive effects are anticipated due to a reduction in noise pollution from private vehicle as a result of increased use of online services and encouraged use of public transport.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	Positive effects have been identified for landscape and townscape as encouraging use of public transport and a reduction in private car use will reduce local traffic noise and improving the landscape setting. There is potential for small scale infrastructure developments, such as masts or fibre optic cables, to improve digital connectivity. These have the potential to alter the visual landscape of the Borough.

Vision Theme	Reduce Environmental Impacts							
Objective	Net Zero Emissions							
Category	Digitalisation							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA11: Historic Environment	+	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Indirectly, positive effects are anticipated for the historic environment through improvements to air quality due to a reduction of private vehicle use and encouraged use of public transport. There is potential for small scale infrastructure developments, such as masts or fibre optic cables, to improve digital connectivity. These have the potential to alter the setting of local heritage assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+/-	M	I	R	R	P	LT	Improving digital accessibility will have positive effects on the population due to an increase in efficiency and accessibility of information. Improving digital accessibility also has the potential for negative impacts on the population for individuals without the means to access digital services, who may be left without the required information. Provisions need to be in place to ensure those without the means or knowledge to access digital services are supported.
SA15: Health	0							
SA16: Economy and Employment	+	L	I	R	R	P	LT	Minor positive effects are anticipated through the potential increase in employment required for the development of Mobility as a Service applications and the resulting encouraged use of public transport, which has the potential to increase local employment in this sector.
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality, greenhouse gases, and noise through a reduction in vehicle numbers on the Borough's roads.							
Mitigation and Enhancement Measures	SA14: Support should be provided to individuals without the means or knowledge to access digital services, to ensure they can maintain access to the information they require.							
Recommendations	There are no category specific recommendations identified.							
Assumptions	It is assumed that the improved digital accessibility and online service delivery will be for services which are often accessed by other means (post or in-person meetings). It is assumed that supporting the development of Mobility as a Service applications will result in the use of these applications in the borough. It is assumed that small scale infrastructure will be required to facilitate these interventions.							

Category: Zero Emission Vehicles

The interventions included are:

- Increase the provision of electric vehicle charging infrastructure (Boroughwide)
- Promote and encourage community electric vehicle charging (Boroughwide)
- Communication to publicise and promote benefits of electric vehicles (Boroughwide)
- Energy generation and electric charge points at Park and Ride sites (Boroughwide)

Table A-13: Assessment of effects associated with Net Zero Emissions - Zero Emission Vehicles interventions

Vision Theme	Reduce Environmental Impacts							
Objective	Net Zero Emissions							
Category	Zero Emission Vehicles							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	?							Uncertain effects have been identified for materials and waste as there is potential for the construction of new electric charging and energy generation infrastructure. This is likely to require additional materials, however this will be determined by individual scheme design.
SA3: Soils	+	M	D	L	I	P	LT	Minor positive effects have been identified as the use of park and ride sites contributes to making good use of existing land within the Borough, preserving soils.
SA4: Biodiversity	+/-	M	I	R	R	P	LT	There are anticipated minor positive effects on biodiversity through encouraging the use of electric vehicles, likely to reduce the number of petrol and diesel vehicles on the roads and therefore improving air quality and reducing noise emissions, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering priority corridors. However, there is potential for small scale loss of habitats if land take is required to facilitate new charging infrastructure.
SA5: Green Infrastructure	0							
SA6: Air Quality	++	M	I	L/R	R	P	LT	Significant positive effects are anticipated through the provision of new renewable vehicle infrastructure encouraging the use of electric vehicles, likely to reduce the number of petrol and diesel vehicles on the roads and therefore improving air quality. Increased provision of electric charging points at Park and Ride sites may also encourage the use of public transport, reducing the number of private vehicle journeys and therefore improving air quality in the Borough.
SA7: Greenhouse Gases	+/-	M	D/I	R	R	P	LT	Positive effects are anticipated through the provision of new renewable vehicle infrastructure encouraging the use of electric vehicles likely to reduce the use of petrol and diesel in the Borough, reducing the production of GHGs. Renewable energy generation at Park and Ride sites will also reduce the production of GHGs

Vision Theme	Reduce Environmental Impacts							
Objective	Net Zero Emissions							
Category	Zero Emission Vehicles							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
								compared to non-renewable sources. However, there is potential for some embodied carbon associated with the construction of developments resulting from these interventions.
SA8: Climate Resilience	0							
SA9: Noise	+	L	I	R	R	P	LT	Minor positive effects are anticipated through encouraging the use of electric vehicles, which is likely to reduce the number of petrol and diesel vehicles on the roads, therefore reducing traffic noise. Increased provision of electric charging points at Park and Ride sites may also encourage the use of public transport, reducing the number of private vehicle journeys and therefore reducing traffic noise in the Borough.
SA10: Landscape and Townscape	+/-	L	I	L	R	P	LT	Encouraging the use of electric vehicles is likely to reduce the number of petrol and diesel vehicles on the roads, likely to result in indirect positive effects upon the landscape of the Borough due to a reduction in noise pollution. Increased provision of electric charging points at Park and Ride sites may also encourage the use of public transport, reducing the number of private vehicle journeys and therefore congestion, improving landscape and townscape setting. However, the scale of infrastructure required to support these interventions is not known. There is potential for adverse effects on the landscape and townscape as a result of alterations in views, and changes to landscape through development.
SA11: Historic Environment	+/-	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Indirectly, positive effects are anticipated for the historic environment through improvements to air quality. Negative effects are also anticipated, especially within Conservation Areas, where the inclusion of electric charging infrastructure may impact the setting of local historic assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	M	I	R	R	P	LT	Minor positive effects have been identified as these interventions provide improved infrastructure, making it easier for residents with areas of on street parking to own an electric vehicle, and therefore reduce their personal GHG, air and noise emissions. However, this might not benefit all social groups as many, particularly low-income groups, cannot afford electric vehicles and will therefore be excluded from this provision.

Vision Theme	Reduce Environmental Impacts							
Objective	Net Zero Emissions							
Category	Zero Emission Vehicles							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA15: Health	+	M	D/I	L	R	P	LT	Minor positive effects on health are identified as encouraging the use of electric vehicles is anticipated to improve local air quality, and therefore the health of local populations, particularly those living close to heavily used routes. Poor air quality is a known factor exacerbating respiratory illnesses, therefore any improvements to air quality reduce this health risk.
SA16: Economy and Employment	0							
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality, greenhouse gases, and noise through an increased use of electric vehicles within the Borough. There is potential for negative cumulative effects on landscape and the historic environment as a result of the development of multiple schemes, altering the setting of the landscape and heritage assets.							
Mitigation and Enhancement Measures	SA2: Circular economy principles should be incorporated where possible to minimise waste. SA10/SA11: Sensitive design should be implemented within the development of infrastructure to minimise negative effects on the landscape and heritage assets and enhance settings where possible. Interventions should avoid conservation areas where possible.							
Recommendations	Developments could consider including discounts for low-income groups to improve their accessibility to services.							
Assumptions	It is assumed that energy generation at Park and Ride sites refers to renewable energy sources, e.g. solar. It is assumed that new infrastructure is required to support these interventions.							

OBJECTIVE: CLEAN AIR

Category: Access

The interventions included are:

- Twyford Cross Roads environmental improvements (North Wokingham)
- Wokingham Town Centre and speed limit changes to reduce pollution (Wokingham & Winnersh)

Table A-14: Assessment of effects associated with Clean Air - Access interventions

Vision Theme	Reduce Environmental Impacts							
Objective	Clean Air							
Category	Access							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	?							Uncertain effects have been identified for natural capital as a result of Twyford Cross Roads environmental improvements. It is assumed that these improvements would result in an enhancement on the quality of habitats and green and blue spaces, however this depends on the nature of the improvements to be proposed.
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	L	I	L	R	P	LT	There are anticipated minor positive effects on biodiversity through access and/or speed limit changes to reduce pollution, minimising disturbance and degradation on local habitats and species in treeline borders in Wokingham Town Centre. It is also assumed that the Twyford Cross Roads environmental improvements will result in minor positive effects on biodiversity, dependant on the nature of the improvements to be proposed.
SA5: Green Infrastructure	?							Uncertain effects have been identified for green infrastructure as a result of Twyford Cross Roads environmental improvements. It is assumed that these improvements would result in increased habitat connectivity, however this depends on the nature of the improvements to be proposed.
SA6: Air Quality	+	L	D	L/R	R	P	LT	Minor positive effects are anticipated through access and/or speed limit changes in Wokingham Town Centre which will reduce emissions and therefore improve air quality within Wokingham Town Centre AQMA. There is also the potential that Twyford Cross Roads environmental improvements will improve the air quality within Twyford Crossroads AQMA dependant on the nature of the improvements to be proposed.
SA7: Greenhouse Gases	+	L	D	L	R	P	LT	Minor positive effects are anticipated through access and/or speed limit changes in Wokingham Town Centre which will reduce GHG emissions. There is also the potential that Twyford Cross Roads environmental improvements will reduce GHG emissions within the local area, dependant on the nature of the improvements to be proposed.

Vision Theme	Reduce Environmental Impacts							
Objective	Clean Air							
Category	Access							
SA8: Climate Resilience	0							
SA9: Noise	0							
SA10: Landscape and Townscape	?							Uncertain effects have been identified for landscape and townscape as a result of Twyford Cross Roads environmental improvements. It is assumed that these improvements would result in an enhancement on the local landscape and townscape, however this depends on the nature of the improvements to be proposed.
SA11: Historic Environment	+	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Indirectly, positive effects are anticipated for the historic environment through improvements to air quality from the access and/or speed limit changes within Wokingham Town Centre. This is particularly likely to occur for heritage assets within Wokingham Town Centre Conservation Area.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	0							
SA15: Health	+	L	D	L	R	P	LT	Minor positive effects are anticipated through access and/or speed limit changes in Wokingham Town Centre, which is anticipated to improve local air quality, and therefore the health of local populations. Poor air quality is a known factor exacerbating respiratory illnesses, therefore any improvements to air quality reduce this health risk.
SA16: Economy and Employment	0							
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality, greenhouse gases, and human health through access and/or speed limit changes reducing pollution in Wokingham Town Centre.							
Mitigation and Enhancement Measures	SA1/SA4: Natural capital and green infrastructure enhancement measures should be included within development to mitigate any loss of natural capital, biodiversity and green infrastructure. SA10: High quality design should be included within development to improve the public realm.							
Recommendations	There are no measure specific recommendations identified.							

Category: Freight

The interventions included are:

- Wokingham Town Centre Freight Strategy (Wokingham & Winnersh)
- Support Transition to Cargo Bikes (Boroughwide)

Table A-15: Assessment of effects associated with Clean Air - Freight interventions

Vision Theme	Reduce Environmental Impacts							
Objective	Clean Air							
Category	Freight							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	?							An increase in use of cargo bikes will have minor positive effects on biodiversity due to a reduction in traditional freight transportation methods therefore improving air quality and reducing noise emissions, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering heavily used routes. It is assumed Wokingham Town Centre Freight Strategy will have positive effects on biodiversity, however, these interventions are currently unclear and therefore the effects cannot be established at this time.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	L	D	R	R	P	LT	An increase in use of cargo bikes will likely lead to a reduction in traditional fossil fuel powered freight transportation methods, therefore improving air quality. There is potential that this may also improve air quality within AQMAs, however as the details of interventions are not currently known, this cannot currently be quantified. It is assumed Wokingham Town Centre Freight Strategy will reduce the negative environmental effects of freight, however, these interventions are currently unclear and therefore the contribution to air quality improvements cannot be established at this time.
SA7: Greenhouse Gases	+	L	D	R	R	P	LT	An increase in use of cargo bikes will likely lead to a reduction in traditional fossil fuel powered freight transportation methods, therefore reducing GHG emissions within the Borough. It is assumed Wokingham Town Centre Freight Strategy will reduce the negative environmental effects of freight, however, these interventions are currently unclear and therefore the contribution to GHG emissions cannot be established at this time.
SA8: Climate Resilience	0							

SA9: Noise	?							An increase in use of cargo bikes will likely lead to a reduction in traditional fossil fuel powered freight transportation methods, and therefore may reduce the number of vehicles on the road. There is potential for the Wokingham Town Centre Freight Strategy will reduce the negative noise effects of freight, however, these interventions are currently unclear and therefore the magnitude of effects cannot be established at this time.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	An increase in use of cargo bikes will likely lead to a reduction in traditional fossil fuel powered freight transportation methods, and therefore may reduce the number of vehicles on the road. Indirect positive effects upon the landscape of the Borough are anticipated due to a reduction in noise pollution and congestion, improving landscape and townscape setting. It is assumed Wokingham Town Centre Freight Strategy will have a positive effect on landscape and townscape, however, these interventions are currently unclear and therefore the magnitude of effects cannot be established at this time.
SA11: Historic Environment	+	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. An increase in use of cargo bikes will likely lead to a reduction in traditional fossil fuel powered freight transportation methods, and therefore an improvement in air quality. It is assumed Wokingham Town Centre Freight Strategy will similarly have a positive effect on air quality, however, these interventions are currently unclear and therefore the magnitude of effects cannot be established at this time.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	0							
SA15: Health	+	L	I	L	R	P	LT	Minor positive effects on health are identified as these interventions are anticipated to improve local air quality, and therefore the health of local populations, particularly those living close to heavily used routes. Poor air quality is a known factor exacerbating respiratory illnesses, therefore any improvements to air quality through use of cargo bikes instead of traditional fossil fuel powered freight transportation methods reduce this health risk. It is assumed Wokingham Town Centre Freight Strategy will have a positive effect on air quality and therefore human health, however, these interventions are currently unclear and therefore the magnitude of effects cannot be established at this time.
SA16: Economy and Employment	?							Uncertain effects on economy and employment have been identified as a transition to cargo bikes will provide new job opportunities, but also impact the traditional freight industry. The measures within the Wokingham Town Centre Freight Strategy are currently unclear and therefore the magnitude and nature of effects cannot be established at this time.
Potential Cumulative / Synergistic Effects	There are potential for positive cumulative effects upon air quality, greenhouse gases, and noise through a transition to cargo bikes and the resulting reduction in traditional fossil fuel powered freight transportation methods.							
Mitigation and Enhancement Measures	SA6: Measures should be taken to improve cycle infrastructure within the town centre to allow for cargo bike accessibility.							
Recommendations	The Wokingham Town Centre Freight Strategy should identify measures of reducing road freight and implement sustainable fuelled road freight within the town centre. It is recommended that active travel route provisions are made to segregate cargo bikes from vehicular traffic.							

Category: Public Transport

The interventions included are:

- Transition to zero emission buses across the Borough (Wokingham & Winnersh)
- Support decarbonisation of rail services in Wokingham (Boroughwide)

Table A-16: Assessment of effects associated with Clean Air – Public Transport interventions

Vision Theme	Reduce Environmental Impacts							
Objective	Clean Air							
Category	Public Transport							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	M	I	L	R	P	LT	There are anticipated minor positive effects on biodiversity through the decarbonisation of the rail services and the transition to zero emissions buses, improving local air quality in the Borough and minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering priority bus corridors and rail routes.
SA5: Green Infrastructure	0							
SA6: Air Quality	++	M	D	R	R	P	LT	Significant positive effects are anticipated through the decarbonisation of the rail services and the transition to zero emissions buses, improving air quality across the Borough, including within the AQMAs. This is particularly likely to occur within heavily congested areas of the Borough where there are high levels of traffic and poor air quality.
SA7: Greenhouse Gases	++	M	D	R	R	P	LT	Significant positive effects are anticipated through the decarbonisation of the rail services and the transition to zero emissions buses, reducing GHG emissions across the Borough.
SA8: Climate Resilience	+	M	I	R	R	P	LT	Decarbonisation of the rail services and the transition to zero emissions buses increases the climate resilience of the transport network by reducing dependence of fossil fuels.
SA9: Noise	+	L	D	L	R	P	LT	Zero emissions buses produce less noise than diesel buses, having a minor positive impact on traffic noise in the local area. This is particularly likely to occur within heavily congested areas of the Borough where there are high levels of traffic, and within the NIAs within the Borough.

Vision Theme	Reduce Environmental Impacts							
Objective	Clean Air							
Category	Public Transport							
SA10: Landscape and Townscape	0							
SA11: Historic Environment	+	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Indirectly, positive effects are anticipated for the historic environment through improvements to air quality due to decarbonisation of the rail services and the transition to zero emissions buses.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	0							
SA15: Health	+	L	D	L	R	P	LT	Minor positive effects are anticipated through decarbonisation of the rail services and the transition to zero emissions buses which is anticipated to improve local air quality, and therefore the health of local populations. Poor air quality is a known factor exacerbating respiratory illnesses, therefore any improvements to air quality reduce this health risk.
SA16: Economy and Employment	0							
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality, greenhouse gases, and human health through decarbonisation of the rail services and the transition to zero emissions buses reducing pollution in the Borough.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified for this category.							
Recommendations	It is recommended that active travel route provisions are made to segregate cargo bikes from vehicular traffic.							
Assumptions	It is assumed that interventions will support the decarbonisation of rail services in Wokingham through encouraging renewable fuelled powered services.							

OBJECTIVE: HIGH QUALITY SUSTAINABLE TRAVEL CORRIDORS

Category: Access for All

The interventions included are:

- Access Improvements at Tan House/Carnival Hub Bridge (Wokingham & Winnersh)
- Development of lower fares structure through Enhanced Bus Partnership (Boroughwide)
- Continue to fund community dial a ride services (Boroughwide)
- Data sharing with operators, partners and innovators to improve performance and customer information (Boroughwide)
- Implement a high-quality sustainable transport corridor on the A329 Reading, Winnersh, Wokingham and Bracknell (Edge of Reading, Wokingham and Winnersh)

Table A-17: Assessment of effects associated with –High Quality Sustainable Travel Corridors – Access for All interventions

Vision Theme	Reduce Environmental Impacts of Transport							
Objective	High Quality Sustainable Travel Corridors							
Category	Access for All							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	?							There is potential that the development of high quality sustainable travel corridors along the A329 may result in additional construction, and the use of additional resources. This is likely to be determined by the design of the corridor and is currently unknown.
SA3: Soils	?							Uncertain effects have been identified for soils as there is potential for construction from the high quality sustainable transport corridor on the A329. This has the potential to include additional land take, on a permanent or temporary basis, however this is likely to be determined by the design of the corridor which is currently unknown.
SA4: Biodiversity	+/-	M	I	L	R	P	LT	There are anticipated positive effects on biodiversity through encouraging the use of public transport through developing a lower fare structure throughout the Borough and implementing a sustainable transport corridor on the A329 Reading, Winnersh, Wokingham and Bracknell. Encouraged use of public transport will likely lead to a reduction in private vehicles on the roads, likely to contribute to reduced traffic noise and air quality impacts, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering heavily used routes. However, there are potential negative effects associated with the construction and operation of the A329. During construction, there is potential for increased noise and dust spoiling and land take, disturbing habitats or resulting in habitat loss. During operation, noise may increase habitat disturbance.

SA5: Green Infrastructure	0							
SA6: Air Quality	++	M	D	L	R	P	LT	Significant positive effects have been identified for air quality as the interventions outlined contribute to encouraging a modal shift away from private transport throughout all areas of the Borough. This is likely to reduce the number of vehicles on the Borough's roads, especially A329 Reading, Winnersh, Wokingham and Bracknell as a result of the implementation of high-quality sustainable transport corridor, and therefore reduce congestion, improving air quality.
SA7: Greenhouse Gases	?							Uncertain effects have been identified for greenhouse gases as a result of these interventions. Whilst there will likely be a reduction in private vehicle related greenhouse gases in the Borough due to the development of a lower fares structure and encouraged use of public transport, there is potential that increased bus services may contribute to an increase in greenhouse gases. Whilst it is likely that the sustainable transport corridor will result in reduced GHG emissions, the details of this are uncertain and it is currently uncertain if green buses will be used within these interventions.
SA8: Climate Resilience	0							
SA9: Noise	+	M	D	L	R	P	LT	Minor positive effects on noise have been identified as the interventions outlined contribute to encouraging a modal shift away from private transport throughout all areas of the Borough. This is likely to reduce the number of vehicles on the Borough's roads, especially A329 Reading, Winnersh, Wokingham and Bracknell as a result of the implementation of high-quality sustainable transport corridor. This is likely to reduce traffic noise, especially within the NIAs located along the A3290.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use, reducing traffic noise and congestion in the Borough, especially A329 Reading, Winnersh, Wokingham and Bracknell, improving landscape and townscape setting.
SA11: Historic Environment	+	L	I	L	I	P	LT	Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use, improving air quality, and therefore reducing degradation of heritage assets. Additionally, this modal shift is likely to reduce the number of vehicles on the Borough's roads, improving the setting of heritage assets. There is the potential for these interventions to positively impact the Conservation Areas within the Borough, however location of the sustainable transport corridor is unknown at this stage.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	++	M	D	R	R	P	LT	Significant positive effects on the population are anticipated as Community Dial a Ride services and lower fares structure increase the accessibility of public transport to enable increase mobility for those without the access to private vehicles throughout the Borough. The implementation of high-quality sustainable transport corridor increases the connectivity of the A329 Reading, Winnersh, Wokingham and Bracknell and allow greater access to public services.
SA15: Health	+	L	I	L	R	P	LT	Minor positive effects on health are identified as encouraging a modal shift away from private transport is anticipated to improve local air quality, and therefore the health of local populations, particularly those living close to heavily used routes. Poor air quality is a known factor exacerbating respiratory illnesses, therefore any improvements to air quality reduce this health risk. Additionally, there may be

								improvements to physical activity through the development of sustainable travel corridors.
SA16: Economy and Employment	++	M	D	R	R	P	LT	Significant positive effects on economy and employment are anticipated as these interventions increase the connectivity of communities to employment opportunities. Improving bus journey times also contributes to positive effects.
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality, greenhouse gases, and noise through a reduction in vehicle numbers on the Borough's roads.							
Mitigation and Enhancement Measures	SA14/SA15: During construction, measures should be taken to maintain existing active travel connectivity on the A329. SA4/SA14/SA15: The mitigation hierarchy should be applied during design and construction to minimise the likelihood of negative effects. Circular economy principles should be included where possible in design to minimise waste. Where possible, developments should occur on brownfield land to minimise the loss of greenfield land.							
Recommendations	Green buses, using electric or biofuels should be utilised wherever possible to minimise increased greenhouse gases from transport. The development of the sustainable travel corridor should be developed in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to allow all bikes, including adapted bicycles, to utilise routes safely. Access improvements should be inclusive to all social groups, including disabled and elderly users. The lower fares structure should be developed in line with community affordability studies, and accessible for those on low incomes.							

[1] Department for Transport (2020) Cycle Infrastructure Design – Local Transport Note 1/20. [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951074/cycle-infrastructure-design-ltn-1-20.pdf

Category: Public Transport

The interventions included are:

- Increased bus frequency and improved bus journey times along priority bus corridors on A327 (Edge of Reading)
- Increased bus frequency and improved bus journey times along priority bus corridors on A4/A321 (Edge or Reading)
- Increased bus frequency and improved bus journey times along A33 from Mere Oak Park and Ride south of M4 (Edge of Reading)
- Wokingham Town to Arborfield, half hourly bus service with aspiration to develop into 15 minutes (South of Wokingham)
- Half hourly bus frequency between Wokingham and Twyford (Edge of Reading / North Wokingham)

Table A-18: Assessment of effects associated with –High Quality Sustainable Travel Corridors – Public Transport interventions

Vision Theme	Reduce Emissions from Transport							
Objective	High Quality Sustainable Travel Corridors							
Category	Public Transport							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	M	I	L	R	P	LT	There are anticipated minor positive effects on biodiversity as the modal shift is likely to reduce the number of private vehicles on roads, improving local air quality in the Borough. Additionally, this is likely to result in reductions in traffic noise, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering priority bus corridors.
SA5: Green Infrastructure	0							
SA6: Air Quality	++	M	D	L	R	P	LT	Significant positive effects have been identified for air quality as the interventions outlined contribute to encouraging a modal shift away from private transport throughout all areas of the Borough. This is likely to reduce the number of vehicles on the Borough's roads, and reduce congestion, improving air quality.
SA7: Greenhouse Gases	?							Uncertain effects have been identified for greenhouse gases as a result of these interventions. Whilst there will be a reduction in private vehicle related greenhouse gases in Wokingham due to a modal shift away from private vehicles, there is potential that increased bus services may contribute to an increase in greenhouse gases. It is currently uncertain if green buses will be used within these interventions.
SA8: Climate Resilience	0							

SA9: Noise	+/-	L	D	L	R	P	LT	Mixed positive and negative effects have been identified for noise as a result of these interventions. Interventions encourage a modal shift away from private car use, therefore reducing noise on heavily used routes in the Edge of Reading. However, increasing bus services within South Wokingham may result in increased noise levels as this area currently experiences low levels of road noise.
SA10: Landscape and Townscape	+/-	L	I	L	R	P	LT	Positive effects have been identified for landscape and townscape as increasing bus services contributes to encouraging a modal shift away from private car use, reducing the number of vehicles on the Borough's roads, reducing noise and improving the landscape setting. However, in rural areas such as South Wokingham, increasing bus services and noise may have a negative effect on the local landscape setting.
SA11: Historic Environment	+/-	L	I	L	R	P	LT	Positive and negative effects have been identified for the historic environment. Increasing bus services contributes to encouraging a modal shift away from private car use, improving air quality, and therefore reducing degradation of heritage assets. Additionally, this modal shift is likely to reduce the number of vehicles on the Borough's roads, improving the setting of heritage assets. However, there is potential that increased bus services may result in increases in noise in close proximity to heritage assets as there are a number of assets located along the bus corridors within these interventions, resulting in potential negative effects on the setting of assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	++	M	D	R	R	P	LT	Significant positive effects have been identified as these interventions provide improved infrastructure for current and future populations. The interventions, particularly those located in North Wokingham and South Wokingham, contribute to connecting rural communities. South Wokingham has existing poor levels of public transport connectivity, therefore increasing services provides greater opportunities for this population. Bus services also provide largely inclusive access to all social groups.
SA15: Health	+	L	I	L	R	P	LT	Minor positive effects are identified as increasing bus services provides improved public transport infrastructure for current and future populations. Increasing bus services encourages a modal shift towards public transport, improving air quality. Additionally, encouraging users to take bus services is likely to increase physical activity linked to accessing bus services.
SA16: Economy and Employment	++	M	D	R	R	P	LT	Increasing the frequency of bus journeys throughout all areas of the Borough, including rural areas, results in significant positive effects on economy and employment. This increases the connectivity of communities to employment opportunities, particularly those in South Wokingham who have previously had poor connectivity. Improving bus journey times also contributes to positive effects.
Potential Cumulative / Synergistic Effects	There are potential positive cumulative effects anticipated for air quality, population and economy. The interventions encourage a modal shift away from private transport, improving air quality, and provide improved infrastructure, benefitting the population and improving connectivity.							
Mitigation and Enhancement Measures	SA7: Green buses, using electric or biofuels should be utilised wherever possible to minimise increased greenhouse gases from transport.							
Recommendations	interventions for South Wokingham should outline the route, or key roads utilised within these routes in order to establish effects on rural receptors.							

Category: Cycle Network

The interventions included are:

- High quality cycle facilities connecting to Woodlands Avenue – Church Road – University (Edge of Reading)
- Active travel facilities between Arborfield and Wokingham Town Centre along the B3349 Barkham Road (Wokingham & Winnersh, Wokingham South)
- Active travel facilities between Finchampstead and Wokingham Town Centre (Wokingham & Winnersh, Wokingham South)
- High quality cycle facilities along Lower Earley Way (Edge of Reading)

Table A-19: Assessment of effects associated with –High Quality Sustainable Travel Corridors – Cycle Network interventions

Vision Theme	Reduce Emissions from Transport							
Objective	High Quality Sustainable Travel Corridors							
Category	Cycle Network							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	-	L	D	L	I	P	ST/LT	Minor negative effects have been identified as these interventions are likely to result in development of active travel routes. This is likely to require additional materials and may result in waste from existing routes.
SA3: Soils	-	L	D	L	I	P	ST/LT	Minor negative effects have been identified for soils as the development of active travel facilities is likely to require additional land take as current footpaths along these routes are narrow and not of high quality.
SA4: Biodiversity	+/-	L	I	L	R	P	LT	There are anticipated minor positive effects on biodiversity as improved cycle and active travel facilities are likely to reduce the number of private vehicles on roads, improving local air quality in the Edge of Reading, Wokingham & Winnersh, Wokingham South. Additionally, this is likely to result in reductions in traffic noise, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering priority bus corridors. However, there is potential that construction may result in habitat disturbance through noise and air quality. Additionally, if land take occurs, this could result in loss of biodiversity from hedgerows and land located around existing infrastructure.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	M	D	L	R	P	LT	Minor positive effects have been identified for air quality as the improved cycle and active travel facilities contribute to encouraging a modal shift away from private transport in the Edge of Reading, Wokingham & Winnersh, Wokingham South, improving air quality.
SA7: Greenhouse Gases	+	M	D	R	R	P	LT	Improved cycle and active travel facilities contribute to encouraging a modal shift away from private transport in the Edge of Reading, Wokingham & Winnersh, Wokingham South, reducing GHG emissions in this area. Additionally, encouraging

								cycling contributes to reducing congestion, minimising vehicle idling time and additional emissions.
SA8: Climate Resilience	0							
SA9: Noise	+	M	D	L	R	P	LT	Improved cycle and active travel facilities contribute to encouraging a modal shift away from private transport in the Edge of Reading, Wokingham & Winnersh, Wokingham South, reducing traffic noise in this area. The interventions may lead to a reduction in traffic noise within the NIAs along Finchampstead Road, however the details of the interventions in this location are uncertain.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	Positive effects have been identified for landscape and townscape as improved cycle and active travel facilities contributes to encouraging a modal shift away from private car use, reducing the number of vehicles on the Borough's roads, reducing noise and improving the landscape setting.
SA11: Historic Environment	+	L	I	L	I	P	LT	Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use, improving air quality, and therefore reducing degradation of heritage assets. Additionally, this modal shift is likely to reduce the number of vehicles on the roads in Edge of Reading, Wokingham & Winnersh, Wokingham South, improving the setting of heritage assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	I	L	R	P	LT	Improved cycle and active travel facilities encourage social cycling trips, as well as commuting trips. The interventions also contribute to connecting rural communities for those without access to private vehicles.
SA15: Health	++	M	D	L	R	P	LT	Improved cycle and active travel facilities has the potential to increase physical activity rates amongst the population. These interventions contribute to encouraging a modal shift away from private car use, anticipated to improve local air quality, and therefore the health of local populations, particularly those living close to heavily used routes. Poor air quality is a known factor exacerbating respiratory illnesses, therefore any improvements to air quality reduce this health risk.
SA16: Economy and Employment	+	L	I	L	R	P	LT	Minor positive effects on economy and employment are anticipated as these interventions increase the connectivity of communities without access to private vehicles to employment and leisure spending opportunities within the Borough.
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon health, air quality, population, and employment as a result of the development of high quality active travel routes providing additional connectivity and encouraging a modal shift away from private vehicles, as well as physical activity rates. There are potential for negative cumulative effects on materials and waste, soils, and biodiversity as a result of active travel works.							
Mitigation and Enhancement Measures	SA2/SA3: Where possible, development of active travel routes should utilise existing brownfield land from current cycle ways. SA2: Where possible, circular economy principles should be utilised to avoid waste from upgraded active travel developments.							
Recommendations	It is recommended that cycle and active travel facilities are made accessible, including for the use of hand cycles. The development of active travel facilities should be developed in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to allow all bikes, including adapted bicycles, to utilise routes safely.							

Vision Theme: Grow the Economy

OBJECTIVE: PROTECT AND ENHANCE STRATEGIC CONNECTIVITY

Category: Strategic Network

The interventions included are:

- Maintain safe and efficient access to the M4 and A329 (M) (Boroughwide)
- Encourage and support National Highways to reduce noise and air pollution from the M4 (Boroughwide)

Table A-20: Assessment of effects associated with – Protect and Enhance Strategic Connectivity – Strategic Network interventions

Vision Theme	Grow the Economy							
Objective	Protect and Enhance Strategic Connectivity							
Category	Strategic Network							
SA Objective 181	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	?							Uncertain effects have been identified as there is potential for construction works associated with maintaining safe and efficient access to the M4 and A329(M). This has the potential to be resource intensive and produce waste.
SA3: Soils	?							Uncertain effects have been identified as there is potential for construction works associated with maintaining safe and efficient access to the M4 and A329(M). This has the potential to require land take.
SA4: Biodiversity	?							It is likely that improving air quality and reducing noise emissions will have a positive effect on biodiversity, through minimising disturbance and degradation on local habitats and species. However, it is currently uncertain if construction will be required, resulting in disturbance to habitats and species.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	M	D	R	R	P	LT	It is likely that these interventions will reduce air pollution from the M4 and other key highways through the Borough, and therefore improve air quality in the Borough. This also has the potential to improve air quality within AQMAs, however the extent to which air quality will be improved is currently unclear as interventions are not known.
SA7: Greenhouse Gases	0							
SA8: Climate Resilience	0							
SA9: Noise	+	M	D	R	R	P	LT	It is likely that these interventions will reduce noise pollution from the M4 and other key highways within the Borough through the support of National Highways initiatives.

SA10: Landscape and Townscape	?							Uncertain effects have been identified as there is potential for construction works associated with maintaining safe and efficient access to the M4 and A329(M). Construction work has the potential to degrade the landscape setting.
SA11: Historic Environment	?							Uncertain effects have been identified as there is potential for construction works associated with maintaining safe and efficient access to the M4 and A329(M). Construction work has the potential to degrade the setting of local heritage assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	D	R	R	P	LT	Maintenance of access to M4 and A329 (M) will allow connectivity through the Borough and provides infrastructure maintenance for current and future populations.
SA15: Health	+	M	D	R	R	P	LT	Improving the safety of access to the M4 and A329 (M) is likely to reduce the number of accidents and those Killed Seriously Injured (KSI) on these routes, improving user safety. Additionally, improvements to air quality are likely to improve health for those living close to these routes.
SA16: Economy and Employment	+	L	D	R	R	P	LT	Maintenance of access to M4 and A329 (M) will allow maintenance of connectivity of communities to employment opportunities within the Borough.
Potential Cumulative / Synergistic Effects	There is potential for positive cumulative effects upon air quality and noise as a result of supporting improvements to the highway network. Subsequently, there are potential positive cumulative effects on health.							
Mitigation and Enhancement Measures	SA2/SA3: Where possible, development should utilise existing brownfield land. SA2: Where possible, circular economy principles should be utilised to avoid waste from upgraded active travel developments. SA10/SA11: Any construction works should outline mitigation measures to minimise effects on the landscape and heritage assets through a CEMP,							
Recommendations	Noise improvements and air quality improvements should be initially targeted to those areas with poor air quality and high noise levels, including AQMAs and NIAs.							

Category: Public Transport

The interventions included are:

- Improving walk/cycle access to and interchange facilities at stations in the Borough (North Wokingham)
- Increased capacity along the North Downs Line (Wokingham & Winnersh, Edge of Reading)
- Additional services between Reading – Wokingham and Bracknell and Reading to Waterloo Rail Line (Wokingham & Winnersh, Edge of Reading)

Table A-21: Assessment of effects associated with – Protect and Enhance Strategic Connectivity – Public Transport interventions

Vision Theme	Grow the Economy							
Objective	Protect and Enhance Strategic Connectivity							
Category	Public Transport							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	?							Uncertain effects have been identified for materials and waste as it is currently unclear if construction works will be required to increase the capacity of the North Downs Line and upgrade interchange facilities. It is assumed that increases in capacity will require construction works, therefore resulting in the potential for additional materials use and generation of waste.
SA3: Soils	?							Uncertain effects have been identified as it is currently unclear if construction works will be required to increase the capacity of the North Downs Line and upgrade interchange facilities. It is assumed that increases in capacity will require construction works, therefore resulting in the potential for land take.
SA4: Biodiversity	+/-	M	I	L	R	P	LT	There are anticipated minor positive effects on biodiversity as improvements to active travel and rail is likely to reduce the number of private vehicles on roads, improving local air quality in the Borough. Additionally, this is likely to result in reductions in traffic noise, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering priority bus corridors. However, there are potential negative effects that may arise if construction works are required. Biodiversity may be lost or disturbed through land take, noise, or dust spoiling.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	M	D	L	R	P	LT	Minor positive effects have been identified for air quality as the interventions outlined contribute to encouraging a modal shift away from private transport throughout North Wokingham, Wokingham & Winnersh, and Edge of Reading. This is likely to reduce the number of vehicles on the Borough's roads, and reduce congestion, improving air quality within these areas.
SA7: Greenhouse Gases	+/-	M	D	R	R	P	LT	Mixed positive and negative effects have been identified for greenhouse gases as a result of these interventions. Whilst a reduction in private vehicle related greenhouse gases in North Wokingham, Wokingham & Winnersh, and Edge of

								Reading due to a modal shift away from private vehicles is expected, there is potential that increased rail services may contribute to an increase in greenhouse gases. It is currently uncertain if decarbonised rail services will be part of these interventions.
SA8: Climate Resilience	0							
SA9: Noise	+/-	L	D	L	R	P	LT	Mixed positive and negative effects have been identified for noise as a result of these interventions. Interventions encourage a modal shift away from private car use, therefore reducing noise on heavily used routes. However, increasing capacity on the North Downs Line and providing additional services between Reading - Wokingham and Bracknell and Reading to Waterloo rail line may result in increased noise levels locally.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use, reducing traffic noise and congestion in North Wokingham, Wokingham & Winnersh, and Edge of Reading, improving landscape and townscape setting.
SA11: Historic Environment	+	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Indirectly, positive effects are anticipated for the historic environment through improvements to air quality due to a reduction of private vehicle use and encouraged use of active travel and rail services.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	D	L	R	T	LT	Minor positive effects have been identified as these increase connectivity for those in North Wokingham, Wokingham & Winnersh, and Edge of Reading with Reading and the Waterloo Rail Line. These improvements increase the potential for the infrastructure to meet both current and future population growth.
SA15: Health	+	L	I	L	R	P	LT	Minor positive effects on health are identified as encouraging a modal shift away from private transport is anticipated to improve local air quality, and therefore the health of local populations, particularly those living close to heavily used routes in North Wokingham, Wokingham & Winnersh, and Edge of Reading. Poor air quality is a known factor exacerbating respiratory illnesses, therefore any improvements to air quality reduce this health risk.
SA16: Economy and Employment	+	L	D	R	R	P	LT	Increasing the capacity on the North Downs Line and providing additional services between Reading - Wokingham and Bracknell and Reading to Waterloo rail line results in minor positive effects on economy and employment. This increases the connectivity of communities to employment opportunities, however North Wokingham, Wokingham & Winnersh, and Edge of Reading already have good rail connectivity, hence why these effects are not significant.
Potential Cumulative / Synergistic Effects	There are potential positive cumulative effects anticipated for air quality as a result of encouraging a modal shift away from private car use. Additionally, positive cumulative effects are anticipated for population and economy through increased service connectivity. There are potential negative cumulative effects anticipated for biodiversity, greenhouse gases and noise as a result of increased services and construction work.							
Mitigation and Enhancement Measures	SA2: Where possible, circular economy principles should be utilised to avoid waste from developments.							
Recommendations	It is recommended that decarbonisation of the rail services is considered and that increased services should be provided by sustainable fuelled trains							

Category: Freight

The interventions included are:

- Forum to collaborate with neighbouring authorities and freight operators (Boroughwide)
- Develop and implement domestic and industrial freight management policies (Boroughwide)

Table A-22: Assessment of effects associated with – Protect and Enhance Strategic Connectivity – Freight interventions

Vision Theme	Grow the Economy							
Objective	Protect and Enhance Strategic Connectivity							
Category	Freight							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	0							
SA5: Green Infrastructure	0							
SA6: Air Quality	?							It is assumed that increased collaboration and freight management policies will impact the frequency and mode of freight transportation, but the effects of these interventions on air quality are uncertain until further details of these interventions are known.
SA7: Greenhouse Gases	?							It is assumed that increased collaboration and freight management policies will impact the frequency and mode of freight transportation, but the effects of these interventions on greenhouse gases are uncertain until further details of these interventions are known.
SA8: Climate Resilience	0							
SA9: Noise	?							It is assumed that increased collaboration and freight management policies will impact the frequency and mode of freight transportation, but the effects of these interventions on noise in the Borough are uncertain until further details of these interventions is known.
SA10: Landscape and Townscape	?							It is assumed that increased collaboration and freight management policies will impact the frequency and mode of freight transportation, but the effects of these interventions on landscape and townscape are uncertain until further details of these interventions is known.
SA11: Historic Environment	?							It is assumed that increased collaboration and freight management policies will impact the frequency and mode of freight transportation, but the effects of these interventions on historic environment are uncertain until further details of these interventions is known.

SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	0							
SA15: Health	?							It is assumed that increased collaboration and freight management policies will impact the frequency and mode of freight transportation, but the effects of these interventions on health are uncertain until further details of these interventions is known.
SA16: Economy and Employment	?							It is assumed that increased collaboration and freight management policies will impact the frequency and mode of freight transportation, but the effects of these interventions on the economy and employment in the Borough are uncertain until further details of these interventions is known.
Potential Cumulative / Synergistic Effects	No cumulative effects have been identified for this category.							
Mitigation and Enhancement Measures	SA6/SA7/SA9: Freight development should minimise road freight in favour of rail freight where possible. SA6/SA7: Sustainable fuelled freight vehicles should be included within development where possible. SA6/SA9/ SA10/SA11: Freight management should minimise increasing of freight vehicles on roads during peak times. SA8: Climate resilience measures should be included within the freight management policies, with consideration given to the adaptation of the freight network to climate change.							
Recommendations	There are no category specific recommendations identified.							
Assumptions	It is assumed that the proposed interventions relate to engagement, collaboration and policy rather than physical works.							

OBJECTIVE: A WELL-MAINTAINED NETWORK

Category: Operational Maintenance

The interventions included are:

- Increase use of lower carbon materials in construction and highway maintenance (Boroughwide)
- Test and trial measures that can support LTP objectives and reduce maintenance (Boroughwide)
- Align proposed improvement schemes with the maintenance program (Boroughwide)
- Work with operators to share data to improve maintenance activities in Wokingham (Boroughwide)

Table A-23: Assessment of effects associated with – A Well Maintained Network – Operational Maintenance interventions

Vision Theme	Grow the Economy							
Objective	A Well-Maintained Network							
Category	Operational Maintenance							
SA Objective 187	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	+	M	D	L	I	P	LT	Minor positive effects are anticipated due to the use of sustainable design measure and materials. The extent of increase of lower carbon materials is not yet known, hence why positive effects have not been assessed as significant.
SA3: Soils	0							
SA4: Biodiversity	0							
SA5: Green Infrastructure	0							
SA6: Air Quality	+	M	I	L	R	T	ST	Mixed positive and negative effects are anticipated as improving maintenance activities, and aligning improvement schemes with maintenance programmes has the potential to reduce the construction related air quality impacts.
SA7: Greenhouse Gases	+	M	I	L	R	T	ST	Positive effects are anticipated as improving maintenance activities, and aligning improvement schemes with maintenance programmes has the potential to reduce the construction related GHG emissions. The use of lower carbon materials within development will also help to reduce the amount of embodied carbon.
SA8: Climate Resilience	+	M	I	L	I	P	LT	Minor positive effects are anticipated due to the use of lower carbon materials, reducing the dependency on carbon and therefore increasing the resilience to climate change. The extent of increase of lower carbon materials is not yet known, hence why positive effects have not been assessed as significant.
SA9: Noise	?							Uncertain effects are anticipated as it is not known at this stage if improving maintenance activities and aligning improvement schemes with maintenance programmes will result in an increase or decrease in noise levels.

SA10: Landscape and Townscape	0							
SA11: Historic Environment	0							
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	?							Uncertain effects have been identified as it is currently unclear if the alignment of maintenance and improvement works will reduce disruption on the population of Wokingham Borough.
SA15: Health	0							
SA16: Economy and Employment	?							Uncertain effects are anticipated as it is not known at this stage if improving maintenance activities and aligning improvement schemes with maintenance programmes will result in an increase or decrease in employment within the Borough.
Potential Cumulative / Synergistic Effects	There are potential positive cumulative effects anticipated for greenhouse gases, air quality, and climate resilience as a result of streamlined improvements within the Borough and the reduction in embodied carbon within developments.							
Mitigation and Enhancement Measures	SA14: Information campaigns could be utilised to advertise to communities the sustainable materials utilised and provide improved synergies between works.							
Recommendations	There are no category specific recommendations identified.							

OBJECTIVE: SUSTAINABLE DEVELOPMENT

Category: Development Policy

The interventions included are:

- Update of Wokingham Borough Council Living Streets design guidance (Boroughwide)
- New development layouts designed to Living Streets Design principles (or any successor document) (Boroughwide)
- Promote “My Journey” for Travel Plans and monitoring of travel impacts for all new developments (Boroughwide)

Table A-24: Assessment of effects associated with – Sustainable Development – Development Policy interventions

Vision Theme	Grow the Economy							
Objective	Sustainable Development							
Category	Development Policy							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	+	L	D	L	R	P	LT	Minor positive effects are anticipated due to the implementation of Living Streets Design principles in new developments increasing the green space through parklets and well designed community spaces.
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	L	D/I	L	R	P	LT	Minor positive effects are anticipated due to the implementation of Living Streets Design principles in new developments increasing the green space through parklets, increasing available habitats and biodiversity in the Borough. Living Streets Design principles also encourage a modal shift away from vehicle use, and the implementation of lower speed limits, improving air quality and reducing noise emissions , minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering priority corridors.
SA5: Green Infrastructure	?							Uncertain effects have been identified for green infrastructure as it is uncertain if there are opportunities for the new design principles to include green infrastructure measures.
SA6: Air Quality	+	M	I	L	R	P	LT	Minor positive effects are anticipated due to the implementation of Living Streets Design principles in new developments encouraging a modal shift away from vehicle use, and the implementation of lower speed limits, improving air quality in the vicinity of new developments.
SA7: Greenhouse Gases	+	M	I	L	R	P	LT	Minor positive effects are anticipated due to the implementation of Living Streets Design principles in new developments encouraging a modal shift away from fossil fuel based vehicle use, and the implementation of lower speed limits. This leads to a reduction in GHG emissions in the vicinity of new developments.

SA8: Climate Resilience	0							
SA9: Noise	+	L	I	L	R	P	LT	Minor positive effects are anticipated due to the implementation of Living Streets Design principles in new developments encouraging a modal shift away from vehicle use and encouraging active travel, reducing the number of vehicles in the local area of the new developments and therefore reducing noise.
SA10: Landscape and Townscape	+	M	D/I	L	R	P	LT	Minor positive effects are anticipated due to the implementation of Living Streets Design principles in new developments, reducing street clutter and increasing the green space and improving the local townscape. The interventions also encourage a modal shift away from vehicle use, reducing the number of vehicles on the roads, likely to result in indirect positive effects upon the landscape setting of the Borough due to a reduction in noise pollution.
SA11: Historic Environment	+	L	I	L	R	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use, improving air quality, and therefore reducing degradation of heritage assets local to the new developments.
SA12: Water Quality	?							Uncertain effects have been identified as it is uncertain if there are opportunities for the new design principles to include water quality guidance, improving water quality within the Borough.
SA13: Flooding	?							Uncertain effects have been identified as it is uncertain if there are opportunities for the new design principles to include flooding guidance, such as the inclusion of SuDS, reducing flood risk within the Borough.
SA14: Population	++	M	D	R	R	P	LT	Significant positive effects are anticipated as Living Streets Design principles include the removal of street clutter and pavement parking to allow inclusive access to all population groups. Encouraging active travel and improving active travel provision also increases social cohesion, for example encouraging multiple families to walk to school together.
SA15: Health	++	M	D	R	R	P	LT	Significant positive effects are anticipated as Living Streets Design principles encourage active travel and increases the accessibility of exercise for residents in new developments. These principles include the removal of street clutter and pavement parking to allow access to those with pushchairs or in wheelchairs to access local facilities, including healthcare facilities.
SA16: Economy and Employment	+	L	I	R	R	P	LT	Minor positive effects are anticipated as Living Streets Design principles include the removal of street clutter and pavement parking to allow inclusive access to local employment opportunities for all population groups.
Potential Cumulative / Synergistic Effects	There are potential positive cumulative effects upon landscape through design improvements in new developments. There are additional potential positive cumulative effects on population and health due to these design principles. There are also potential for positive cumulative effects on economy, historic environment, landscape, noise, greenhouse gases, air quality, natural capital, and biodiversity through the inclusion of new design principles.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified for this category.							
Recommendations	It is recommended that the inclusion of green infrastructure is implemented within design principles, providing benefits across green infrastructure, water quality, and flood risk.							

Category: Sustainable Design

The interventions included are:

- Appropriate secure cycle parking, EV charging facilities and identify suitable mobility hub provision for all new development (Boroughwide)
- Provide high quality sustainable and active travel facilities in and to/from all strategic development locations (Boroughwide)

Table A-25: Assessment of effects associated with – Sustainable Development – Sustainable Design interventions

Vision Theme	Grow the Economy							
Objective	Sustainable Development							
Category	Sustainable Design							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	+	L	D	L	R	P	LT	Minor positive effects are anticipated due to the implementation of high quality sustainable design in new developments increasing the green space through well designed community spaces.
SA2: Materials and Waste	?							Uncertain effects have been identified as it is unclear if the measure for high quality sustainable and active travel facilities will result in additional development and associated use of resources and production of waste.
SA3: Soils	?							Uncertain effects have been identified as it is unclear if the measure for high quality sustainable and active travel facilities will require the development of existing routes and require land take.
SA4: Biodiversity	+	M	I	R	R	P	LT	Provision of sustainable and active travel facilities to all strategic development locations will likely reduce the number of private cars on the roads throughout the Borough. The inclusion of EV charging facilities in new developments will likely reduce the number of petrol or diesel vehicles on the roads. These interventions are therefore likely to contribute to reduced traffic noise and air quality impacts, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering heavily used routes.
SA5: Green Infrastructure	?							Uncertain effects have been identified for green infrastructure as it is uncertain if sustainable design will include green infrastructure measures.
SA6: Air Quality	+	L	D	L	R	P	LT	Minor positive effects are anticipated as these interventions are likely to encourage a modal shift away from the use of private vehicles throughout the Borough, and encourage the use of electric vehicles where active travel isn't suitable. This is likely to reduce the number of vehicles on the Borough's roads, especially fossil fuel powered vehicles. This is anticipated to improve air quality across the Borough, including within the AQMAs.
SA7: Greenhouse Gases	++	M	D	R	R	P	LT	Significant positive effects are anticipated as these interventions are likely to encourage a modal shift away from the use of private vehicles throughout the Borough, and encourage the use of electric vehicles where active travel isn't

								suitable. This is likely to reduce the number of vehicles on the Borough's roads, especially fossil fuel powered vehicles, leading to a reduction in GHG emissions.
SA8: Climate Resilience	+	L	I	L	R	P	LT	The inclusion of EV charging facilities supports the modal shift away from use of fossil fuels and increases the climate resilience of the transport network by reducing dependence of fossil fuels.
SA9: Noise	+	M	D	L	R	P	LT	Minor positive effects on noise have been identified as the interventions outlined contribute to encouraging a modal shift away from private transport, especially the noisier fossil fuel dependant private transport throughout all areas of the Borough. This is likely to reduce traffic noise, especially within the NIAs located within the Borough.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use, reducing traffic noise and congestion in the Borough, improving landscape and townscape setting.
SA11: Historic Environment	+	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Indirectly, positive effects are anticipated for the historic environment through improvements to air quality due to a reduction of private vehicle use and encouraged use of active travel.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	++	M	I	R	R	P	LT	Significant positive effects are anticipated as the provision of EV charging facilities, active travel and sustainable travel facilities aims to ensure that transport modes and infrastructure will meet both current and future population growth. Encouraging active travel and improving active travel provision also increases social cohesion, for example encouraging multiple families to walk to school together. These interventions also increase connectivity of new developments to the rest of the Borough for those without access to private vehicles.
SA15: Health	++	M	D	R	R	P	LT	Significant positive effects are anticipated as these interventions encourage active travel and increases the accessibility of exercise for residents in new developments. These interventions also increase connectivity of new developments to the rest of the Borough, to improve access for those without access to private vehicles to those with pushchairs or in wheelchairs to local facilities, including healthcare facilities.
SA16: Economy and Employment	+	L	I	R	R	P	LT	Minor positive effects on economy and employment are anticipated as these interventions increase the connectivity of communities without access to private vehicles to employment and leisure spending opportunities within the Borough.
Potential Cumulative / Synergistic Effects	There are potential for positive cumulative effects upon air quality, greenhouse gases, population, health, and noise through an increased use of electric vehicles within the Borough.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified for this category.							
Recommendations	It is recommended that cycle and active travel facilities are made accessible, including for the use of hand cycles. The development of the active travel facilities should be developed in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to allow all bikes, including adapted bicycles, to utilise routes safely.							

Category: Public Transport

The interventions included are:

- Provide high quality bus stop infrastructure to serve new developments (South Wokingham)
- Simplification and enhance of ‘Leopard’ bus routes serving new development (South Wokingham)

Table A-26: Assessment of effects associated with – Sustainable Development – Public Transport interventions

Vision Theme	Grow the Economy							
Objective	Sustainable Development							
Category	Public Transport							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	L	I	L	R	P	LT	There are anticipated minor positive effects on biodiversity as enhancing bus stop infrastructure to new developments in South Wokingham and enhancing bus routes is anticipated to reduce the number of private vehicles on roads, improving local air quality in the Borough. Additionally, this is likely to result in reductions in traffic noise, minimising disturbance and degradation on local habitats and species. This is particularly likely to affect small mammals living in hedgerow and habitats bordering priority bus corridors.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	L	I	L	R	P	LT	Minor positive effects are anticipated as enhancing bus stop infrastructure to new developments in South Wokingham and enhancing bus routes is anticipated to reduce the number of private vehicles on roads from the new developments, resulting in improved air quality near the new developments in South Wokingham.
SA7: Greenhouse Gases	?							Uncertain effects have been identified for greenhouse gases as a result of these interventions. Whilst there is the potential for a reduction in private vehicle related greenhouse gas emissions in South Wokingham due to enhancement of the bus services to new developments, there is potential that increased bus services may contribute to an increase in greenhouse gases. It is currently uncertain if green buses will be used within these interventions.
SA8: Climate Resilience	0							
SA9: Noise	+	L	D	L	R	P	LT	Minor positive effects are anticipated as enhancing bus stop infrastructure to new developments in South Wokingham and enhancing bus routes is anticipated to reduce the number of private vehicles on roads from the new developments,

								resulting in reduced noise emissions near the new developments in South Wokingham.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use, improving the setting of the Borough's landscapes and townscapes.
SA11: Historic Environment	+	L	I	L	R	P	LT	Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use, improving air quality, and therefore reducing degradation of heritage assets.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	L	I	L	R	P	LT	Minor positive effects are anticipated as these interventions contribute to encouraging a modal shift away from private car use and ensure that transport modes and infrastructure will meet both current and future population growth. These interventions also increase connectivity of new developments to the rest of the Borough for those without access to private vehicles.
SA15: Health	+	L	I	L	R	P	LT	Minor positive effects are anticipated as these interventions encourage active travel and increases the accessibility of exercise for residents in new developments. These interventions also increase connectivity of new developments to the rest of the Borough, to improve access for those without access to private vehicles to those with pushchairs or in wheelchairs to local facilities, including healthcare facilities.
SA16: Economy and Employment	+	L	I	L	R	P	LT	Minor positive effects on economy and employment are anticipated as these interventions increase the connectivity of communities without access to private vehicles to employment and leisure spending opportunities within the Borough.
Potential Cumulative / Synergistic Effects	There are potential for positive cumulative effects upon biodiversity, air quality, noise, population, health, economy, landscape and townscape, and the historic environment as a result of the modal shift away from private car use.							
Mitigation and Enhancement Measures	SA14: Design of bus stop infrastructure should be inclusive, and provide infrastructure for all social groups, including rest stops for the elderly.							
Recommendations	Bus stop infrastructure should include inclusive design to allow for users to stop and rest, and feel safe at bus stops.							

Category: Infrastructure Delivery

The interventions included are:

- Completion of Wokingham South Distributor Road and active travel package (Wokingham & Winnersh)
- Infrastructure required to support new strategic scale development (Edge of Reading)
- Complete the active travel, Greenways and Loddon Long Distance path in the Loddon Valley (Wokingham & Winnersh / Edge of Reading)

Table A-27: Assessment of effects associated with – Sustainable Development – Infrastructure Delivery interventions

Vision Theme	Grow the Economy							
Objective	Sustainable Development							
Category	Infrastructure delivery							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	-	M	D	L	I	P	LT	Minor negative effects are anticipated as there is potential for development to result in a loss of biodiversity and natural capital as a result of land take.
SA2: Materials and Waste	-	M	D	L	I	P	LT	The development of new infrastructure is likely to be resource intensive and has potential to result in waste during construction.
SA3: Soils	-	M	D	L	I	P	LT	The development of new infrastructure is likely to result in additional land take for development, resulting in negative effects on soils.
SA4: Biodiversity	+/-	M	D/I	L	R/I	P	LT	Mixed positive and negative effects have been identified. Improvement of active travel provision is anticipated to reduce the number of private vehicles on roads, improving local air quality and reducing in traffic noise, minimising disturbance and degradation on local habitats and species. Completion of the Wokingham South Distributor Road has the potential to reduce traffic on residential roads but increase traffic in other areas of Wokingham and Winnersh, having negative effects on biodiversity in these areas. Additionally, there is potential for development of infrastructure to result in land take and loss of biodiversity.
SA5: Green Infrastructure	?							There is potential for development to include green infrastructure interventions. However, as the design of development is currently unknown, this is uncertain at this stage.
SA6: Air Quality	+/-	M	D	L	R	P	ST/LT	Improvement of active travel provision is anticipated to encourage a modal shift away from private vehicles use on roads, improving local air quality, however completion of the Wokingham South Distributor Road has the potential to reduce traffic on residential roads but increase traffic in other areas of Wokingham and Winnersh, impacting air quality in these areas. There is potential for short-term poor air quality as a result of construction plant equipment and activities.
SA7: Greenhouse Gases	+	L	D	L	R	P	LT	Improvement of active travel provision is anticipated to encourage a modal shift away from private vehicles use on roads, reducing the GHG emissions within Wokingham and Winnersh, and Edge of Reading.

SA8: Climate Resilience	?							Uncertain effects have been identified. It is anticipated that new or improved infrastructure will be designed with climate adaptation and resilience in mind, however this is likely to be determined by individual design.
SA9: Noise	+/-	L	D	L	R	P	LT	Improvement of active travel provision is anticipated to encourage a modal shift away from private vehicles use on roads, reducing traffic noise. Completion of the Wokingham South Distributor Road has the potential to reduce traffic on residential roads but increase traffic in other areas of Wokingham and Winnersh, resulting in negative noise effects in these areas.
SA10: Landscape and Townscape	+/-	M	D/I	L	R	P	ST/LT	Completion of the Wokingham South Distributor Road has the potential to reduce traffic on residential roads but increase traffic in other areas of Wokingham and Winnersh, having positive and negative effects on landscape and townscape setting throughout Wokingham and Winnersh. Additionally, development is likely to result in noise and alterations to the visual landscape setting as a result of construction activities.
SA11: Historic Environment	+/-	L	I	L	I	P	LT	Poor air quality contributes to the increased degradation of heritage assets. Improvement of active travel provision is anticipated to encourage a modal shift away from private vehicles use on roads, improving local air quality and therefore reducing impacts on historic assets, however completion of the Wokingham South Distributor Road has the potential to reduce traffic on residential roads but increase traffic in other areas of Wokingham and Winnersh, having negative effects on heritage assets in these areas.
SA12: Water Quality	?							Uncertain effects have been identified. It is anticipated that new or improved infrastructure will be designed with water quality in mind, however this is likely to be determined by individual design.
SA13: Flooding	?							Uncertain effects have been identified. It is anticipated that new or improved infrastructure will be designed with flood risk in mind, however this is likely to be determined by individual design.
SA14: Population	++	M	I	R	R	P	LT	Significant positive effects are anticipated as completion of the Wokingham South Distributor Road, infrastructure for new developments and active travel provision aims to ensure that transport modes and infrastructure will meet both current and future population growth. Encouraging active travel and improving active travel provision also increases social cohesion, for example encouraging multiple families to walk to school together. These interventions also increase connectivity through Wokingham and Winnersh, and Edge of Reading whilst minimising the impact of the increase in traffic on nearby residential roads.
SA15: Health	+	L	I	L	R	P	LT	Minor positive effects are anticipated as these interventions encourage active travel and increases the accessibility of exercise for residents in through Wokingham and Winnersh, and Edge of Reading. These interventions also increase connectivity of through Wokingham and Winnersh, and Edge of Reading to the rest of the Borough, to improve access for those without access to private vehicles to those with pushchairs or in wheelchairs to local facilities, including healthcare facilities.
SA16: Economy and Employment	+	L	I	L	R	P	LT	Minor positive effects on economy and employment are anticipated as these interventions increase the connectivity of communities in Wokingham and Winnersh, and Edge of Reading to employment and leisure spending opportunities within the Borough.
Potential Cumulative / Synergistic Effects	In the long term, there is potential for positive cumulative effects on air quality and landscape through the development of schemes improving landscape settings and improving air quality. There are also potential positive effects on population, health, and economy and employment. There is potential for negative cumulative effects upon biodiversity and natural capital through the loss of habitats as a result of land take and other potential direct or indirect effects during construction.							

Mitigation and Enhancement Measures	SA2: Where possible, brownfield land should be used for development. Additionally, circular economies should be implemented within development to minimise waste.
Recommendations	It is recommended that cycle and active travel facilities are made accessible, including for the use of hand cycles. The development of infrastructure should be developed in line with DfT's Cycle Infrastructure Design Local Transport Note 1/20[1] to ensure minimum widths to allow all bikes, including adapted bicycles, to utilise routes safely. Design should consider the inclusion of green infrastructure, providing benefits across green infrastructure, water quality, and flood risk.

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Wokingham Borough Council

Local Transport Plan 4 Sustainability Appraisal

Appendix B – Scoping Report Statutory Consultee Consultation Comments

September 2023

Wokingham Borough Council

Local Transport Plan 4 Sustainability Appraisal

Appendix B – Scoping Report Statutory Consultee Consultation Comments

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Date: September 2023

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Prepared by	Charlotte Town			
Signature				
Checked by	Helen Kemm / Katie Dean			
Signature				
Authorised by	Mabel Munoz-Devesa			
Signature				
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Report number				
File reference				

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Statutory Consultee Scoping Report Consultation Comments

Table B-1 - Consultation Responses on Wokingham LTP4 Scoping Report

Consultee	Comment	WSP Response	Where addressed?
Historic England	Broadly we support the policy context and baseline information presented, with the following minor caveats and clarifications.	Noted. No action required.	N/A
	In Table 4-1 - key messages from the policy review - the first and final bullet points on the historic environment would benefit from a little tweaking, without affecting the essence of the points being made. We suggest wording for consideration, noting the importance of heritage significance and potentially simplify the final bullet: "Conserve and enhance the significance of nationally and locally designated cultural and heritage assets as well as those which are undesignated." "Ensure that transport development within historic areas or near to historic buildings and places respects their character and context, and does not detract from the quality of the built environment."	WSP have amended the wording of Table 4-1 to reflect this comment.	Scoping Report (Appendix C to the SA Report)
	Table 5-4 focuses on biodiversity, flora and fauna issues and opportunities. We suggest recognition that the natural environment and historic environment often overlap and, as a result, there are benefits where appropriate of considering them together in a more holistic way. Possible wording of a sustainability issue: "The natural environment and the historic environment often overlap. Consideration should be given to the importance and role of heritage and character when considering landscape."	WSP have considered this comment and the enhancements the natural environment/biodiversity can bring to the historic environment when assessing the LTP4 and Action Plan.	N/A
	Possible wording of a sustainability opportunity, editing an existing bullet: "LTP4 presents opportunities to be strategic in the enhancement of biodiversity at the landscape scale, which has the potential to deliver heritage benefits too."	WSP have considered this comment and natural environment/biodiversity enhancements to heritage assets when assessing the LTP4 and Action Plan.	N/A
	On page 38, I am not sure how helpful it is to state exact numbers of listed buildings within key towns. Might this be edited to refer more generally to the places where there is a concentration of designated heritage assets, while also adding the qualitative aspect e.g. noting if there are focal points for highly designated assets (such as GI and GII* listed buildings, GI and GII* Registered Parks and Gardens and Scheduled Monuments). The current baseline should refer to Registered Parks and Gardens (RPGs). Also, note that RPGs are graded in the same way as Listed Buildings. This detail should be added to Figure A-4.	Page 38 has been amended to reflect the changes proposed. Reference to listed buildings has been amended, with inclusion of RPGs. RPGs are also included on Figure A-4.	Scoping Report (Appendix C to the SA Report)
	In Table 5-12, as WSP will be aware, the setting of components of the historic environment can include various aspects. This need not be made explicit in the scoping report, but we assume this will feature as appropriate in related work e.g. linked with noise, not solely visual impacts. Also, we suggest adding a bullet on enhancing access to heritage as a sustainability opportunity. While this may be covered by the opening bullet on enhancing the understanding and appreciation of assets, the example given suggests a different focus to that element. An additional bullet could simply be: "Improving access and accessibility to heritage assets."	WSP have included the additional bullet within Table 5-12. This has also been carried forward into the main SA Report and decision making criteria.	Scoping Report (Appendix C to the SA Report), SA Report - Section 4.3

	While the text is relatively clear on designated heritage assets, it is not as clear on non-designated heritage assets (NDHAs). We suggest adding a short paragraph on NDHAs to the current baseline text, including appropriate reference to any Local List(s) and the local Historic Environment Record.	WSP have investigated non-designated heritage assets as part of the baseline investigation into Wokingham's historic environment. All relevant historic assets have been included within the baseline.	Scoping Report (Appendix C to the SA Report)
	We broadly support the objectives put forward, including those relevant to heritage - in particular "To protect and enhance the Borough's historic environment, including heritage resources, historic buildings, historic landscapes and archaeological features."	Noted. No action required.	N/A
	We note that the Scoping Report does not include a draft decision-making criteria and infer the intention is to develop relevant criteria as part of the next steps undertaken. As a result, it is not yet clear that the approach to assessing potential heritage impacts is appropriate; but we look forward to further engagement as plans for the SA progress. Clearly, careful consideration will be needed on the criteria used to test draft proposals/policies against the objective.	WSP have developed a decision making criteria as part of the SA process and have referred to this throughout the assessment of the LTP4 and Action Plan.	SA Report - Section 4.3
	When assessing schemes, we emphasise the importance of an approach centred on the significance of heritage assets (rather than solely based on proximity to assets) and encourage early engagement with the Council's conservation team and archaeological advisers, and for that engagement to be continued throughout preparation of the SA.	WSP have considered the significance of heritage assets throughout their assessment of the LTP4.	SA Report, Appendix A, Appendix D
Natural England	Natural England agrees with the scope of the SEA and has no further comments to make on this SEA scoping report for the Local Transport Plan 4. However, we refer you to the advice in the attached annex which covers the issues and opportunities that should be considered when preparing a Neighbourhood Plan.	Noted. No action required.	N/A
Environment Agency	N/A	The Environment Agency were contacted for consultation response on the Wokingham Borough Council LTP4 Scoping Report but no response was received.	N/A

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Wokingham Borough Council

Local Transport Plan 4
Sustainability Appraisal

Appendix C - Scoping Report, SEA Policy Review and Baseline Information

May 2023

Wokingham Borough Council

Local Transport Plan 4 Sustainability Appraisal

Appendix C - Scoping Report, SEA Policy Review and Baseline Information

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Date: May 2023

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Signature				
Authorised by	Dan Hyde	Jo North/Will Pratt		
Signature				
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Appendices

1 Introduction

1.1 Background

1.1.1. Wokingham Borough Council (WBC) are currently preparing their Fourth Local Transport Plan (LTP4) that will primarily focus on the period from 2024. This will replace the existing Wokingham Local Transport Plan 3 (LTP3)[1], which was adopted in 2011.

1.1.2. Wokingham Borough is located in Berkshire in the south of England, covering 179km^2. The Borough has higher car ownership than the national average. The transport network includes the M4, three A-roads and six railway stations which serve a total of five railway routes connecting Wokingham to other parts of the South East.

1.1.3. The road network in Wokingham Borough experiences high volumes of vehicular traffic. Car travel is the primary means of transport for many local journeys in the Borough. As of 2016, Wokingham Borough had limited electricity charging infrastructure (with 6 publicly accessible charging points), however in 2022 WBC received a grant for new charging infrastructure at 19 locations within the Borough, 12 of which will be located within residential areas[2].

1.1.4. The rail routes within the Borough provide services to Reading, London Waterloo, and Gatwick Airport, as well as stations throughout the Borough. The railways reach capacity during peak times, causing issues with congestion and unreliable journey times.

1.1.5. The Borough is rural in nature and the public transport network is dispersed, disconnected and unreliable limiting accessibility to areas and services. Bus services are particularly limited in the evenings and at weekends.

1.1.6. In the WBC area, in 2020, 18% of the total highway network was made up of Public Rights of Way (PRoW)[3][4]. The routes are well used throughout the Borough. Issues with the routes include limited information, accessibility for wheelchairs and pushchairs, seasonal restrictions, maintenance, and personal safety concerns.

[1] Wokingham Borough Council, Local Transport Plan 2011-2026 [online] Available at: https://www.wokingham.gov.uk/council-and-meetings/open-data/plans-policies-and-strategies/?assetdet91f252ff-550d-4cfa-a838-92ef2cb5f83c=210332&categoryesctl91f252ff-550d-4cfa-a838-92ef2cb5f83c=7749

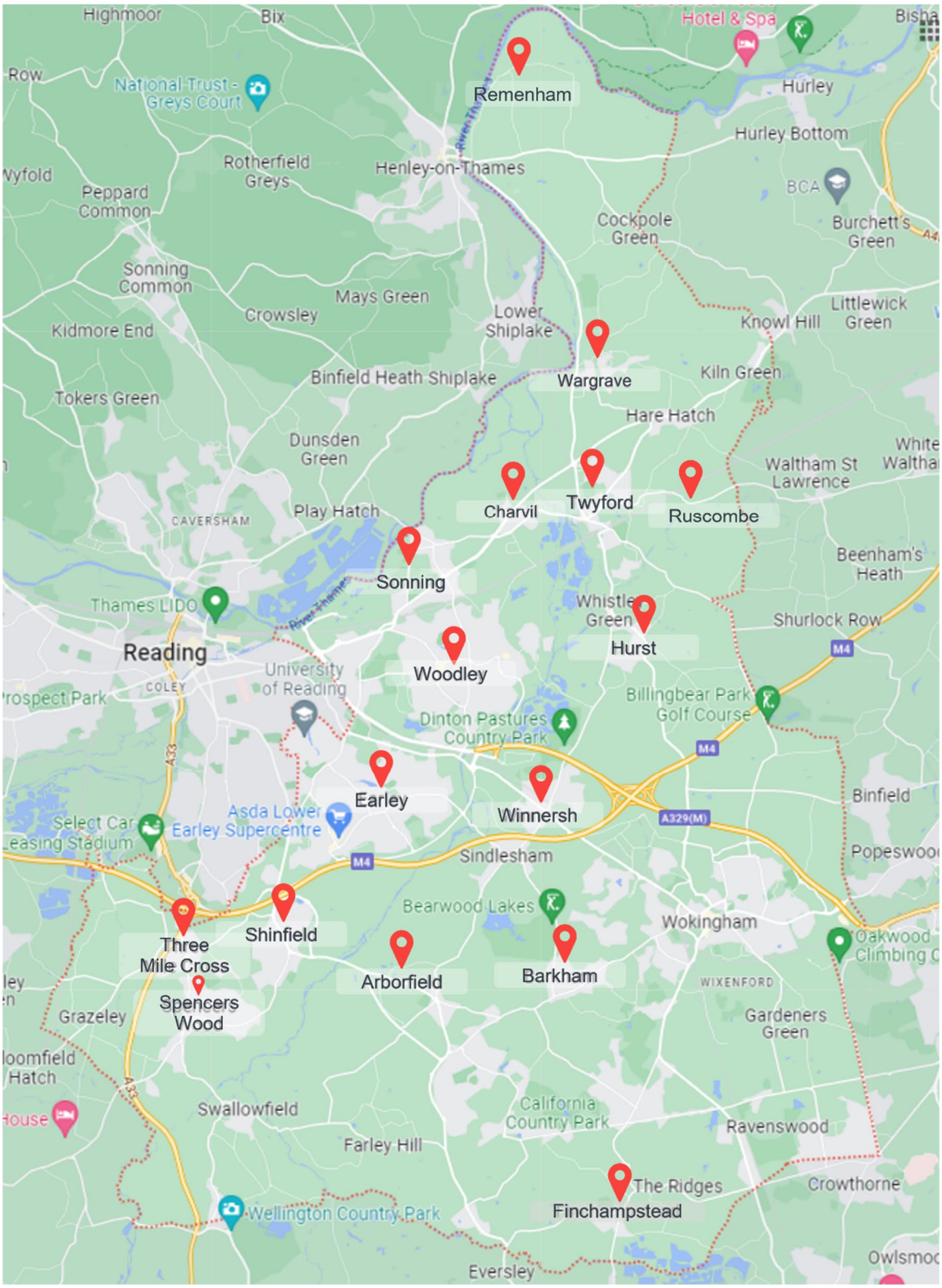
[2] Wokingham Borough Council (2022) Locations Confirmed for new Electric Vehicle Chargers. Available at: https://news.wokingham.gov.uk/news/locations-confirmed-new-electric-vehicle-chargers/

[3] Wokingham Borough Council (2020). 'Rights of Way Improvement Plan 2020 – 2030'. Available at: https://www.wokingham.gov.uk/countryside-parks-and-conservation/footpaths-and-bridleways/public-rights-of-way-improvement-plan/

[4] Wokingham Borough Council (2020). 'Strategic Roads and Highways Map.' Available at: https://wokingham.maps.arcgis.com/apps/MapJournal/index.html?appid=b0a1cb1052f74527b89ed96d9e2145f6

1.1.7. The LTP4 will apply to transport systems, assets and resources within WBC's administrative boundary, incorporating the towns and parishes of Arborfield, Barkham, Charvil, Earley, Finchampstead, Hurst, Sonning, Remenham, Ruscombe, Shinfield, Twyford, Wargrave, Three Mile Cross, Winnersh, Spencers Wood, and Woodley, shown in **Figure 1-1**.

Figure 1-1 - Towns and parishes of WBC



1.2 Local Transport Plans

1.2.1. The Government's 1998 White Paper on transport, 'A New Deal for Transport: Better for Everyone'[5], introduced the concept of Local Transport Plans (LTPs) to steer the development of national transport policies at the local level. The Transport Act 2000[6] (now amended by the Local Transport Act 2008[7]) then made it a statutory requirement for local transport authorities outside of London to produce LTPs having regard to Government guidance and policies on the environment.

1.2.2. The more recent Local Transport Act 2008[7] gave local authorities the freedom to decide for themselves how many years future LTPs should cover, including the option to set different time spans for the Strategy and implementation plan elements of the LTP.

1.2.3. The Local Transport Act 2008[7] makes particular reference to climate change mitigation and adaptation, but states that authorities should consider how their strategies and implementation plans relate to all relevant environmental issues, including air quality, noise, landscape and biodiversity.

1.2.4. The Department for Transport (DfT) are currently updating LTP guidance. This guidance will set out how local areas will deliver quantifiable carbon reductions in transport, considering the different requirements of different areas. New guidance is due to be published in 2023 along with additional standalone quantifiable carbon reductions (QCR) guidance. When used as a part of the LTP development process, the QCR guidance will help local authorities make long term, evidence-based plans for local transport by considering the carbon impacts at a strategic planning stage[8].

1.3 Purpose of this Report

1.3.1. WBC has commissioned WSP to undertake a Sustainability Appraisal (SA) that incorporates the requirement of a Strategic Environmental Assessment (SEA) of the LTP4. The SA will ensure that sustainability aspects are incorporated into the LTP4 and that the LTP4 aligns with the upcoming LTP guidance, including QCR guidance.

1.3.2. This Scoping Report sets out the first stage of the SA process, known as Scoping. The purpose of this stage is to set out proposals for conducting the SA, through:

[5] Department for Transport, A new deal for transport: better for everyone - White Paper, 1998 [online] available at:https://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/about/strategy/whitepapers/previous/anewdealfortransportbetterfo5695
[6] Transport Act 2000 [online] available at: https://www.legislation.gov.uk/ukpga/2000/38/introduction
[7] Local Transport Act 2008 [online] available at: https://www.legislation.gov.uk/ukpga/2008/26/contents
[8] Department for Transport, Transport decarbonisation: local authority toolkit [online] available at: https://www.gov.uk/government/collections/transport-decarbonisation-local-authority-toolkit

- Introducing the Local Transport Plan and this Scoping Report (**Section 1**);
- Identifying likely options for delivery of the Local Transport Plan (**Section 2**);
- Presenting the methodology and framework for undertaking the SA (**Section 3**);
- Reviewing relevant legislation, plans, and programmes baseline (**Section 4**);
- Identifying key issues and opportunities for the LTP4, reflecting for example the increased pressure of development on the natural environment or the beneficial health effects of active travel (**Section 5**);
- Identifying Sustainability Objectives to feed into an overall framework for appraisal of options (**Section 6**); and
- Setting out next steps (**Section 7**).

1.3.3. The Scoping Report also provides baseline information on the environmental, social and economic characteristics of the area, including the likely evolution of the baseline position which would occur without the LTP4.

2 Transport Plan

2.1 Introduction

2.1.1. The current WBC LTP3 and associated Strategic Environmental Assessment (SEA) were approved in 2011.

2.1.2. WBC's LTP3 is applicable between 2011-2026 and requires a refresh to ensure that the overarching Strategy and policy statements remain consistent with the emerging Local Plan and to reflect a changed policy, funding and transport scheme delivery environment since 2011.

2.1.3. The updated LTP4 will require a SA to assess any significant effects and identify mitigation and monitoring for effects. The SEA completed for the LTP3 will be used as a basis for the LTP4 SEA update, where possible.

2.1.4. The emerging LTP4 will provide the key mechanism for expressing how transport interventions will help WBC will achieve its vision and Strategic Objectives.

2.1.5. The LTP4 will provide a strategy for the development of implementation plans; the first will be a short term action plan (expected 3 years), with further revisions of specific policies within the implementation plans during the life of the LTP4.

2.1.6. The LTP4 will comprise two elements, the Long Term 'Strategy' and the 'Implementation Plan'.

2.2 The Strategy

2.2.1. The LTP4 will take a place-based approach to addressing local problems and opportunities. Four different Places types have been identified:

- Wokingham Town;
- Woodley / Earley / Shinfield;
- Rural North; and
- Rural South Areas.

2.2.1. The LTP4 will describe how these individual places function and consider appropriate themes for these distinct areas.

2.2.2. Draft vision themes for the LTP4 have been formulated. These include:

- Connect people and places;
- Reduce emissions from transport;
- Enable sustainable and inclusive economic growth; and
- Create liveable, healthy and safe places.

2.2.3. As part of the development of the LTP4, a number of objectives and outcomes are being developed from evidence, principles consultation and national/regional targets.

2.3 The Implementation Plan

2.3.1. The Implementation Plan will set out how the Strategy will be implemented, identifying what interventions are required and options available which could achieve the WBC's objectives. It will set out issues and proposals for each of the identified place types within Wokingham Borough.

3 Approach to the Sustainability Appraisal

3.1 Introduction

3.1.1. The SEA/Sustainability Appraisal (SA) process is carried out during the preparation of local plans and spatial development strategies. Its role is to promote sustainable development by assessing the extent to which emerging plans will help to achieve relevant environmental, economic and social objectives.

3.1.2. SEA is used to describe the application of environmental assessment to plans and programmes in accordance with the "Environmental Assessment of Plans and Programmes Regulations" (SI 2004/1633, known as the SEA Regulations)[9].

3.1.3. An SEA is mandatory for plans and programmes which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste or water management, telecommunications, tourism, town and country planning or land use, and which set the framework for future development consent of projects listed in the Town and Country Planning (Environmental Impact Assessment) Regulations[10].

3.1.4. SEA only considers the environmental effects of a plan, whilst SA considers a plan's wider economic and social effects in addition to its potential environmental impacts. It is obligatory that SAs meet all of the requirements of the SEA Regulations.

3.2 Sustainability Appraisal

3.2.1. SA is an iterative process of gathering data and evidence, assessment of environmental, economic, and social effects, developing mitigation and monitoring measures, and making recommendations to refine plans or programmes in view of the predicted environmental, economic, and social effects.

3.2.2. The approach adopted for the SA of the LTP4 follows that set out in the Practical Guide to SEA[11] and the Planning Practice Guidance to SEA and SA[12]. It involves the development of an assessment framework comprising a series of sustainability objectives, assessment criteria and indicators. This framework is developed from an understanding of environmental

[9] SI 2004 No. 1633, The Environmental Assessment of Plans and Programmes Regulations 2004 [online] available at: http://www.legislation.gov.uk/uksi/2004/1633/pdfs/uksi_20041633_en.pdf
[10] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 [online] Available at: http://www.legislation.gov.uk/uksi/2017/571/introduction/made
[11] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive. [online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf
[12] Department for Communities and Local Government (2015) Strategic environmental assessment and sustainability appraisal. [online] Available at: http://planningguidance.communities.gov.uk/blog/guidance/strategic-environmental-assessment-and-sustainability-appraisal/

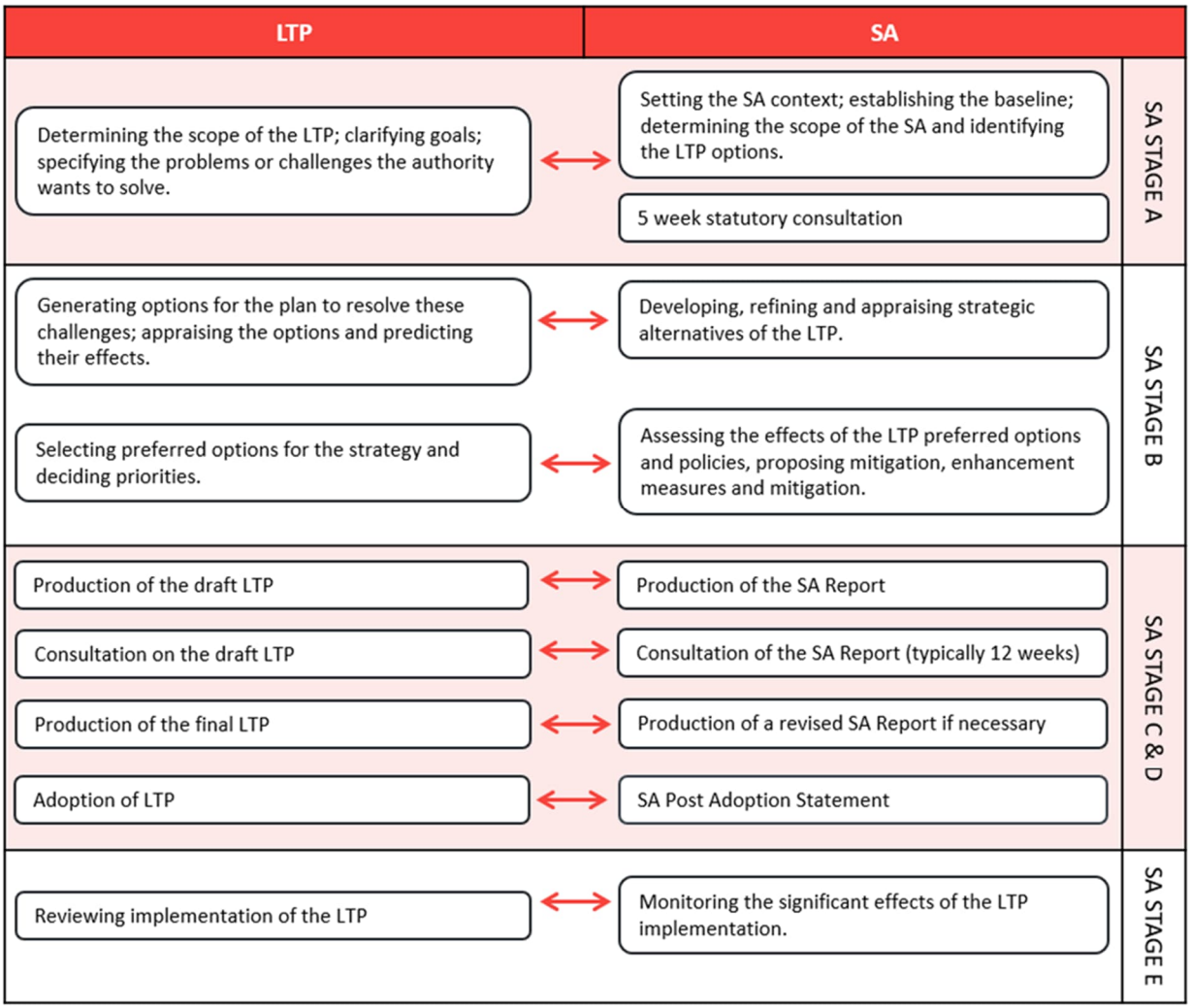
problems and opportunities. These are identified through a review of existing baseline information and a review of other plans, programmes and environmental protection objectives relevant to the plan area (i.e. Wokingham Borough) and subject matter (transport).

3.2.3. The key stages of the SEA process are:

- **Stage A**: Setting the context and objectives, establishing the baseline and deciding on scope (this stage);
- **Stage B**: Developing and refining strategic alternatives and assessing their effects;
- **Stage C**: Preparing the SA Report;
- **Stage D**: Consulting on the draft plan or programme and the Environmental Report; and
- **Stage E**: Monitoring the significant effects of implementing the plan or programme on the environment.

3.2.4. The stages of the SA process and their interactions with the LTP process are shown in **Figure 3-1**.

Figure 3-1 - SA and LTP Stages



3.3 Relationship With Other Processes

Habitats Regulations Assessment (HRA)

3.3.1. Under the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended) ('The Habitats Regulations')[13] a duty is placed upon 'Competent Authorities' to consider the potential for effects upon sites of European importance identified by the Regulations, prior to granting consent for projects or plans. Following the UK's exit from the EU, The Conservation of Habitats and Species Regulations 2017 were amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[14]. As advised by national governments in the UK, the Habitats Regulations remain in force, including the general provisions for the protection of European sites and the procedural requirements to undertake HRA to assess the implications of plans or projects for European sites. The changes made were only those necessary to ensure that they remain operable now that the UK has left the EU.

3.3.2. Regulation 63 of the Habitats Regulations defines the procedure for the assessment of the implications of plans or projects on European Sites. Under this Regulation, if a proposed development is unconnected with site management and is likely to significantly affect the designated site, the competent authority must undertake an 'Appropriate Assessment'. According to the Habitats Regulations the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be).

3.3.3. Guidance on the Habitats Directive (European Commission, 2000)[15] sets out the stepped approach which should be followed to enable Competent Authorities to discharge their duties under the Habitats Directive and provides further clarity on the interpretation of Articles 6 (3) and 6 (4). The process used is usually summarised in four distinct stages of assessment. As set out in Regulation 3 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, where Natura 2000 sites are referenced in previously issued guidance this should be interpreted as relating to the national site network but does not otherwise affect guidance as it applied before EU exit day.

3.3.4. The stages of a HRA are:

[13] UK Government (2017) The Conservation of Habitats and Species Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents/made
[14] UK Government (2019) The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111176573
[15] European Commission (2000) Habitats Directive. Available at: https://ec.europa.eu/environment/nature/natura2000/index_en.htm

- Stage 1: Screening: the process which identifies whether effects upon a Natura 2000 site of a plan or project are possible, either alone or in combination with other plans or projects and considers whether these effects are likely to be significant.
- Stage 2: Appropriate Assessment: the detailed consideration of the effect on the integrity of the Natura 2000 site of the plan or project, either alone or in combination with other plans or projects, with respect to the site's conservation objectives and its structure and function.
- Stage 3: Assessment of alternative solutions: the process which examines alternative ways of achieving the objectives of the plan or project that avoid adverse effects on the integrity of the Natura 2000 site.
- Stage 4: Assessment where no alternative solutions exist and where adverse effects remain: an assessment of whether the development is necessary for Imperative Reasons of Overriding Public Importance (IROPI) and, if so, of the compensatory measures needed to maintain the overall coherence of the Natura 2000 network.

3.3.5. The first stage of the Habitats Regulations Assessment (screening) as well as subsequent stages where required, will be undertaken as the LTP4 develops. Pre-screening will be conducted by WSP to establish the scope, which will need to be agreed with Natural England. Information from the HRA relating to European sites and potential impacts on them can be used within the SA.

Equalities Impact Assessment

3.3.6. An Equalities Impact Assessment (EqIA) will be undertaken as part of preparing the LTP4. Under the Equalities Act 2010, public bodies have a duty to assess the impact of their policies on different population groups to ensure that discrimination does not take place and, where possible, to promote equality of opportunity.

3.3.7. The EqIA process focuses on assessing and recording the likely equalities effects as a result of a policy, project or plan. It seeks to ensure that the policy, project or plan does not discriminate or disadvantage people and enables consideration of how equality can be improved or promoted. The equality duty came into force in April 2011 and covers the following nine Personal Protected Characteristics:

- Age;
- Disability;
- Gender;
- Gender reassignment;
- Marriage and civil partnership;
- Pregnancy and maternity;
- Race;
- Religion or belief; and
- Sexual orientation.

Health Impact Assessment

3.3.8. HIA is a process to identify the likely health effects of plans, policies or developments and to implement measures to avoid negative impacts and promote opportunities to maximise the benefits. There is no formally adopted methodology for HIA although there is a body of practice and guidance at a policy level. Assessment of health can be undertaken as a discrete process within an HIA and can also be embedded within environmental assessments.

3.3.9. HIA is not a statutory requirement of the Local Transport Plan preparation process. However, Planning Practice Guidance states that 'Local planning authorities should ensure that health and wellbeing and health infrastructure are considered in local and neighbourhood plans and in planning decision making'.

3.3.10. HIAs can be done at any stage in the development process but are best done at the earliest stage possible.

3.4 Transport for the South East

3.4.1. Transport for the South East (TfSE) is a sub-national transport body for the South East of England. It brings together 16 local transport authorities, of which WBC is one, and a range of wider stakeholders. TfSE is dedicated to creating an integrated and sustainable transport system that makes the South East more productive and competitive, improves the quality of life for all residents giving access to opportunity whilst protecting and enhancing the unique natural and built environment. TfSE's vision is for the South East to be a leading global region for:

- net-zero carbon;
- sustainable economic growth where integrated transport, digital and energy networks have delivered a step change in connectivity; and
- environmental quality.

3.4.2. TfSE's Transport Strategy for the South East[16] provides a strategy for a more connected, productive and sustainable transport network in the south east. The Covid-19 pandemic saw significant behavioural changes, with more individuals working from home, increased use of online retail, and individuals seeking greater access to open space. To understand and consider the impact of the pandemic TfSE released a Covid-19 recovery scenarios report documenting rising inequality, technological and behavioural change, the importance of

[16] Transport Strategy for the South East June 2020. https://transportforthesoutheast.org.uk/app/uploads/2020/09/TfSE-transport-strategy.pdf

polycentricity and a new relationship with London[17]. The report's purpose was to help consider and adapt to the changes brought about as a result of the pandemic.

3.4.3. In 2023 TfSE released a Strategic Investment Plan[18] which sets out a vison for the region with priorities to decarbonise the transport system, level up left behind communities, and facilitate sustainable economic growth in the south east. It includes nearly 300 multi-modal transport interventions to be implemented between now and 2050.

3.4.4. Alongside other sub national transport bodies such as England Economic Heartland and Transport East, TfSE has also been working with local transport authorities across the three regions to provide support to deliver on commitments in the Government's Bus Back Better strategy. This has included looking at fares and ticketing, and integration of rural hubs as well as alternative fuels. TfSE is also developing an electric vehicle (EV) charging infrastructure strategy linking with the DfT National EV Infrastructure Strategy.

[17] Covid-19 recovery scenarios: Opportunities for a more prosperous and sustainable South East. January 2021 https://transportforthesoutheast.org.uk/app/uploads/2021/03/Covid-recovery-scenarios-key-insights.pdf [accessed March2023]

[18] A Strategic Investment Plan for the South East March 2023. https://transportforthesoutheast.org.uk/app/uploads/2023/03/SIP-1.pdf

4 Policy Context

4.1.1. To establish a clear scope for the SA, it is necessary to review and develop an understanding of the environmental, social and economic objectives contained within international, national and regional legislation, policies and plans that are of relevance to the LTP4.

4.1.2. The SEA Regulations require information on:

- *"An outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes."* (Schedule 2, Paragraph 1); and
- *"The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation."* (Schedule 2, Paragraph 5).

4.1.3. The review process ensures that the SA complies with existing international, national, regional and local governance. The DfT's emerging guidance for LTPs, due to be released in 2023, will be considered as part of the review. The process entails identifying and reviewing those environmental protection objectives that are directly relevant to both the LTP4 and the SA.

4.1.4. The Scoping task of identifying related legislation, policies and plans cannot yield an exhaustive or definitive list. Therefore, the review has been focussed to ensure that only policies that are current and of direct relevance to the LTP4 and sustainability are included.

4.1.5. A detailed outline of the policy documents, objectives and targets reviewed is set out in **Table B-1** in **Appendix B**. **Table 4-1** outlines the key messages from the policy review. The review provides the context for the SA and helps to inform a SA Framework of objectives which will guide the subsequent appraisal process.

4.1.6. Due to the overlapping content of policies and plans, some of the SA topics in **Table 4-1** have been combined. Therefore, the SA topics in Chapter 5 of this Scoping Report are not exactly the same as those listed in **Table 4-1**.

Table 4-1 - Key Messages from Policy Review

SA Topic	Key Messages from Review
Natural Resources and Waste	There is a need to: ■ Facilitate the sustainable use of minerals, considering any mitigation measures proposed; ■ Maintain and enhance geodiversity through the management of sites, areas and wider landscapes; and ■ Encourage a circular economy.
Soils	There is a need to:

SA Topic	Key Messages from Review
	▪ Minimise impacts on soil quality, considering any mitigation measures proposed; ▪ Protect the Best and Most Versatile Land; and ▪ Consider land stability in respect of new development; and encourage a circular economy.
Biodiversity and Natural Capital	There is a need to: ▪ Identify opportunities for green infrastructure provision, recognising the multiple functions that green infrastructure provides to the area and linking into regional and national green infrastructure networks; ▪ Protect and enhance biodiversity, including designated sites, priority species, habitats and ecological networks; ▪ Minimise the impact on biodiversity and ensure net gain wherever possible; ▪ Maintain and enhance ecosystems and their services; and ▪ Improve the long-term sustainability of ecological and physical processes that underpin the functioning of ecosystems.
Air Quality	There is a need to: ▪ Ensure that air quality is maintained or enhanced and that emissions of air pollutants are kept to a minimum.
Climate Change	There is a need to: ▪ Take all practical steps to mitigate climate change, while adapting to reduce its impact. ▪ Avoid increased vulnerability to the range of impacts arising from climate change. ▪ Reduce emissions of greenhouse gases that may cause climate change; and ▪ Increase energy efficiency and move towards a low carbon economy.
Noise	▪ Development must be undertaken in accordance with statutory requirements for noise. ▪ There is a need to promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.
Landscape and Townscape	There is a need to: ▪ New developments should not have adverse impacts on the quality of the natural and built environment; ▪ Protect and enhance the quality and distinctiveness of natural landscapes in ways that allow them to continue to evolve; and ▪ Provide greater access to greenspace, to help reconnect people to nature.
Historic Environment	There is a need to: ▪ Conserve and enhance the significance of nationally and locally designated cultural and historical assets as well as those which are undesignated; ▪ Enhance the beauty of the natural scenery and improve its environmental value while being sensitive to considerations of its heritage; ▪ Encourage engagement with the historic environment; and

SA Topic	Key Messages from Review
	▪ Ensure that transport development within, adjacent, or in close proximity to, historic areas or historic buildings, respects their character and context, and does not detract from the quality of the built environment.
Water Environment	There is a need to: ▪ Protect and enhance surface and groundwater quality and ensure that water quality is improved or maintained where possible; ▪ Avoid development in areas prone to flooding; ▪ Water resources in the county are under increasing pressure from a rapidly growing population, climate change and environmental needs; ▪ Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest flood risk; and ▪ Any 'essential infrastructure' proposed to be located in Flood Zone 3a or 3b should be designed and constructed to remain operational and safe for users in times of flood.
Population and Equalities	There is a need to: ▪ Reduce inequalities in care (both physical and mental) across and within communities; ▪ Ensure fair and equal access to services and support irrespective of race, religion, sex, age, income, sexual orientation, disability, gender reassignment, marriage and civil partnership or pregnancy/maternity; ▪ Plan for an aging population with complex needs, which will require inputs from all parts of the health and social case system; ▪ Ensure that there are appropriate facilities for people with disabilities and the elderly; ▪ Transport is a key factor shaping experiences of poverty. The ability of households in poverty to find paid work often depends on access to affordable, regular and reliable transport; and ▪ The delivery of new developments should not be of detriment to the interests of existing communities.
Human Health	There is a need to: ▪ Promote healthy standards of living; ▪ Prioritise walking, cycling and use of public transport; and enhance accessibility to key community facilities, services and employment; ▪ Good placemaking is linked to a wider set of positive social, economic and environmental outcomes. ▪ Twenty-minute neighbourhoods can provide effective way to create healthy and active communities whilst improving equality, inclusion and help tackle climate change; ▪ Regular physical activity provides a range of physical and mental health and social benefit; ▪ The Covid-19 pandemic will have significant consequences for people's health outcomes in the short and longer term. There is a need to level-up in the wake of the pandemic to create a level playing field for both life and job opportunities; ▪ Transport plays a key role in improving access to health services particularly for vulnerable groups.
Economy	There is a need to:

SA Topic	Key Messages from Review
	■ Promote a low carbon economy; ■ Support the sustainable growth and expansion of businesses particularly within the science, research and innovation sectors; ■ Ensure that housing growth requirements are accommodated in the most sustainable way, whilst also delivering a mix of high-quality housing of varying size and tenure to meet local needs; ■ Deliver increased economic growth and decreased emissions; ■ The National Planning Policy Framework (NPPF) states that planning policies should recognise and address the specific locational requirements of different sectors. This includes making provision for clusters or networks of knowledge, and data-driven, high technology industries in suitably accessible locations; ■ Working with businesses and infrastructure owners is necessary to develop proposals that meet the needs of the freight and logistics sector; and ■ Continued investment in the transport infrastructure is an essential part of post-pandemic economic recovery.
Crime and Disorder	There is a need to: ■ Continue to improve safety by investing in the road network, both to prevent incidents from occurring and to reduce the severity of those that do; ■ Reduce crime and the fear of crime, as well as encourage reporting; and ■ Safety is an important consideration for road users owing to the significant impact of serious and fatal accidents.
Transport and Accessibility	There is a need to: ■ Improve sustainable transport modes (public and active); ■ Ensure transport access to all social groups, including those with disabilities and the elderly; ■ Rural populations and ■ Provide access to employment, leisure, retail and education facilities.

5 Baseline, Sustainability Issues and Opportunities

5.1 Introduction

5.1.1. This section sets out the sustainability policy context; baseline and any future trends regardless of the implementation of the LTP4. It identifies key issues for sustainability in relation to the LTP4. This information can then be used to develop an appraisal framework in Section 4.

5.1.2. The applicable sustainable policy context for each sub-section is included in **Appendix B**.

5.2 Natural Capital and Ecosystem Services

5.2.1. Natural capital is a term used to describe those elements of the natural environment that provide benefits for humans (also known as ecosystem services), including food, water, recreation and clean air and water. Some ecosystem services fall across a number of sustainability topics, for example, recreational and aesthetic value services could be considered under the Health and Biodiversity, Landscape and Townscape, and Water Environment topics, amongst others. Biodiversity (the variety of life on Earth) is a fundamental component of natural capital, and underpins the provision of ecosystem services, for example pollination, recreational, and water, soil, disease and pest regulation services.

5.2.2. A natural capital approach is therefore useful for understanding the inter-dependencies between nature, people, the economy and society, and ensuring that natural capital is considered as an integrated system. It provides a framework for incorporating the value of nature into decision-making and revealing the cost of its degradation. Degradation of natural capital (including biodiversity loss) has an adverse effect on the benefits that humanity receives from the natural environment such as flood risk reduction, food, water provision and energy production. As such, this represents an overarching topic to frame the rest of the SA.

Summary of Baseline and Future Trends

Current Baseline

5.2.3. The UK National Ecosystem Assessment (UK NEA) (2014) revealed that the loss, fragmentation and deterioration of natural habitat in the UK since the 1940s has caused a decline in the provision of many ecosystem services, and that this declining trend is containing. Though not the key cause, transport networks have nevertheless contributed to this decline; however, they also have the potential to improve ecosystem service delivery.

5.2.4. In 2011, the Government stated, through Commitment 32 of the Natural Environment White Paper, that it would “work with its transport agencies and key delivery partners to contribute to the creation of coherent and resilient ecological networks”. In response to this, Natural England published a report in 2014 investigating how land within or adjacent to transport

corridors (the 'soft estate') can be used or enhanced for green infrastructure that delivers biodiversity gain, ecological connectivity and ecosystem services[19].

5.2.5. A £3 million pilot project followed in 2015-2017, drawing together Natural England, National Highways, Network Rail, and Nature Improvement Area (NIA) partnerships in northern England[20]. The aim of the pilot was to ensure that transport corridors not only accommodate more wildlife (especially pollinators), but to benefit transport users and the wider public by making infrastructure more resilient to the growing impacts of climate change, such as increased flooding and winter storms.

5.2.6. Its findings and recommendations have helped influence the recent Varley review into Network Rail lineside vegetation management, the establishment of the Linear Infrastructure Network (LINet), and Natural England's work on developing an ongoing impact within National Highways and with the Office of Road and Rail (ORR), and a similar approach is desired for transport corridors across the country.

5.2.7. The Office for National Statistics (ONS) has produced national level natural capital accounts. These show that carbon sequestration by woodlands in England was valued at £2 billion in 2020. Additionally, air pollution removal in 2020 was valued at approximately £2.4 billion.

5.2.8. The value of recreation and tourism (based on the number of hours people spend outside in the natural environment) has also been estimated for the UK. In 2019, this was valued at £12.4 billion, with associated health benefits valued at £5.5 billion. This is an increase on previous years due to increased expenditure in urban, woodland and coastal habitats.

Future Trends

5.2.9. The declining trend in the provision of many ecosystem services reported in the UK NEA is expected to continue – in part due to the continuing deterioration, loss and fragmentation of habitats, as reported in the national 'State of Nature' report 2019[21].

5.2.10. Further development to address the needs of the SE's growing population – in combination with a changing climate – has the potential to further fragment and deteriorate the region's ecosystems, impacting on natural capital and its ability to provide ecosystem services.

[19] Davies, H., Frandsen, M. & Hockridge, B (2014). 'NEWP32 Transport green corridors: literature review, options appraisal and opportunity mapping'. Natural England Commissioned Reports, Number 168. Available at: http://publications.naturalengland.org.uk/publication/5752930789490688
[20] Natural England, Defra and Highways England (2014). 'Greener Transport Network to provide highways for Wildlife'. Available at: https://www.gov.uk/government/news/greener-transport-network-to-provide-highways-for-wildlife
[21] Royal Society for the Protection of Birds (2019). 'The State of Nature Reporting'. Available at: https://www.rspb.org.uk/our-work/state-of-nature-report/

5.2.11. An increase in the number of private vehicles on the roads and associated increases in noise pollution, air pollution, and contamination surface water run-off, could restrict the ability of existing roadside habitats (including trees) to reduce these impacts.

5.2.12. However, there is also an increasing trend amongst governments and businesses to be "Future Ready", which includes addressing issues surrounding biodiversity, resource use, and climate change.

Issues and Opportunities

5.2.13. The following issues and opportunities have been identified in **Table 5-1**.

Table 5-1 - Natural Capital and Ecosystem Services Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ New transport routes will need to be carefully planned so that they do not cause adverse effects on ecosystems with high (potential) ecosystem service provision. Given that ecosystem services are the benefits that nature provides to people, areas of high (potential) provision are often the green and blue spaces close to centres of population, as well as connecting habitats that link these with more remote designated habitats and landscapes. ▪ As transport corridors are typically linear, ensuring the connectivity of ecosystems is both an issue and an opportunity for the Transport Strategy. There is scope to focus on redevelopment of existing assets rather than build new, to focus development away from areas of high biodiversity and ecosystem service provision, and to enhance the quality of the transport 'soft estate' alongside existing and new transport corridors to improve habitat connectivity. ▪ Human health and quality of life can be improved by taking a natural capital approach to the Transport Strategy. For example, improving the quality of habitats (including tree planting, sowing wildflower mix rather than amenity grassland to improve biodiversity) alongside walking and cycling routes can help encourage more active lifestyles with benefits for people's physical and mental health and wellbeing. Views of vegetation from other modes of transport (e.g. along roads and railways) can also enhance mental wellbeing, for example by reducing stress levels. ▪ Enhancing the quality of transport 'soft estate' can also help improve the resilience of the transport network to future climate change, for example by reducing flood risk and providing shading and cooling benefits.	▪ Enhancing the quality of transport 'soft estate' can also help improve the resilience of the transport network to future climate change, for example by reducing flood risk and providing shading and cooling benefits. ▪ Human health and quality of life can be improved by taking a natural capital approach to the Transport Plan. ▪ Views of vegetation from other modes of transport (e.g. along roads and railways) can also enhance mental wellbeing, for example by reducing stress levels. ▪ There is scope to encourage the redevelopment of existing assets as well as build new, to focus development away from areas of high biodiversity and ecosystem service provision, and to enhance the quality of the transport 'soft estate' alongside existing and new transport corridors or to improve habitat connectivity.

5.3 Materials and Waste

Summary of Baseline and Future Trends

Current Baseline

Materials and Minerals

5.3.1. Construction and operation of new or improved transport infrastructure can lead to the use of materials and generation of waste. The transport of waste and materials can also lead to indirect effects from traffic such as congestion, air pollution and noise.

5.3.2. The distribution of mineral reserves across the UK is not even. Wokingham Borough is underlain by the following bedrock geology[22]:

- Chalk Formations (in the north);
- Lambeth Group – Clay and Sand (in the north);
- London Clay Formation (in the middle and south); and
- Bagshot Formation – Sand (in the south).

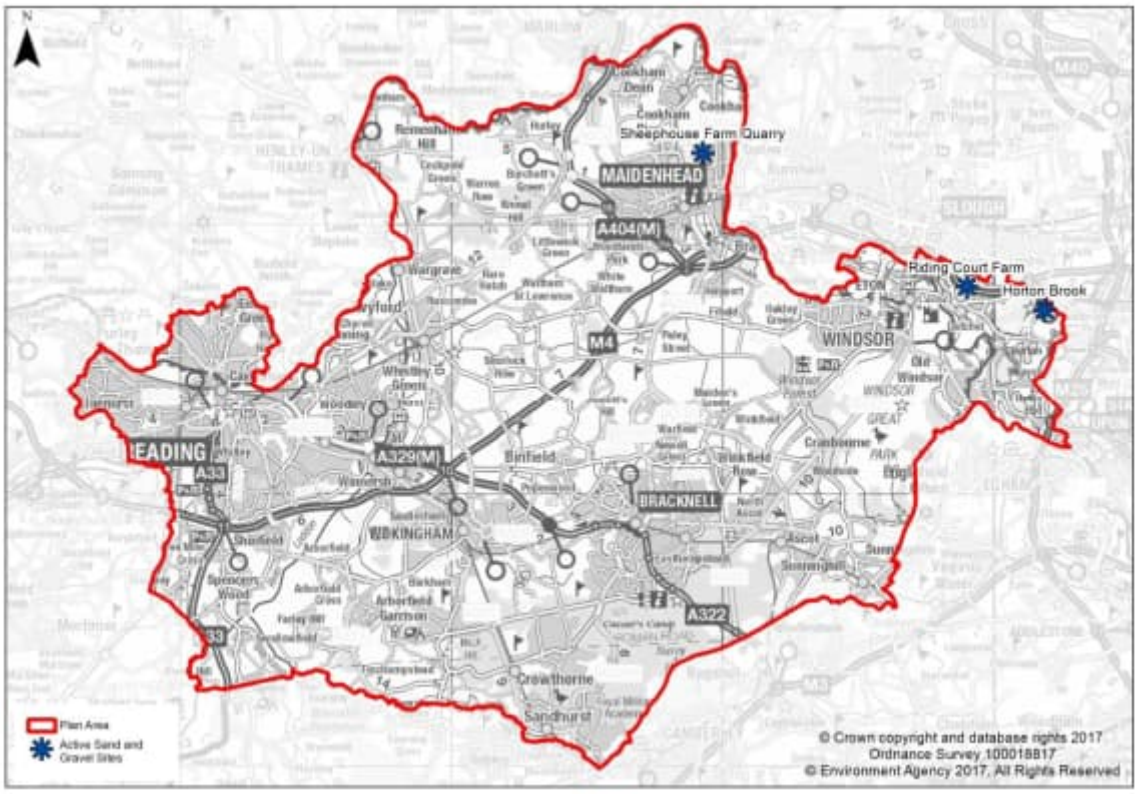
5.3.3. The superficial geology within Wokingham Borough consists of the following[22]:

- Alluvium;
- Clay with Flint;
- River Terrace Deposit; and
- Sand and Gravel.

5.3.4. There are three active quarries located within Central Eastern Berkshire, shown in **Appendix A**.

[22] Central and Eastern Berkshire (2018). 'Local Aggregate Assessment'. Available at: https://www.wokingham.gov.uk/planning-policy/planning-policy-information/minerals-and-waste/

Figure 5-1 - Location of active quarries in Central Eastern Berkshire, 2017[24]



Waste

5.3.5. The following waste management facilities are located within Wokingham Borough[23] (See **Figure 5-2**):

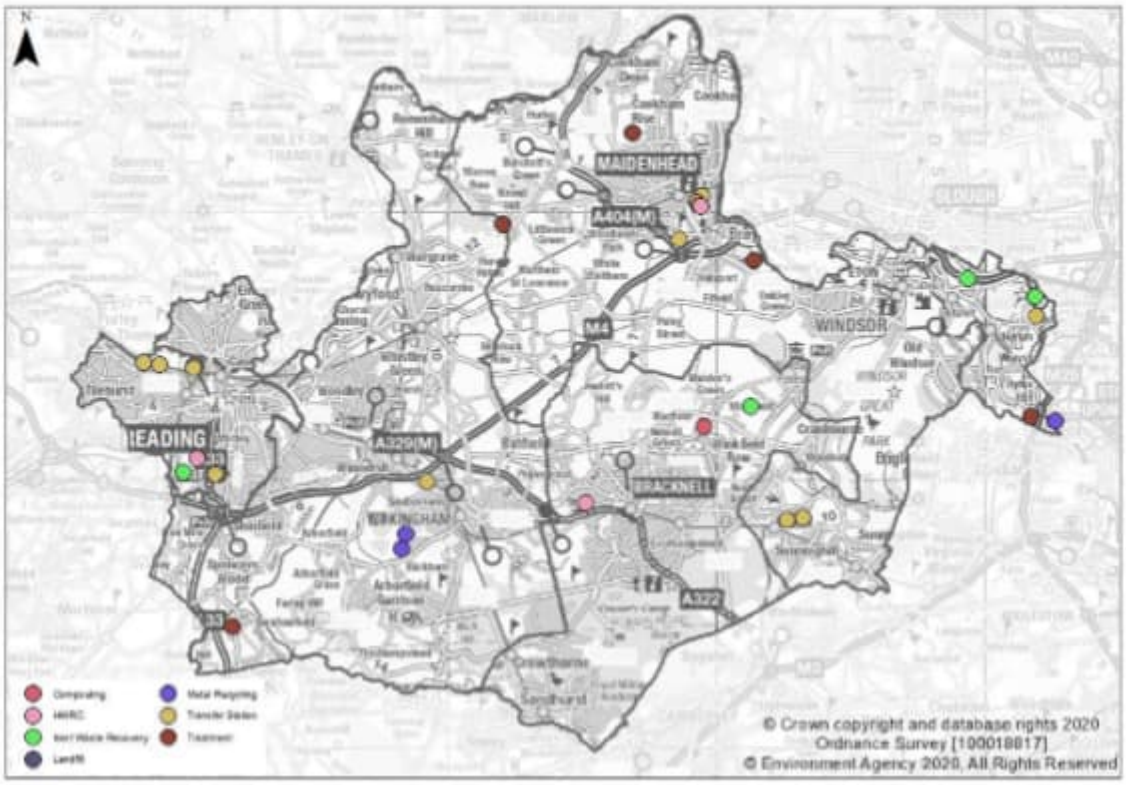
- One end of life vehicles;
- One waste transfer station;
- Two metal recovery facilities; and
- Two water waste treatment works.

5.3.6. Inert waste has the highest arisings from the waste streams in CEB with non-hazardous waste having the second highest arisings in CEB.

5.3.7. There are nine Preferred Waste Areas within Wokingham Borough outlined within the Joint Minerals and Waste Plan[23]. These areas present opportunities for the development of sites for waste management.

[23] Central and Eastern Berkshire (2023) Joint Minerals and Waste Plan (Adopted January 2023). Available at: https://www.wokingham.gov.uk/planning-policy/planning-policy-information/minerals-and-waste/

Figure 5-2 - Location of waste management facilities in Central and Eastern Berkshire[24]



Future Trends

5.3.8. Predicted infrastructure projects within CEB are anticipated to place significant demands on aggregate supply within CEB. As such, CEB needs to maintain a sufficient aggregate landbank and encourage recycled and secondary aggregate sites to supply future demand.

5.3.9. Regarding provisions of sand and gravel, there is anticipated to be a total additional requirement of 7,639,000 tonnes required up to 2036. As CEB is reliant on imports, sources for this supply will need to be met elsewhere, however due to sand and gravel constraints in Berkshire, Hampshire and Surrey future supply may need to be considered from alternative sources.

[24] Central and Eastern Berkshire (2020 Proposed Submission). 'Waste: Background Study'. Available at: https://documents.hants.gov.uk/environment/Regulation19-ProposedSubmissionConsultation-JCEBWasteBackgroundStudy-ProposedSubmission.pdf

5.3.10. With a growing population and increased development (see **Section 5.12**) the potential for generating waste is increasing. There is a need to apply resource efficiency and waste management to limit the amounts of waste generated.

Issues and Opportunities

5.3.11. The following issues and opportunities have been identified in **Table 5-2** below.

Table 5-2 – Materials and Waste Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ New transport infrastructure can lead to use of minerals and other materials, in addition to generating waste. The transport of waste and materials can lead to indirect effects from traffic such as congestion, air pollution and noise. ▪ There is a reliance upon the road network to transport materials, and it is unlikely that this will change; and ▪ Increasing population of the County is likely to generate more waste which requires transportation. Construction of new transport infrastructure also has the potential to generate waste.	▪ Resource efficiency is important in the reduction of waste and conservation of resources. ▪ The LTP4 could promote opportunities to support a circular economy. ▪ Materials, including minerals, will be required in any new transport infrastructure schemes. The application of resource efficiency including use of recycled materials is important for reducing waste. There is also significant capacity for increasing the levels of recycled and secondary aggregate production used for transport infrastructure.

5.4 Soils

Summary of Baseline and Future Trends

Current Baseline

5.4.1. The UK has over 700 different soil types arising from a diverse array of geological deposits. There are six soil groups within Wokingham Borough, which can be loosely related to the geology. These are as follows[25]:

- Argillic Brown Earths;
- Podzols/Brown Sands;
- Gley-Podzols;
- Argillic Gley Soils; and
- Stagnogley Soils.

[25] LUC (2019). 'Wokingham Borough Landscape Character Assessment'. Available at: https://www.google.com/url?client=internal-element-cse&cx=008624316100129476043:osi-gdj83g0&q=https://www.wokingham.gov.uk/_resources/assets/attachment/full/0/508875.pdf&sa=U&ved=2ahUKEwiYmovzh6DtAhVDQkEAHYXNCDUQFjAAegQIABAC&usg=AOvVaw26wPfDSZTQf2_BCVbJKlij

5.4.2. Agricultural Land Classification (ALC) is a system used in England and Wales to grade the quality of land for agricultural us. It is graded by the extent by which physical or chemical characteristics impose long-term limitations and is graded as follows:

- Grade 1 – Excellent;
- Grade 2 – Very Good
- Grade 3a – Good
- Grade 3b – Moderate
- Grade 4 – Poor
- Grade 5 – Very Poor

5.4.3. Grades 1, 2 and 3a are considered within the 'best and most versatile' land. Grade 3 (a and b) agricultural land is the predominant agricultural grade throughout WBC, with Grade 2 and Grade 1 predominantly found in the northern area of WBC. Grade 4 agricultural land is threaded throughout WBC (**Appendix A**).

5.4.4. Approximately 25% of the land area in Wokingham Borough is built up, the remainder is predominantly agriculture and woodland but also present to varying degrees are other types of land use associated with the urban fringe[25].

Future Trends

5.4.5. Economic growth and rising population within the county will undoubtedly place additional pressures upon agricultural land; it is likely that land for development will become more of a premium and intensify competition for land amongst developers. Development on greenfield sites prevents their use for agriculture. New transport developments need to consider optimised use of brownfield sites, or agricultural land which is of lower grade (Grades 3b to 5) and minimise severance wherever possible, particularly when unlocking land for future development.

Issues and Opportunities

5.4.6. The following issues and opportunities have been identified in **Table 5-3**.

Table 5-3 – Soils Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ Soil is an important natural resource for agriculture, food production, biodiversity and archaeological and geological purposes. Acknowledgement should be given to the detrimental impacts arising from soil compaction, erosion and cumulative pollution. ▪ It is important that any future development of the transport network in WBC does not have adverse impacts or lead to the degradation of Best and Most Versatile (BMV) (grades 1 to 3) agricultural land.	▪ There's an opportunity to avoid development on some of the Borough's best and most versatile land and support the repurposing of existing infrastructure.

Sustainability Issues	Sustainability Opportunities
▪ Improvements to transport infrastructure will likely require land take; and ▪ Land should be used in the most efficient manner.	

5.5 Biodiversity, Flora and Fauna

Summary of Baseline and Future Trends

Current Baseline

5.5.1. WBC contains the following international, national, regional and local nature reserve designations, as follows[26] [27] (see **Appendix A** for more details):

- Special Protection Area (SPA): 1 (Thames Basin Heath);
- Sites of Special Scientific Interest (SSSI): 5;
- National Nature Reserve (NNRs): 5;
- Local Nature Reserves (LNR): 11[26];
- Local Geological Sites (LGS) (formerly known as Regionally Important Geological / Geomorphological Sites (RIGS)): 5;
- Local Wildlife Sites (LWS) (formerly known as Sites of Nature Conservation Importance (SNCIs)): 111;
- Biodiversity Opportunity Areas: 7; and
- Suitable Alternative Natural Greenspace (SANG): 10.

5.5.2. Within Wokingham Borough, 2,031ha of land consist of UK Habitats of Principal Importance (as of 2022)[26] .

5.5.3. There are125 priority species and 18 farmland birds listed within Wokingham Borough[28].

5.5.4. Wokingham Borough contains a range of woodland types, including 1780ha of Plantations on Ancient Woodland (PAWS) located throughout the Borough. A total of 14% of the

[26] Thames Valley Environmental Record Centre (2016). 'Biodiversity Annual Monitoring Report'. Available at: https://www.wokingham.gov.uk/planning-policy/planning-policy-information/planning-policy-supporting-information/

[27] Wokingham Borough Council (2020). 'Proposals Map'. Available at: http://www.planvu.co.uk/wbc/

[28] Wokingham Borough Councul (2022) Biodiversity Annual Monitoring Report. Available at: https://wokingham.berkshireobservatory.co.uk/wp-content/uploads/2023/02/Wokingham-Borough-Council-AMR-2021-2022.pdf

Borough is covered in woodland and as such Wokingham Borough is of county importance for its woodland resource.

5.5.5. According to the South East England Biodiversity Forum[29], the south east (which includes Wokingham Borough) is a key area for a range of priority habitat. For example, the south east holds over 40% of England's Ancient Woodland, making this important habitat for the area. The south east also holds more than 30% of England's broadleaved, mixed and yew woodland; and more than 40% of its lowland heath habitats. The low chalk and hard limestone hills of southern England show excellent examples of lowland calcareous grassland – famous for its floristic (and therefore invertebrate) richness. The south east region holds over 10% of England's lowland calcareous grassland resource.

Future Trends

5.5.6. Projected population growth (see **Section 5.12**) and industrial development are anticipated to place increasing pressure on sensitive wildlife sites within WBC[30].

5.5.7. Studies such as '*State of Nature UK'*[30] report have shown that biodiversity has been declining across the UK despite the prevalence of conservation efforts; with 41% of UK species in decline and 15% of Red List criteria species threatened with extinction or already extinct[30]. In some cases, this may be a result of the traditional approach to protecting designated areas on an individual basis, whereas perhaps a regional or county level approach may be more effective. The most important habitats (those for which the UK has a European level responsibility) also remain in relatively poor condition (71% unfavourable for the UK versus an EU average 30%). A rising population and associated need for development may cause further loss, fragmentation and degradation of habitats, causing a further decline in biodiversity.

5.5.8. Avoiding overall decline in biodiversity will be increasingly important as the population grows and development gives rise to habitat loss, severance and other impacts. Development on greenbelt land in particular is likely to encourage less sustainable travel methods (i.e. use of the private car), given these areas are likely to have limited existing transport infrastructure available. This may have knock-on effects on habitats sensitive to air quality and disturbance.

5.5.9. Biodiversity is also threatened by climate change, with changing temperatures and extreme weather events resulting in the loss, degradation and movement of species and habitats. Increased frequency and severity of summer drought will be a particular threat to

[29] South East Biodiversity Forum (2012). 'A Summary of Climate Change Risks for South East England'. Available at: https://www.arun.gov.uk/download.cfm?doc=docm93jijm4n1708.pdf&ver=1350
[30] RSPB (2019). 'State of Nature' Available at: https://nbn.org.uk/stateofnature2019/reports/

woodlands, with sensitive tree species on shallow freely draining soils in southern and eastern England being most at risk[31] .

Issues and Opportunities

5.5.10. The following issues and opportunities have been identified in **Table 5-4**.

Table 5-4 – Biodiversity, Flora and Fauna Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ Due consideration should be given to protecting and conserving WBC's biodiversity, particularly in light of the disturbance and habitat degradation that may arise from the construction of transport infrastructure and projected population increase; ▪ There are a number of statutory local, national and international sites designated for nature conservation within the country which may be affected by development, including transport infrastructure; ▪ Habitats, particularly those designated as HPI and Ancient Woodland are at risk of being lost, damage or fragmented by development, including transport infrastructure; ▪ Species, including Species of Principal Importance and protected species, may also be affected by construction and operation of new infrastructure, both directly and indirectly; and ▪ Biodiversity may be lost as the end result of development of new infrastructure resulting from the LTP4.	▪ LTP4 presents opportunities to be strategic in the enhancement of biodiversity at the landscape scale. ▪ The LTP4 presents opportunities to achieve biodiversity net gain (BNG) through the development of its policies and schemes. ▪ There is scope to encourage the redevelopment of existing assets as well as build new, to focus development away from areas of high biodiversity and ecosystem service provision, and to enhance the quality of the transport 'soft estate' alongside existing and new transport corridors to improve habitat connectivity. ▪ Enhancing biodiversity can also help improve the resilience of the transport network to future climate change, for example by reducing flood risk and providing shading and cooling benefits. ▪ Human health and quality of life can be improved by improving biodiversity. ▪ Views of vegetation during travel (e.g. along roads and railways) can also enhance mental wellbeing, for example by reducing stress levels. ▪ The LTP4 presents opportunities to be strategic in the landscape scale across the corridors (and, once the interventions are defined, also in relation to any necessary offsets beyond the boundary of specific developments). Existing biodiversity Opportunity Areas (Natural England) can be combined with priorities for wider ecosystem services benefits to deliver landscape wide environment gain for biodiversity and people.

[31] The Woodland Trust (2011). 'The State of the UK's Forests, Woods and Trees'. Available at: https://www.woodlandtrust.org.uk/publications/2011/11/state-of-uk-forests/

5.6 Air Quality

Summary of Baseline and Future Trends

Current Baseline

5.6.1. The major source of air quality pollution in WBC is road transport, specifically the M4. The pollutant identified as being a main concern is nitrogen dioxide (NO_2).

5.6.2. Three AQMA's are located within WBC as presented in **Table 5-5**[32] [33]. All AQMA's are declared for exceedances of NO_2 with all cases associated with traffic. Details of the current AQMA's are presented in **Appendix A.**

Table 5-5 – Air Quality Monitoring Areas

Name	Location
Wokingham AQMA (and M4 AQMA)	An area encompassing properties along the M4 Motorway and along part of the A329 where it passes under the M4.
Twyford Crossroads	An area extending along roads from High Street, Wargrave Road, London Road and Church Street.
Wokingham Town Centre	An area incorporating areas of Wokingham including Reading Road, Station Road, Shute End, Broad Street, Denmark Street, Peach Street, London Road and Seaford Road.

5.6.3. The NO_2 levels in Wokingham Borough have shown a decreasing trend since 2016[33].

5.6.4. Within WBC, the average $PM_{2.5}$ level is 10.13 with a maximum level of 11.98[33]. 0.81% of $PM_{2.5}$ is produced by road and transport, the remaining 99.19% is produced by other factors (such as rail, industry, domestic etc.). No $PM_{2.5}$ or PM_{10} monitoring is undertaken outside of the AQMA's in WBC[33].

5.6.5. The number of vehicles in WBC has been increasing, albeit usage of each individual vehicle falling.

[32] Defra (2022). 'Local Authority Details Wokingham Borough Council'. Available at: https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=318

[33] Wokingham Borough Council (2022). '2022 Air Quality Annual Status Report (ASR)'. Available at: https://www.woking.gov.uk/sites/default/files/documents/environmental-services/pollution/Woking%20Air%20Quality%20Report_2022_Final.pdf

Future Trends

5.6.6. Predicted increase in the use of cleaner vehicles has potential to improve air quality in the future, and improving the health, wellbeing and quality of life of residents of Wokingham Borough (see **Sections 3.11** and **3.12**).

Issues and Opportunities

5.6.7. The following issues and opportunities have been identified in **Table 5-4**.

Table 5-6 – Air Quality Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ Within WBC, AQMA's are predominantly associated with transport sources and emissions. Potential adverse impacts affecting human health and the wider surrounding environment arising from transport sources will need to be given appropriate consideration. ▪ Where AQMAs are declared, due consideration of transport associated measures should be given to address their declaration; ▪ Addressing local problems associated with PM_{10}, $PM_{2.5}$, NO_x and NO_2 emissions to reduce air pollution; and ▪ Although changes in technology mean that vehicles are producing fewer emissions, the number of vehicles on roads is expected to increase. This has the potential to affect air quality and as a consequence, human health, natural capital, and ecological sites.	▪ Ensuring that air quality continues to improve across WBC. ▪ There is the potential that improved transport links will facilitate traffic flows, reduce idling times and thus improving air quality locally. However, an improved highway network could also result in increased usage, thus increasing emissions. ▪ The UK Government's plan to end the sale of all new conventional petrol and diesel cars and vans by 2030 and support for work and home-based electric charging facilities, will promote use of hybrid and electric vehicles, with positive effects for air quality. ▪ The UK Government's commitment to end diesel haulage on the rail network by 2040 and introduce at least 4,000 more zero emission buses. ▪ Uptake of technological advances such as autonomous vehicles. These have the potential to further reduce emissions through reduction in the stop start nature of traffic, opening up the possibility of vehicle platooning[34]. ▪ Air quality issues across Wokingham Borough can be addressed by promoting a modal shift towards less polluting methods of transport (low carbon transport initiatives) and inclusive of active transport (e.g. cycling, walking etc.) into the LTP4 thereby leading to a higher standard of air quality. ▪

[34] Platooning is a newly developed technology referring to referring to linking up the driving of vehicles, by maintaining a distance between vehicles to increase road capacities and decrease distances between vehicles.

5.7 Climate change

Summary of Baseline and Future Trends

Current Baseline

5.7.1. WBC declared a climate emergency in July 2019 and committed to reducing the Borough carbon footprint to net carbon zero by 2030[35]. The Borough, including sectors beyond the Council's scope (e.g. the M4), currently produces 557ktCO_{2e} of carbon emissions per annum[35] . Without the inclusion of sectors beyond the Council's control, the Borough produces 388.6 ktCO_{2e} per annum.

5.7.2. Sectors beyond the Council's sphere of influence include emissions from major transport links (predominantly the M4) and diesel rail transport which are managed by National Highways and national rail companies, respectively. These sectors contribute 168.4 ktCO_{2e} to the total emissions produced in the Borough.

5.7.3. In addition to the sectors that are beyond the Council's remit, the two highest emitting areas in WBC are transport and the use of gas in the domestic sector.

5.7.4. During the most recent decade (2009-2018) the UK has been on average 0.3°C warmer than the 1981-2010 average and 0.9°C warmer than 1961-1990. All of the top ten warmest years have occurred since 2002. In the past few decades there has been an increase in annual average rainfall over the UK, for which the most recent decade (2009–2018) has been on average 5% wetter than 1961–1990 and 1% wetter than 1981-2010[36].

Future Trends

5.7.5. WBC has committed to reducing the Borough's carbon footprint to net zero carbon by 2030. However, projected population increase (**Section 5.12**) and development within the Borough is anticipated to increase carbon dioxide emissions.

5.7.6. Carbon off-setting/Sequestration is anticipated to increase throughout the Borough to help negate carbon emissions.

[35] Wokingham Borough Council (2022). 'Climate emergency Action Plan'. Available at: https://www.wokingham.gov.uk/council-and-meetings/open-data/climate-emergency/#:~:text=Progress%20report%202022,net%20carbon%20zero%20by%202030.
[36] Met Office, UK Climate Projections: Headline Findings, 2022, [online] Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18_headline_findings_v4_aug22.pdf

5.7.7. All areas of the UK are predicted to be warmer, more so in summer than in winter, by the end of the 21st century[37]. The UKCP 18[38] predicts an increase in hotter, drier summers and warmer, wetter winters by 2070. Should the currently high greenhouse gas emissions remain unchanged or increase, hot summers are even more likely.

5.7.8. The current baseline review identifies that areas of WBC are at risk of flooding from a variety of sources. Future climate change is anticipated to exacerbate this risk through increases in the occurrence of extreme weather events and annual precipitation in the Borough.

Issues and Opportunities

5.7.9. The following issues and opportunities have been identified in **Table 5-7**.

Table 5-7 – Climate Change Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ WBC has committed to reducing the Borough's carbon footprint to net zero carbon by 2030. Transport infrastructure is one of the largest contributors to greenhouse gas emissions and must be considered accordingly before progressing future schemes; ▪ Climate change is anticipated to exacerbate flood issues across WBC putting livelihoods, dwellings, businesses and lives at risk; and ▪ The RAIN project[39] has been investigating the impact of severe meteorological occurrence on critical infrastructure across Europe. Conclusions highlighted that rail and road infrastructure were more vulnerable than power or telecommunications infrastructure since structural damage is not required for the system to fail.	▪ There is a need to plan for and implement/ facilitate climate change adaptation, in respect of rising temperatures, water scarcity and extreme weather events, particularly heavy rainfall/ flooding. ▪ There is a need to support the continued increase in infrastructure to support the demand in electric cars. ▪ Supporting climate change mitigation via promoting alternative methods of sustainable transport, and thereby limiting the contribution of transport to greenhouse gas emissions; ▪ Increasing the resilience of the local transport network to the effects of climate change; ▪ Supporting low emission fuels, infrastructure and associated technologies; ▪ Supporting green infrastructure enhancements; and ▪ The continuation of the reduction in carbon dioxide (CO_2) emissions, where appropriate, alongside limiting emissions of other greenhouse gases.

[37] Met Office (2019). 'UK Climate Projections: Headline Findings'. Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp-headline-findings-v2.pdf
[38] UKCP18 (2018). 'UKCP18 Climate Change Over Land'. Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-infographic-headline-findings-land.pdf
[39] RAIN Project (2017). 'Risk Analysis of Infrastructure Networks in Response to Extreme Weather'. Available at: http://rain-project.eu/wp-content/uploads/2015/11/D2.2-Past-Cases-final.compressed.pdf

5.8 Noise

Summary of Baseline and Future Trends

Current Baseline

5.8.1. There are 52 Noise Important Areas (NIA's) located within Wokingham Borough. These are primarily located along the M4, A3290, A329, A329M, A4 and the railway line in the north of the Borough.

5.8.2. Wokingham Borough is included in the Reading/Wokingham agglomeration[40] which also includes Bracknell Forest and West Berkshire[41]. Significantly more people are exposed to road noise than railway noise, with the M4 and the A329(M) being the major sources of noise in the Borough[42]. **Table 5-8** and **Table 5-9** present the estimated number of people exposed to various noise levels from roads and railways respectively.

Table 5-8 – The estimated number of people exposed to various noise levels due to roads within the Reading/Wokingham agglomeration[41]

Noise Level (Lden) (dB)	Number of People
≥55	127,000
≥60	53,000
≥65	27,000
≥70	10,000
≥75	<500

Table 5-9 – The estimated number of people exposed to various noise levels due to railways within the Reading/Wokingham agglomeration[41]

Noise Level (Lden) (dB)	Number of People
≥55	14,000

[40] "An agglomeration is an area with a population of more than 100,000 people; for major roads with more than 3,00,000 vehicle passages per year, and for major railways with more than 30,000 train movements per year,"
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[41] Defra (2019). 'Noise Action Plan: Agglomerations (Urban Areas). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/813776/noise-action-plan-2019-agglomerations-appendix.pdf

[42] Wokingham Borough Council (2018). 'Creating the right environments for health'. Available at: https://wokingham.moderngov.co.uk/documents/s25901/Wokingham%20Borough%20Council%20Annual%20Report.pdf

≥60	7,000
≥65	3,000
≥70	1,000
≥75	<500

5.8.3. For 3.9% of Wokingham Borough residents, transport noise is above the 65dB daytime limit, rising to 11.3% for the night time limit 55dB limit[41].

Future Trends

5.8.4. Given the projections for an increasing population in the Borough, and the popular use of cars as the main mode of transport, it is likely that noise levels will increase along major roads. In addition, the increased population is likely to place pressure on public transport methods such as rail and buses. Increased number of services of those public transport would lead to similar increases in noise levels along road and rail networks.

5.8.5. An increase in development is also likely to cause an increase in construction noise in areas within the Borough, although this will be temporary in nature.

Issues and Opportunities

5.8.6. The following issues and opportunities have been identified in **Table 5-10**.

Table 5-10 – Noise Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ Transport noise may adversely impact sleep, health and wellbeing as well as disturb wildlife and there is potential for an increase in noise levels in the NIAs in Wokingham Borough; and ▪ The natural environment, particularly tranquil areas, may experience an increase in transport-related noise pollution.	▪ There exists an opportunity to reforecast the understanding of transport noise profiles and exposure. This could account for the benefits from low-noise electrified road vehicles and reactions to climate change. A plan could be developed from this that accounts for the future and realises benefits for Wokingham Borough.

5.9 Landscape and Townscape

Summary of Baseline and Future Trends

Current Baseline

Landscape Designations

5.9.1. Landscape character is defined as:

‘*a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse’.*

5.9.2. WBC is located within three National Character Areas (NCA), these are the following[43]:

- 110 – The Chilterns NCA: '*The countryside is a patchwork of mixed agriculture with woodland, set within hedged boundaries. The extensively wooded and farmed Chilterns landscape is underlain by chalk bedrock that rises up from the London Basin to form a north-west facing escarpment offering long views over the adjacent vales. From the vales, the River Thames breaches the escarpment in the south at the Goring Gap and flows on past riverside towns such as Henley. Small streams flow on chalk down some of the dip slope valleys or from the scarp foot, passing through numerous settlements'*;
- 115 – Thames Valley: '*The Thames Valley is mainly low-lying, wedge-shaped area, widening from Reading...The River Thames provides a unifying feature through a very diverse landscape of urban and suburban settlements, infrastructure networks, fragmented agricultural land, historic parks, commons, woodland, reservoirs and extensive mineral workings. Hydrogeological features dominate the Thames Valley'*; and
- 129 – Thames Basin Heaths: '*The Thames Basin Heaths NCA stretches westwards from Weybridge in Surry to the countryside around Newbury in Berkshire…Woodland accounts for a quarter of this NCA, reflecting the predominance of low-grade agricultural land…Semi-natural habitat is extensive on the plateaux, and includes mosaics of wet and dry heathland, woodland and acid grassland.*

5.9.3. The WBC Landscape Character Assessment identifies 29 landscape characters located throughout WBC[44].

5.9.4. There are no Areas of Outstanding National Beauty within Wokingham Borough, although the Chiltern AONB is located along the northern border. There are no National Parks within the Borough[25].

Green Infrastructure

5.9.5. Wokingham Borough has numerous greenspaces available throughout the Borough. The importance of the PRoW and Green Infrastructure (GI) network is in enabling residents and visitors to access the countryside with its rich natural and cultural heritage.

5.9.6. WBC is in the process of increasing the greenways within the Borough. Greenways are routes which are free of traffic and provide multi-user routes to connect Strategic Development Locations to existing settlements. One Greenway has been delivered by WBC linking Finchampstead Baptist Centre with Arborfield Garrison.

5.9.7. There are multiple PRoW and green routes located throughout the Borough (**Appendix A**).

[43] Natural England (2020). 'National Character Area Profiles'. Available: https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles

[44] Defra (2020). 'MagicMap'. Available at: https://magic.defra.gov.uk/magicmap.aspx

Future Trends

5.9.8. Projected population increase and development within the Borough may affect the quality of the landscape character in WBC. It is critical that due consideration is given to areas of landscape importance to prevent adverse impacts arising.

5.9.9. Landscape character quality may be affected both positively and adversely by new transport infrastructure and residential developments, and the development of greenfield and unoccupied sites resulting from population pressure. Adverse impacts are more likely to occur in areas with no previous transport infrastructure, in particular woodland areas, in terms of both visual amenity and overall quality (e.g. presence of new hard engineering, landscape fragmentation, signage and other infrastructure elements of height, street lighting affecting night skies, urbanisation and widening of rural roads etc.). However, future transport infrastructure may improve accessibility to valued landscape and townscape areas; other non-road infrastructure (e.g. footpath and cycling route networks) may facilitate access with little adverse impact, while linking up with goals identified in **Sections 5.6**, **5.7,** and **5.13**.

Issues and Opportunities

5.9.10. The following issues and opportunities have been identified in **Table 5-11**.

Table 5-11 – Landscape and Townscape Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ The character and quality of Wokingham Borough's landscapes and townscapes can be eroded by the construction and operation of transport infrastructure, which may impact upon the distinctive historic character of settlements; ▪ Green Infrastructure (GI) describes the multifunctional network of green and blue spaces, landscapes, and natural elements within and between our cities, towns and villages. By connecting the centres of settlement into the surrounding landscape, GI can facilitate prosperous, active, healthy and happy communities. This network may be severed or reduced due to new transport infrastructure; and ▪ Transport infrastructure has the potential to erode and adversely affect local character and distinctiveness.	▪ The design of transport infrastructure requires a landscape-led approach to design, to ensure the best placement and integration of the proposed development into the existing landscape, especially in sensitive locations. Landscape-led designs can help contribute to the climate change agenda, health and wellbeing, and tackling pollution in all its forms (such as air, light and noise). ▪ There is potential for transport to improve access to the countryside, to promote sustainable tourism and to provide greater awareness for the UK's AONBs and other designated areas. ▪ Increasing access to the countryside, whilst increasing pressure on those resources, can bring new audiences to tourist attractions and enable better appreciation of landscapes and townscapes through creating new views and vistas, providing information and enhancing access. ▪ The incorporation of 'Future Ready' Landscape principles into landscape-led designs would help ensure transport infrastructure is designed for longevity in the 21st century, for both its people and its natural environment.

5.10 Historic Environment

Summary of Baseline and Future Trends

Current Baseline

5.10.1. There are 16 conservation areas located throughout Wokingham Borough[45]. There are a number of listed buildings located within Wokingham[46]. The highest concentration of listed buildings are located in Wokingham, Wargrave and St Nicholas, and Hurst.

5.10.2. There are four registered parks and gardens within Wokingham Borough[45].

5.10.3. There are 45 Buildings of Traditional Local Character located within Wokingham Borough[47]. There are 18 Scheduled Monuments within the Borough[44].

5.10.4. No World Heritage Sites or Registered Battlefields are present within the Borough.

5.10.5. Historic England's Heritage at Risk (HAR) programme helps to understand the overall state of England's historic sites. It identifies those sites that are most at risk of being lost as a result of neglect, decay or inappropriate development. In Wokingham Borough there are six heritage assets on the HAR register[48].

Future Trends

5.10.6. The historic environment is increasingly under threat from development pressures. In addition to loss of green infrastructure and heritage assets, new infrastructure to provide for a growing population affects visual amenity and heritage setting.

5.10.7. Protection of the historic environment is firmly embedded in national and local planning policy, and this has been the case since 1990. This policy has developed independently of the European Union and is unlikely to change during the time period covered by the LTP4.

5.10.8. However, whilst direct (physical) impacts on designated historical sites are strongly restricted, adverse effects on the setting of designated heritage assets do still occur, for example relating to visual intrusion, or aspects such as traffic, lighting and noise. This can be a sensitive planning issue.

5.10.9. One trend over the last few years which may well continue is the reduction in funding for Historic England and county and local authorities, with increased pressure on the case

[45] Wokingham Borough Council (2020). 'Listed buildings, heritage and conservation areas' Available at: https://www.wokingham.gov.uk/planning/how-to-apply-for-planning-permission/listed-buildings-heritage-and-conservation-areas/

[46] British Listed Buildings (2020). 'Listed Buildings in Wokingham'. Available at: https://britishlistedbuildings.co.uk/england/wokingham#.X84Tk9j7SM8

[47] Wokingham Borough Council (2016). 'List of Buildings of Traditional Local Character'. Available at: https://www.wokingham.gov.uk/EasySiteWeb/GatewayLink.aspx?alId=443924

[48] Historic England, Heritage At Risk Register. Available at: https://historicengland.org.uk/advice/heritage-at-risk/search-register/

workload of Archaeological Officers, Conservation Officers and Historic England advisors. This can have an impact on the response times for the provision of planning advice.

Issues and Opportunities

5.10.10. The following issues and opportunities have been identified in **Table 5-12**.

Table 5-12 – Historic Environment Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ Conserving the character of the Borough is key, particularly in light of government policy and the extent of development and pressure for continued development in the area. Transport infrastructure has the potential to erode and adversely affect local character and distinctiveness. ▪ Adverse impacts upon the setting of components of the historic environment; ▪ The impact of vehicular damage to historic structures, buildings and the fabric of the public realm in town and village centres; ▪ The impacts of vehicular pollution on historic buildings; and ▪ The impacts of ancillary features, inclusive of marked parking bays, yellow lines etc. on the historic environment.	▪ The LTP4 presents opportunities for enhancing the understanding and appreciation of the significance of above ground heritage assets. This might be achieved for example, by reducing traffic volume, visibility and noise in the vicinity of a designated heritage asset and reducing existing detrimental effects on setting. ▪ Asset enhancement has the potential to lead to an increase in tourism and associated revenue, and education opportunities associated with Wokingham's cultural heritage. ▪ Protecting and enhancing the cultural and heritage identity of Wokingham Borough. ▪ Improvement to the access and accessibility of heritage assets.

5.11 Water and flood risk

Summary of Baseline and Future Trends

Current Baseline

5.11.1. Wokingham Borough is located within the Thames river basin district (RBD). The Thames RBD covers 16,200km[49] and contains 17 management catchments[49]. The management catchments within the Borough are the Loddon and Trib, and the Thames and Chilterns South catchments[50]. There are a total of 545 water bodies within the Thames RBD of which 342 are natural, 72 are artificial and 131 are heavily modified.

[49] Defra (2015). 'Part 1: Thames river basin district River basin management plan'. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718342/Thames_RBD_Part_1_river_basin_management_plan.pdf

[50] Environment Agency (2020). 'Thames River Basin District'. Available at: https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/6

5.11.2. Significant water management issues affecting the Thames RBD are presented in **Table 5-13**.

Table 5-13 – Significant Water Management in the Thames River Basin District[49]

Water Management Issue	Percentage (%) of Water Bodies Affected
Physical modifications (e.g. flood defences)	44%
Pollution from waste water	45%
Pollution from towns, cities and transport	17%
Changes to the natural flow and level of water	12%
Negative effects of invasive non-native species	3%
Pollution from rural areas	27%

5.11.3. The main rivers within Wokingham Borough are the following:

- River Thames;
- River Loddon;
- Twyford Brook;
- Emm Brook;
- Barkham Brook; and
- River Blackwater.

5.11.4. Wokingham Borough is underlain by a principal aquifer and Chalk bedrock. There have been several instances of historical flooding which are suspected to have been caused, either in full or in part, by groundwater. Much of the Borough is susceptible to groundwater flooding, with paths and rivers being the most susceptible[51].

5.11.5. The north of the Borough around north Aston, Remenham Hill and Cockpole Green and south-east of Ruscombe are the most permeable areas in the Borough, which corresponds with the areas of overlying chalk geology. The least permeable areas in the Borough are in

[51] Halcrow Group Limited (2011). 'Wokingham Borough Council Preliminary Flood Risk Assessment'. Available at: https://www.google.com/url?client=internal-element-cse&cx=008624316100129476043:osi-gdj83g0&q=https://www.wokingham.gov.uk/EasySiteWeb/GatewayLink.aspx%3FalId%3D196557&sa=U&ved=2ahUKEwjWzbnOz53uAhUHUBUIHQNWB3MQFjAIegQIARAC&usg=AOvVaw3jiYjsJ950I3nzgjyccywr

the south-west to the centre-east of the Borough which correspond with areas of Clay geology[52].

Loddon and Trib Catchment

5.11.6. There are 22 water bodies located within the Loddon and Trib management catchment[53]. **Table 5-14** presents the ecological classification of the water bodies. All of the water bodies chemical status are classified as 'fail'.

Table 5-14 – Ecological classification of water bodies in the Loddon and Trib management catchment[53]

Ecological Status	Number of Water Bodies
Bad	1
Poor	9
Moderate	12
Good	0

5.11.7. The top three reasons for not achieving good status and reasons for deterioration within the management area are the following:

- Water Industry;
- Urban and Transport; and
- Other.

Thames and Chilterns South Catchment

5.11.8. There are 33 water bodies within the Thames and Chilterns South catchment[54]. **Table 5-15** presents the ecological classification of the water bodies. All the water bodies chemical status are classified as 'fail'.

Table 5-15 - Ecological classification of water bodies in the Thames and Chilterns South management catchment[54]

[52] WSP (2020). 'Strategic Flood Risk Assessment'. Available at: https://www.google.com/url?client=internal-element-cse&cx=008624316100129476043:osi-gdj83g0&q=https://www.wokingham.gov.uk/_resources/assets/attachment/full/0/508886.pdf&sa=U&ved=2ahUKEwjxlM7z7bTtAhXRzqQKHSVyA4EQFjAAegQIABAC&usg=AOvVaw1Ye75R0d3hym9UFpmqnDiv

[53] Environment Agency (2020). 'Loddon Trib – Summary'. Available at: https://environment.data.gov.uk/catchment-planning/ManagementCatchment/3048/Summary

[54] Environment Agency (2022) 'Thames and Chilterns South Management Catchment'. Available at: https://environment.data.gov.uk/catchment-planning/ManagementCatchment/3098

Ecological Status	Number of Water Bodies
Bad	0
Poor	10
Moderate	23
Good	0

5.11.9. The top three reasons for not achieving good status and reasons for deterioration within the management area are the following:

- Agriculture and rural land management;
- Water industry; and
- Urban and transport.

Flooding

5.11.10. There have been multiple instances of flooding within Wokingham Borough. Significant historic flooding has occurred in recent years; 1993, 2000, 2003, 2007, 2013, 2015, 2016, 2017, and 2020[52]. The majority of flooding within the Borough is in relation to surface water flooding associated with the River Loddon and the River Thames. Areas within the Borough located immediately adjacent to these rivers areas are located within Flood Zone 3[55] [56] .

5.11.11. There is a small percentage of properties within the Borough at high to medium risk of flooding, as most properties are within Flood Zone 1. Few vulnerable sites are located within areas of high flood risk; most are located within Flood Zone 2[52].

5.11.12. Data on groundwater flood risk are limited, although there are historical floods that are believed to have been caused, either in full or in part, by groundwater flooding. The WBC Flood Risk Assessment (FRA) Report[52] indicated that parts of the Borough are at risk of groundwater flooding due to the presence of underlying primary or secondary aquifers. The highly permeable Chalk in the north of the Borough and the Sand and Gravel superficial deposits scattered across the Borough have the highest risk of groundwater flooding.

[55] Wokingham Borough Council (2015). 'Local Flood Risk Management Strategy.' Available at: https://www.wokingham.gov.uk/EasySiteWeb/GatewayLink.aspx?alId=357325
[56] Gov.uk (2020). 'Likelihood of flooding in this area'. Available at: https://flood-map-for-planning.service.gov.uk/confirm-location?easting=481266&northing=168562&placeOrPostcode=wokingham

Future Trends

5.11.13. Increasing population and development within the Borough is anticipated to place strain on water resources and may lead to a decrease in water quality. Increased development and population will also increase the number and likelihood of properties being at risk of flooding.

5.11.14. Due to climate change, the peak river flow within the Thames RBD is anticipated to increase 10-25% within the next 25 years[57]. Extreme rainfall intensity is also predicted to increase by 20-40% in the next 100 years[52].

5.11.15. It is postulated that peak river flows may increase by as much as 20% by 2080, increasing the risk and frequency of river flooding. Alongside this, the south-east region is sinking, which would result in increased flood risk throughout a large portion of the region.

5.11.16. The RAIN project[58] has been investigating the impact of severe weather occurrences (refer also to **Section 5.7**) on critical infrastructure across Europe. It concludes that rail and road infrastructure is much more vulnerable than power or telecommunications infrastructure because there does not need to be structural damage for the system to fail[59]. The official estimate of the cost of river floods in England between May and July 2007 was £3.2bn. Impacts included damage and destruction by floodwater, disruption of traffic and cessation of rail services.

5.11.17. In terms of water quality, the requirements of the Water Framework Directive should lead to continued improvements to water quality in watercourses. However, water quality is also likely to continue to be affected by pollution incidents in the area, the presence of non-native species and physical modifications to water bodies.

Issues and Opportunities

5.11.18. The following issues and opportunities have been identified in **Table 5-16**.

Table 5-16 – Water and Flood Risk Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ Climate change is likely to increase the occurrence of flooding from all sources and hence raise the flood risk in Wokingham Borough, including to transport infrastructure;	▪ Upgrading existing infrastructure also provides the opportunity to improve pollution control on older drainage systems.

[57] Gov.uk (2020). 'Flood risk assessments: climate change allowances'. Available at: https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances
[58] RAIN (2017) RAIN project [online] Available at http://rain-project.eu/
[59] RAIN (2017) RAIN project [online] Available at http://rain-project.eu/wp-content/uploads/2015/11/D2.2-Past-Cases-final.compressed.pdf

Sustainability Issues	Sustainability Opportunities
■ Pollution of the water environment can occur from run-off from roads and pavements after rainfall; and ■ Increase in flood risk can occur through the loss of permeable surfaces due to new road construction.	■ New transport infrastructure could result in improved drainage, reducing surface water flooding.

5.12 Population

Summary of Baseline and Future Trends

Current Baseline

5.12.1. Wokingham Borough contains 17 parishes and covers an area of 179km^2 [60] [61] . The population of the Borough in 2021 was 178,169[62], increasing from 154,380 in 2011. In 2021, WBC's population profile showed 20% of people aged 0-14 years, 63% of people aged 15 – 64 years, and 17% of people aged 65+ years. This is in line with both the South East and England averages[63].

5.12.2. Wokingham Borough has seen a 28.2% increase in residents aged 65+, 11% increase in people aged 15-64, and 18% in people aged 0-15 years[64]. These increases, particularly with regard to population aged 65+, are in line with trends across England.

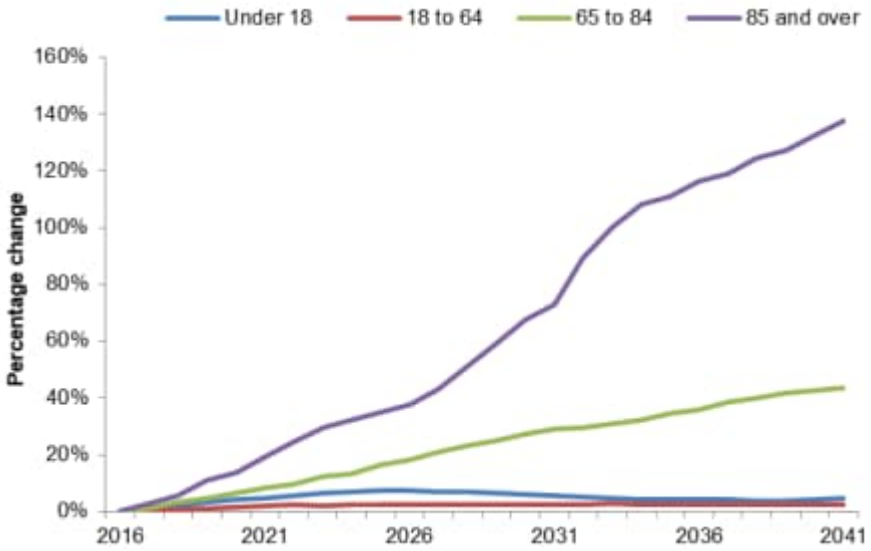
5.12.3. The National Travel Survey (2019) found that 75% of English residents aged over 17 hold a driving licence and that 76% of households have at least one car[65]. Within Wokingham Borough, 53.2% of households have two or more cars[66].

[60] Wokingham Borough Council (2021). 'Borough Statistics'. Available at: https://www.wokingham.gov.uk/community-and-safety/life-in-the-community/borough-statistics/
[61] Public Health England (2022). 'Local Authority Health Profiles'. Available at: https://fingertips.phe.org.uk/profile/health-profiles/data#page/12/gid/1938132696/pat/6/par/E12000008/ati/102/are/E06000041/cid/4
[62] Public Health England (2022). 'Wokingham'. Available at: https://fingertips.phe.org.uk/static-reports/health-profiles/2019/E06000041.html?area-name=Wokingham
[63] Wokingham Borough Council (2021) Joint Strategic Needs Assessment. Available at: https://wokingham.berkshireobservatory.co.uk/population/#/view-report/63aeddf1d7fc44b8b4dffcd868e84eac/___iaFirstFeature/G3
[64] Office for National Statistics (2022) Census 2021. Available at: https://www.ons.gov.uk/visualisations/censuspopulationchange/E06000041/
[65] Department for Transport (2020). 'National Travel Survey: England 2019'. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/906276/national-travel-survey-2019.pdf
[66] Wokingham Borough Council (2010). 'Wokingham Town Centre Masterplan Supplementary Planning Document'. Available at: https://www.google.com/url?client=internal-element-cse&cx=008624316100129476043:osi-

Future Trends

5.12.4. It is projected that the population of WBC will increase by 1% a year and reach 180,900 by 2037[64]. The population is also ageing, with the total population aged over 65 to increase from 18% in 2018 to 20% by 2027. **Figure** 5-3 presents the predicted change in resident population age groups within Wokingham Borough.

Figure 5-3 - Percentage change in resident population within Wokingham Borough from 2016 to 2041 by age group[64]



5.12.5. Within Central and East Berkshire, the objectively assessed need (OAN) is 2,902 houses per year from 2013-2036 with Wokingham Borough having an OAN of 856 houses per year.

Issues and Opportunities

5.12.6. The following issues and opportunities have been identified in **Table 5-17** – Population Issues and Opportunities.

Table 5-17 – Population Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ An ageing population for WBC is likely to place increased strain and demand on access to services, particularly healthcare, and public	▪ There are opportunities to improve access to rural areas through transport services, digital services and bring services to people.

gdj83g0&q=https://www.wokingham.gov.uk/EasySiteWeb/GatewayLink.aspx%3FalId%3D365578&sa=U&ved=2ahUKEwiTg-7r3aztAhVSOBoKHd7gBeAQFjAAegQIBBAC&usg=AOvVaw2g88IrJQboeK7wsQPtqWYt

Sustainability Issues	Sustainability Opportunities
transport. Proposed sites for strategic development will need to be accounted for when choosing potential locations for new transport infrastructure. ■ The population in Wokingham Borough is increasing there will be additional movement associated with this growth; and ■ The ageing population structure is likely to increase demand for access to services.	■ There will be a need for adequate support and greater access to services and facilities for the elderly population, families with young children and single parent families. ■ There were 3.5 million disabled people in work in 2017, with the Government aiming to increase this to 4.5 million by 2027. By helping more disabled people into work, this will enable people to reach their potential and to achieve economic independence. ■ Transport networks should promote a range of sustainable transport modes to limit the effects of congestion, economic vitality, and residents' quality of life.

5.13 Health and wellbeing

Summary of Baseline and Future Trends

Current Baseline

Health

5.13.1. Health in WBC is generally greater compared to the national average. WBC is the second least deprived local authority in England, with none of the neighbourhoods in the Borough ranking in the 20% of the most deprived areas in England[63]. However, 6.8% of children aged under 15 live in poverty. Deprivation is recognised as one of the most influential factors on a population's health, wellbeing and life expectancy.

Access to Healthcare

5.13.2. Wokingham Borough has one community hospital, 13 GP Practices and 24 pharmacies. A total of 164,433 people are registered to the GPs in the Borough and the practices are well spread throughout the Borough, however they are more accessible to those with cars than via public transport, as this is quite limited[67].

5.13.3. Wokingham Hospital is located within Wokingham Borough, however this does not have an accident and emergency (A&E) department, nor does it offer a full range of hospital services. The closest major hospital with an A&E department is the Royal Berkshire Hospital, located in Reading.

[67] Wokingham Borough Council (2020). 'Active Travel Plan, Supporting Local Transport Plan 2011-2036'. Available at: https://www.google.com/url?client=internal-element-cse&cx=008624316100129476043:osi-gdj83g0&q=http://www.wokingham.gov.uk/_resources/assets/attachment/full/0/432860.pdf&sa=U&ved=2ahUKEwjwttup5aztAhVSx4UKHfY9Aw0QFjABegQICRAB&usg=AOvVaw0IN3fb8kjy4GH14rxjZbTV Accessed: 01/12/2020.

5.13.4. Large employment centres and hospitals are the most difficult services to get to in a set amount of time in England[68]. Within England, the average journey time to a hospital with different modes of transport is shown in **Table 5-18**.

Table 5-18 – Average Mode of Transport Travel Time to Hospital[68]

Mode of Transport	Average Journey Time to Hospital
Car	20
Cycle	34
Public Transport / Walking	39

Mental Health

5.13.5. Within WBC, 9.1% of adults over 18 were reported as having depression and/or anxiety[63]. This rate is significantly lower than the national average (13.7%).

5.13.6. In Wokingham Borough, 823.9 out of 100,000 children between 15 and 19 are admitted to hospital annually for self-harm. This rate has been increasing in recent years and is significantly worse than the national average (648.6 admissions per 100,000 children per year)[61].

Mortality

5.13.7. In 2020 Wokingham Borough's most common cause of death was cancer, with 26.22 deaths per 100,000 people, followed by cardiovascular disease with 19.24 deaths per 100,000 people and liver disease with 8.08 deaths per 100,000 people[63]. The Borough's mortality rate from causes considered preventable is significantly lower than both the South East and England's averages.

5.13.8. Behavioural risk factors, such as a poor diet and smoking, are accountable for 40% of total deaths in England. These deaths are considered preventable and could be avoided through public health awareness and interventions. Smoking prevalence in Wokingham Borough in 2021 was lower than both the South East and England averages (11.9% and 13.0% respectively), at 6.7%.

5.13.9. Although Wokingham Borough's mortality rates are below the national average, there are differences within the Borough specifically with regards to more deprived areas which have a higher mortality rate[61].

[68] Department for Transport (2019). 'Journey Time Statistics England: 2017'. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/853574/journey-time-statistics-2017.pdf

Obesity

5.13.10. The rate of obesity within WBC in 2021 is slightly lower than the England average for adults (aged 18+), with 60.2% of adults classified as overweight or obese in Wokingham Borough, 62.4% in the South East and 63.5% in England[63]

5.13.11. In children (0-16 years), 21.2% are considered overweight or obese within Wokingham Borough. This is marginally lower than the South East average of 21.9% and slightly lower than the England average of 23%[63]..

5.13.12. Within WBC, only 43.9% of children and young people achieved at least 60 minutes of moderate-vigorous intensity activity per week, this is slightly lower than both the South East and England averages of 45.5% and 44.6% respectively[63].

5.13.13. In adults, only 68% achieve 150 minutes of moderate intensity physical activity per month in Wokingham Borough in 2021[63].

Life Expectancy

5.13.14. WBC has one of the highest life expectancies in England for both men and women, as indicated in **Table 5-19**.

Table 5-19 – Life Expectancy in Wokingham Borough and Nationally[63]

	Wokingham Borough (Years)	South East Average (Years)	England Average (Years)
Life Expectancy (Male)	83.3	80.1	78.7
Life Expectancy (Female)	87.8	83.7	82.6

5.13.15. However, there are inequalities in life expectancy within the Borough. Those in the most deprived areas have a lower life expectancy than those in the least deprived areas, with men having 4.5 years less and women having 5.5 years less life expectancy in deprived areas.

Access to Green Space

5.13.16. Access to green space is known to increase people's likelihood of being able to be physically active[63]. **Table 5-20** presents the hectares of land looked after by the WBC Countryside Services.

Table 5-20 – Green space coverage in Wokingham Borough[63]

Land Use	Coverage (hectares)
Country Parks	217ha

Nature Reserves	105ha
Suitable Alternative Natural Greenspace (SANG)	59ha
Total	**381ha**

5.13.17. In 2017, WBC opened the first greenway in the Borough which links Finchampstead (The FBC Centre) to the development at Aborfield Green (the former Aborfield Garrison). The aim of the greenway is to make walking and cycling more accessible to the local community[44].

Future Trends

5.13.18. The population of WBC is projected to increase it the future. The number of people aged 65 and over is also anticipated to increase to 60% of WBC's population by 2020[63]. In this context, accessibility to existing and new health and community facilities is likely to become increasingly important.

5.13.19. Wokingham Borough exhibits higher levels of life expectancy and general health compared to the national average, and therefore demographically it is in a favourable position. However, as noted above there is anticipated to be an increasing ageing population. As such, accessibility to transport networks may develop into an important issue since older generations may not have access to appropriate forms of private transport. Similarly, there are other inequalities in access to healthcare, employment and other services for other vulnerable groups.

5.13.20. Obesity is seen as an increasing issue by health professionals, and one that will contribute to significant health impacts on individuals, including increasing the risk of a range of diseases, including heart disease, diabetes and some forms of cancer. Transport planning will play a key role in encouraging active travel choices (e.g. walking and cycling) by Non-Motorised Users (NMUs) as well as accessibility to sports and recreation facilities. Continued traffic growth without adequate provision for NMU facilities is unsustainable. One element of this NMU provision will be the pedestrianisation of urban centres and removal of parking in urban centres, creating 'car free environments' promoting a safer and cleaner environment for exploitation of active transport.

5.13.21. Covid-19 has significantly impacted the movement of people, reducing the requirement for commutes, limiting access to services, and increasing avoidance of public transport. The impact of Covid-19 on transport movement is yet to be determined but alterations to people's approach to transport, specifically private transport, and the subsequent health impacts (such as increased walking commutes or more time spent sat down) should be considered.

Issues and Opportunities

5.13.22. The following issues and opportunities have been identified in **Table 5-21**.

Table 5-21 – Health and Wellbeing Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ The population of Wokingham Borough is an ageing population, transport and future mobility will need to reflect their needs; ▪ There may be inequalities in access to healthcare, jobs and other services associated with transport provision; and ▪ Active travel can play a role in reducing obesity and increasing health and wellbeing.	▪ The transport plan could present opportunities to enhance walking and cycling routes and encourage the use of non-motorised forms of transport. ▪ There will be opportunities to provide inclusive services to meet the needs of older residents. ▪ There will be opportunities to improve public transport users' confidence in returning to public transport post-Covid.

5.14 Economy and employment

Summary of Baseline and Future Trends

Current Baseline

Gross Value Added

5.14.1. Gross Value Added (GVA) is a contribution to Gross Domestic Product (GDP) made by an individual producer, industry or sector based on the value output minus the value of intermediate consumption.

5.14.2. The total GVA in Wokingham Borough is £7,612 million for the total Borough GVA being[69] . The three industries with the highest GVA in WBC are the following:

- Information and Communications (£2,817m);
- Real Estate (£929m); and
- Wholesale and Retail Trade (£656m).

5.14.3. The ONS GVA data from 2019 (balanced per head of population and income) gives values for Berkshire (which Wokingham Borough is within) £48,337 million[70]. This makes Berkshire the second highest GVA area within Berkshire, Buckinghamshire and Oxfordshire with Milton Keynes having the highest GVA in the area.

[69] Berkshire Observatory (2022). 'Wokingham'. Available at: https://wokingham.berkshireobservatory.co.uk/economy-and-employment/

[70] ONS 2019. 'Regional gross value added (balanced) per head and income components'. Available at: https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalregionalgrossvalueaddedbalancedperheadandincomecomponents

5.14.4. Wokingham Borough is within the Berkshire Local Enterprise Partnership (LEP) which aims to increase net GVA over £700m by 2021 which translated to an average growth rate of 3% per annum[71].

Employment and Skills

5.14.5. Wokingham Borough's employment rate is higher than the national average rate and is consistent with other least deprived local authority areas. In 2022, 81.4% of people aged 16-64 in Wokingham Borough were in employment, higher than both the South East (78.1%) and England (75.8%) averages.

5.14.6. Similarly, in 2022, 82.8% of WBC's population aged 16-64 were economically active[69]. This is also higher than the South East and England averages of 80.5% and 78.8% respectively. Of those who are economically inactive, the two main factors for this are being a student (40.3%) or being retired (21.4%)[72].

5.14.7. In Wokingham Borough, 2.0% of young people are not in employment, education or training which is the fourth lowest average in the South East and is low in comparison to the England average[73].

5.14.8. In 2021, 66% of employed people in Wokingham Borough are employed in roles that are one of the three highest groups in the Standard Occupation Classification (SOC2010), which is higher than the national average (see **Table 5-22**)[74].

Table 5-22 – Percentage of people in employment by occupation (2017/18)[74]

Occupation Group	Wokingham Borough	England
1. Managers, Directors and Senior	12.7%	10.8%
2. Professional Occupation	34.3%	23.9%

[71] Thames Valley Berkshire (2021). 'The Fundamentals'. Available at: http://www.thamesvalleyberkshire.co.uk/the-fundamentals

[72] Nathaniel Lichfield and Partners (2016). 'Central Berkshire FEMA Economic Development Needs Assessment'. Available at: https://www.google.com/url?client=internal-element-cse&cx=008624316100129476043:osi-gdj83g0&q=https://www.wokingham.gov.uk/EasySiteWeb/GatewayLink.aspx%3FalId%3D442713&sa=U&ved=2ahUKEwiBuuTX6qrtAhUs8-AKHVVAAigQFjAAegQIBhAB&usg=AOvVaw3f-O6gKtGRMjydBgY1gfpu

[73] Wokingham Borough Council (2022). 'Economic Sustainability Facts and Figures Update'

[74] Berkshire Observatory (2022). 'Economy and Employment Map'. Available at: https://wokingham.berkshireobservatory.co.uk/economy-and-employment/map/

3. Associate Professional and Technical	19%	15.3%

5.14.9. The areas with the highest economically active population (>5,036 – 5,897) are the following[74]:

- Hawkedon (5,897);
- and Hillside (5,349).
- Loddon (5,258); and
- Winnersh (5,257).

5.14.10. In 2021, 37% of the Borough's population travel to work by private vehicle[74] with 28% of commuting journeys from being to/from Reading[75][76].

5.14.11. Within Central Berkshire, employment space is relatively evenly split between office and industrial uses[72]. The stock of employment space in Wokingham Borough is more mixed in nature and accommodates a two-tier office market. This office market comprises a number of large-scale, high-quality business parks which operate within the 'greater Reading office market' and the town of Wokingham Borough which is a smaller and more localised office location.

5.14.12. Wokingham Borough's population are highly skilled compared to the English average, with 56.8% of the population having NVQ Level 4 qualification or above and only 3.8% of the population has no qualifications[63].

Access to Town Centres

5.14.13. Wokingham town benefits from the close proximity of the M4, as well as having strategic rail connections. However, as 53.2% of households have two or more cars there are issues in the town centre of congestion. Average parking capacity within the town centre averages 75.6% of demand, and there is consistently high demand for on-street parking[72].

5.14.14. The railway station is the primary means of access to the town centre, however the station has poor integration with other forms of public transport[72] . Public transport use within WBC is 5% lower than the national average.

5.14.15. The town centre is accessible for pedestrian users and benefits from a hierarchy of routes located throughout the centre. However, there is limited clearly indefinable cycle routes across the Borough and provision within the town centre, including storage, is poor[72].

[75] Wokingham Borough Council (2020). 'Local Transport Plan 4 Vision'. Available at: https://www.wokingham.gov.uk/parking-and-transport/transport-and-travel-passes/have-your-say-about-our-local-transport-plan/

[76] Please note, this data was gathered before Covid-19. The long-term impact of Covid-19 on commuting patterns is yet to be determined.

Access to Educational Facilities

5.14.16. Within Wokingham Borough there are 60 schools that are attended by 23,000 pupils. Of these schools, 50 are infant and primary, 8 are secondary and 2 are special schools[60].

5.14.17. During peak hours in Wokingham Borough, 10% of vehicular traffic is from the school run with one third of children travelling to school in a car in 2010[65]. A total of 48% of school pupils in the Borough walked to school, with a further 6% cycling to school. There is a notable difference in the percentage of children walking to school among primary and secondary school children with more primary children (54%) walking more than secondary school children (43%). However, both of these figures are higher than the national average of pupils walking to school.

Future Trends

5.14.18. Given uncertainties arising from leaving EU/Single Market, Covid-19 and unknown aspects such as migrant labour-force, tariffs and taxes on export/inputs it is presently unknown as to how the economic market of Wokingham Borough will change.

5.14.19. The Covid-19 pandemic has significantly altered the way people work, travel and undertake leisure activities in the short term. The long-term implications of this remain to be seen and may include greater emphasis and proportion of the work force working from home (although certain sectors will not be affected by this), hesitation to use public transport and increased active transport adoption. The decline in retail shopping and increased use of online sales will also likely see a decreased footfall in urban centres.

Issues and Opportunities

5.14.20. The following issues and opportunities have been identified in **Table 5-23**.

Table 5-23 – Economy and Employment Issues and Opportunities

Sustainability Issues	Sustainability Opportunities
▪ Economic issues linked to transport include barriers to growth, enabling greater access to well-paid and satisfying employment within a flexible labour market characterised by diversity in activity and transferable and complementary knowledge solutions. Supporting sustainable economic development which mitigates or combats the effects of climate change is a key issue. ▪ Good access to customers is important, transport infrastructure is noted as an area of improvement to enable this; and ▪ Sustaining and supporting economic growth across the country in light of the withdrawal from the EU and economic issues brought about by the Covid-19 pandemic.	▪ The impact of factors such as Brexit, Covid-19, new vehicle and energy technologies, disruptive digital technologies, changing working patterns and preferences and extreme climactic events will play a part in determining the types of transport investment which will most benefit the economy. ▪ Improved connectivity between business clusters and housing markets (both planned and existing) in the county will improve access to the skills pool as well supporting improvements in productivity.

6 Sustainability Appraisal Framework

6.1 Introduction

This section sets out the Sustainability Appraisal Framework which will be used in the assessment process.

6.2 Appraisal Framework

6.2.1. While not specifically required by the SEA Regulations, sustainability objectives are a recognised way of considering the environmental effects of a plan or programme and comparing the effects of alternatives. The objectives have been developed using the sustainability issues identified in Section 3. The objectives will be used to assess emerging policies and implementation plans from the LTP4 and identify likely sustainability effects.

Table 6-1 – Sustainability issues identified and sustainability issues

Topic	Sustainability Issues Identified	Sustainability Objective
Natural Capital and Ecosystem Services	▪ New transport routes will need to be carefully planned so that they do not cause adverse effects on ecosystems with high (potential) ecosystem services provision. Given that ecosystem services are the benefits that nature provides to people, areas of high (potential) provision are often the green and blue spaces close to centres of population, as well as connecting habitats that link these with more remote designated habitats and landscapes; ▪ As transport corridors are typically linear, ensuring the connectivity of ecosystems is both an issue and an opportunity for the Transport Strategy. There is scope to focus on redevelopment of existing assets rather than build new, to focus development away from areas of high biodiversity and ecosystem service provision, and to enhance the quality of the transport 'soft estate' alongside existing and new transport corridors in order to improve habitat connectivity; ▪ Human health and quality of life can be improved by taking a natural capital approach to the Transport Strategy. For example, improving the quality of habitats (including tree planting/wildflower planting) alongside walking and cycling routes can help encourage more active lifestyles with benefits for people's physical and mental health and wellbeing. Views of vegetation from other modes of transport (e.g. along roads and railways) can also enhance mental wellbeing, for example by reducing stress levels; and ▪ Enhancing the quality of transport 'soft estate' can also help improve the resilience of the transport network to future climate change, for example by reducing flood risk and providing shading and cooling benefits.	**SA1:** To maintain and enhance the provision of ecosystem services from the Borough's natural capital and contribute to environmental net gain.

Topic	Sustainability Issues Identified	Sustainability Objective
Materials and Waste	▪ New transport infrastructure can lead to use of minerals and other materials, in addition to generating waste. The transport of waste and materials can lead to indirect effects from traffic such as congestion, air pollution and noise; ▪ There is a reliance upon the road network to transport materials, and it is unlikely that this will change; and ▪ Increasing population of the County is likely to generate more waste which requires transportation. Construction of new transport infrastructure also has the potential to generate waste.	**SA2:** To conserve natural resources, increase resource efficiency and reduce generation and disposal of waste.
Soils	▪ Soil is an important natural resource for agriculture, food production, biodiversity and archaeological and geological purposes. Acknowledgement should be given to the detrimental impacts arising from soil compaction, erosion and cumulative pollution; ▪ It is important that any future development of the transport network in WBC does not have adverse impacts or lead to the degradation of Best and Most Versatile (BMV) (grades 1 to 3) agricultural land; ▪ Improvements to transport infrastructure will likely require land take; and ▪ Land should be used in the most efficient manner.	**SA3:** To protect soils and minimise the loss of Best and Most Versatile Land.
Biodiversity, Flora and Fauna	▪ Due consideration should be given to protecting and conserving WBC's biodiversity, particularly in light of the disturbance and habitat degradation that may arise from the construction of transport infrastructure and projected population increase; ▪ There are a number of statutory local, national and international sites designated for nature conservation within the county which may be affected by development, including transport infrastructure; ▪ Habitats, particularly those designated as HPI and Ancient Woodland are at risk of being lost, damaged or fragmented by development, including transport infrastructure; ▪ Species, including Species of Principal Importance and protected species, may also be affected by construction and operation of new infrastructure, both directly and indirectly; ▪ The LTP4 presents opportunities to be strategic in the enhancement of biodiversity at the landscape scale across the corridors (and, once the interventions are defined, also in relation to any necessary offsets beyond the boundary of specific developments). Existing Biodiversity Opportunity Areas (Natural England) can be combined with priorities for wider ecosystem service benefits to deliver landscape wide environment gain for biodiversity and people; and ▪ Biodiversity may be lost as the end result of development of new infrastructure resulting from the LTP4.	**SA4:** To protect and enhance the Borough's biodiversity, fauna and flora, including designated sites for nature conservation notable and protected species. **SA5:** Enhance the connectivity between habitats through the creation of green corridors and preservation / enhancement of the Green Infrastructure Network.
Air Quality	▪ Within WBC, AQMA's are predominantly associated with transport sources and emissions. Potential adverse impacts	**SA6:** To reduce traffic related air pollution in

Topic	Sustainability Issues Identified	Sustainability Objective
	affecting human health and the wider surrounding environment arising from transport sources will need to be given appropriate consideration; ■ Where AQMAs are declared, due consideration of transport associated measures should be given to address their declaration; ■ Addressing local problems associated with PM_{10}, $PM_{2.5}$, NO_x and NO_2 emissions to reduce air pollution; ■ There are three AQMA's located within WBC and are all declared for exceedances of Nitrogen Dioxide (NO_2) with all cases associated with traffic; and ■ Although changes in technology mean that vehicles are producing less emissions, the number of vehicles on Borough roads is expected to increase, which has the potential to affect air quality and as a consequence, human health, natural capital and ecological sites.	AQMAs where possible, and enhance air quality elsewhere in Wokingham Borough.
Climate Change	■ WBC has committed to reducing the Borough's carbon footprint to net zero carbon by 2030. Transport infrastructure is one of the largest contributors to greenhouse gas emissions and must be considered accordingly before progressing future schemes; ■ Climate change is anticipated to exacerbate flood issues across WBC putting livelihoods, dwellings, businesses and lives at risk; and ■ Road and rail infrastructure are vulnerable to power and telecommunication issues as a result of an increase in severe meteorological occurrence. This may impact services as well as, in a worst case scenario, risk human health.	**SA7:** To reduce emissions of greenhouse gases in line with WBC's net zero commitment by 2030 **SA8:** Ensure that the local transport network builds resilience to climate change.
Noise	■ Excessive noise from transport can adversely affect general health, sleep and be seen as a nuisance; ■ Transport noise may adversely impact sleep, health and wellbeing as well as disturb wildlife and there is potential for an increase in noise levels in the NIAs in Wokingham Borough; and ■ The natural environment, particularly tranquil areas, may experience an increase in transport-related noise pollution.	**SA9:** To reduce noise from transport related sources in particular, Noise Important Areas and to protect tranquil areas.
Landscape and Townscape	■ The character and quality of Wokingham Borough's landscapes and townscapes can be eroded by the construction and operation of transport infrastructure, which may impact upon the distinctive historic character of settlements; ■ Green Infrastructure (GI) describes the multifunctional network of green and blue spaces, and natural elements within and between cities, towns and villages. By connecting the centres of settlements into the surrounding landscape, GI can facilitate prosperous, active, healthy and happy communities. This network may be severed or reduced due to new transport infrastructure; and	**SA10:** To protect and where possible, enhance the quality, character and diversity of the existing landscape.

Topic	Sustainability Issues Identified	Sustainability Objective
	▪ Transport infrastructure has the potential to erode and adversely affect local character and distinctiveness.	
Historic Environment	▪ Conserving the character of the Borough is key, particularly in light of government policy and the extent of development and pressure for continued development in the area. Transport infrastructure has the potential to erode and adversely affect local character and distinctiveness. ▪ Adverse impacts upon the setting of components of the historic environment; ▪ The impact of vehicular damage to historic structures, buildings and the fabric of the public realm in town and village centres; ▪ The impacts of vehicular pollution on historic buildings; and ▪ The impacts of ancillary features, inclusive of marked parking bays, yellow lines etc. on the historic environment.	**SA11:** To protect and enhance the Borough's historic environment, including heritage resources, historic buildings, historic landscapes and archaeological features.
Water	▪ Climate change is likely to increase the occurrence of flooding from all sources and hence raise the flood risk in Wokingham Borough including to transport infrastructure; ▪ Pollution of the water environment can occur from run-off from roads and pavements after rainfall; and ▪ Increase in flood risk can occur through the loss of permeable surfaces due to new road construction.	**SA12:** To protect and where possible, enhance water quality of the county's rivers, groundwater and coast. **SA13:** To reduce vulnerability to flooding of transport infrastructure and ensure that the risk of surface water flooding is not increased.
Population	▪ An ageing population for WBC is likely to place increased strain and demand on access to services, particularly healthcare, and public transport. Proposed sites for strategic development will need to be accounted for when choosing potential locations for new transport infrastructure;The population of WBC is increasing and there will be additional movement associated with this growth; and ▪ The ageing rural population is becoming increasingly isolated, increasing the demand for access to services.	**SA14:** To increase the capacity and efficiency of the transportation network to support demographic changes, including increasing travel and sustainable modes of transport.
Health and Wellbeing	▪ The population of Wokingham Borough is an ageing population, transport and future mobility will need to reflect their needs; ▪ There may be inequalities in access to healthcare, jobs and other services associated with transport provision; and ▪ Active travel can play a role in reducing obesity and increasing health and wellbeing.	**SA15:** To improve the health and well-being of the population through access to transport, active travel and reductions in pollution.

Topic	Sustainability Issues Identified	Sustainability Objective
Economy and Employment	▪ Economic issues linked to transport include barriers to growth, enabling greater access to well-paid and satisfying employment within a flexible labour market characterised by diversity in activity and transferable and complementary knowledge solutions. Supporting sustainable economic development which mitigates or combats the effects of climate change is a key issue. ▪ Good access to customers is important, transport infrastructure is noted as an area of improvement to enable this; and ▪ Sustaining and supporting economic growth across the country in light of the withdrawal from the EU and economic issues brought about by the Covid-19 pandemic, conflict in Ukraine and other regions, and inflation pressures.	**SA16:** To sustain economic growth, enable well paid employment and competitiveness across Wokingham Borough through provision of reliable and accessible transport networks.

7 Next Steps

7.1.1. WBC will undertake a statutory consultation to seek the views of the statutory bodies (Natural England, Historic England and the Environment Agency) on the scope of the SA. WBC will also seek internal views, particularly from the Heritage and Environment team. Consultation at this stage helps to ensure that the SA provides a robust assessment of the LTP4.

7.1.2. In particular views on the following questions are welcome:

- Do you agree with the policy context and baseline information presented?
- Are there any additional sustainability issues which should be identified?
- Do you agree with sustainability objectives in **Table 6.1**?

7.1.3. Following receipt of comments, they will be reviewed and changes to the appraisal framework made as necessary. The appraisal framework will then be used to assess the Local Transport Plan (refer to Stage B of **Figure 3.1**) during the next stages of its preparation.

Appendix A

Figures

Figure A-1 - Declared AQMAs, NIAs and Active Waste Mineral Sites

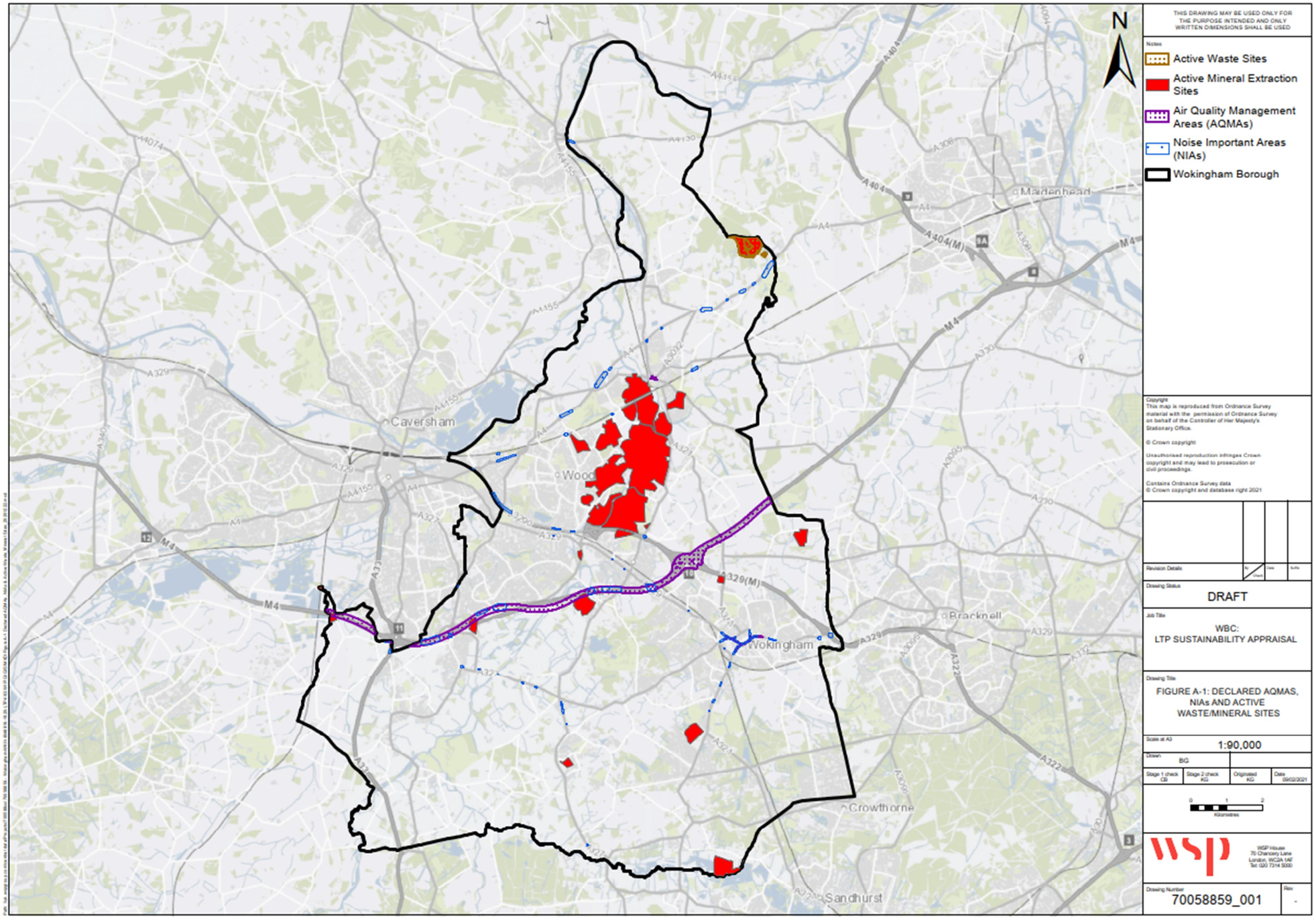


Figure A-2 - Agricultural Land Classification

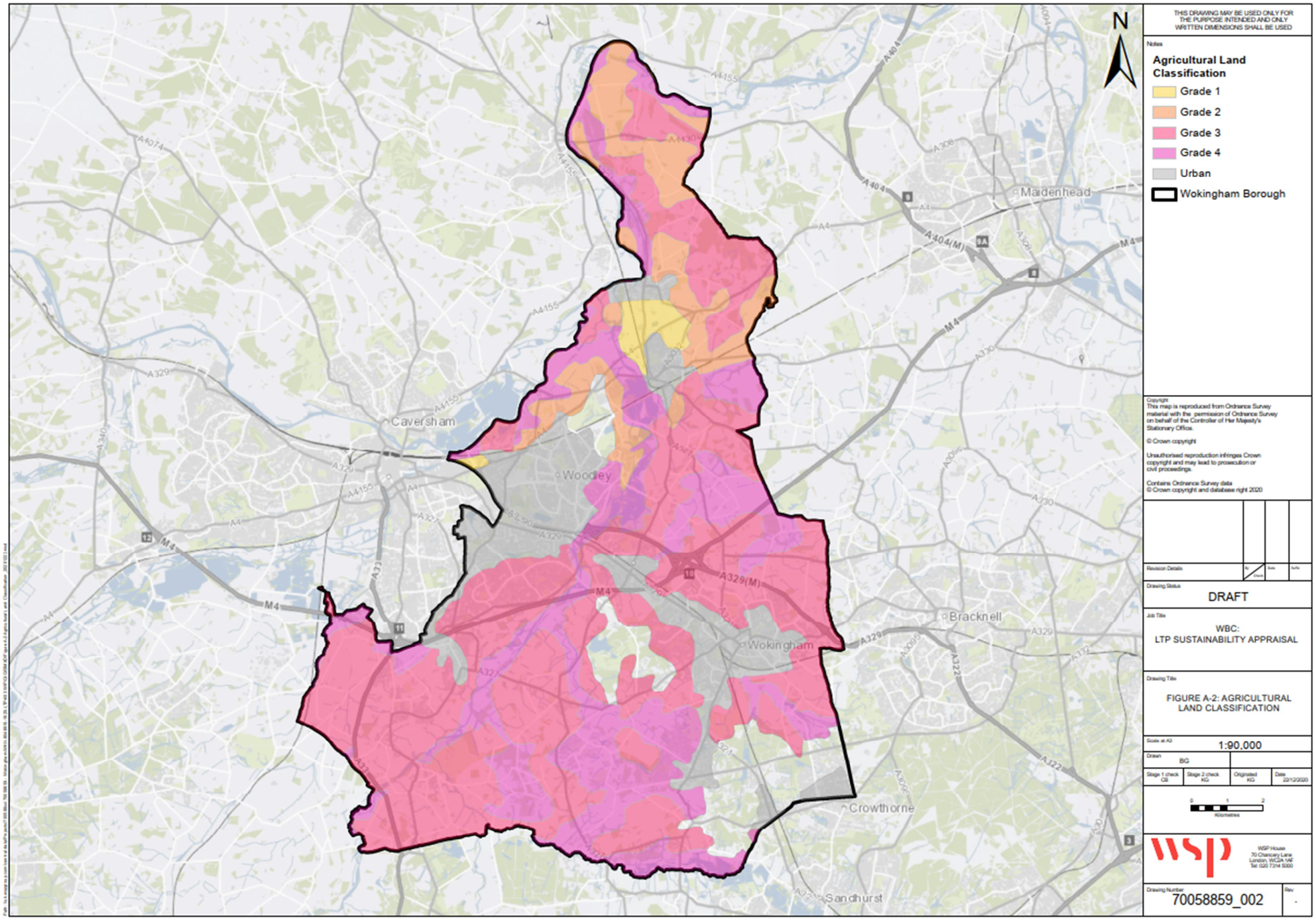


Figure A-3 - Ecological Designations

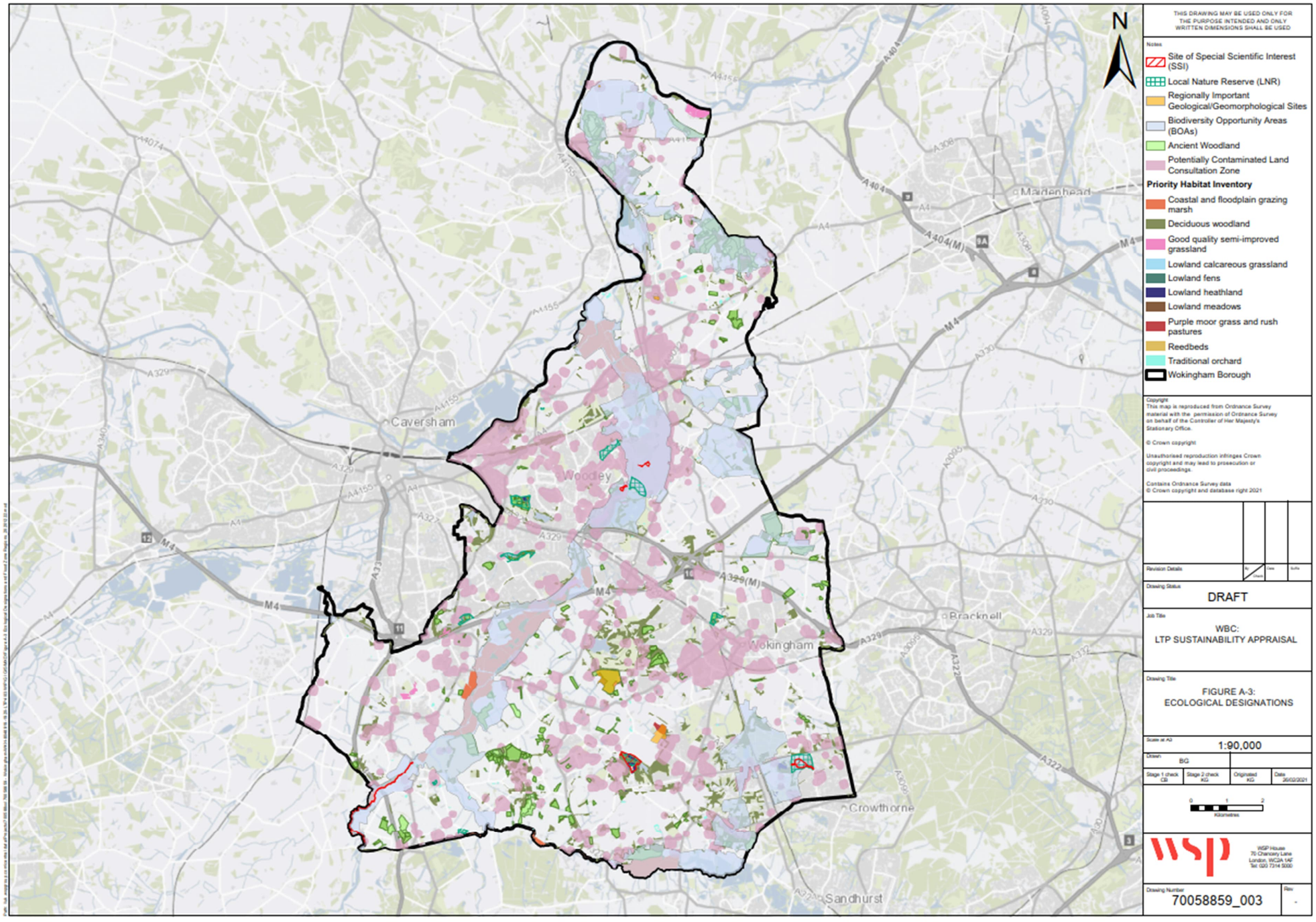


Figure A-4 - Designated Heritage Assets

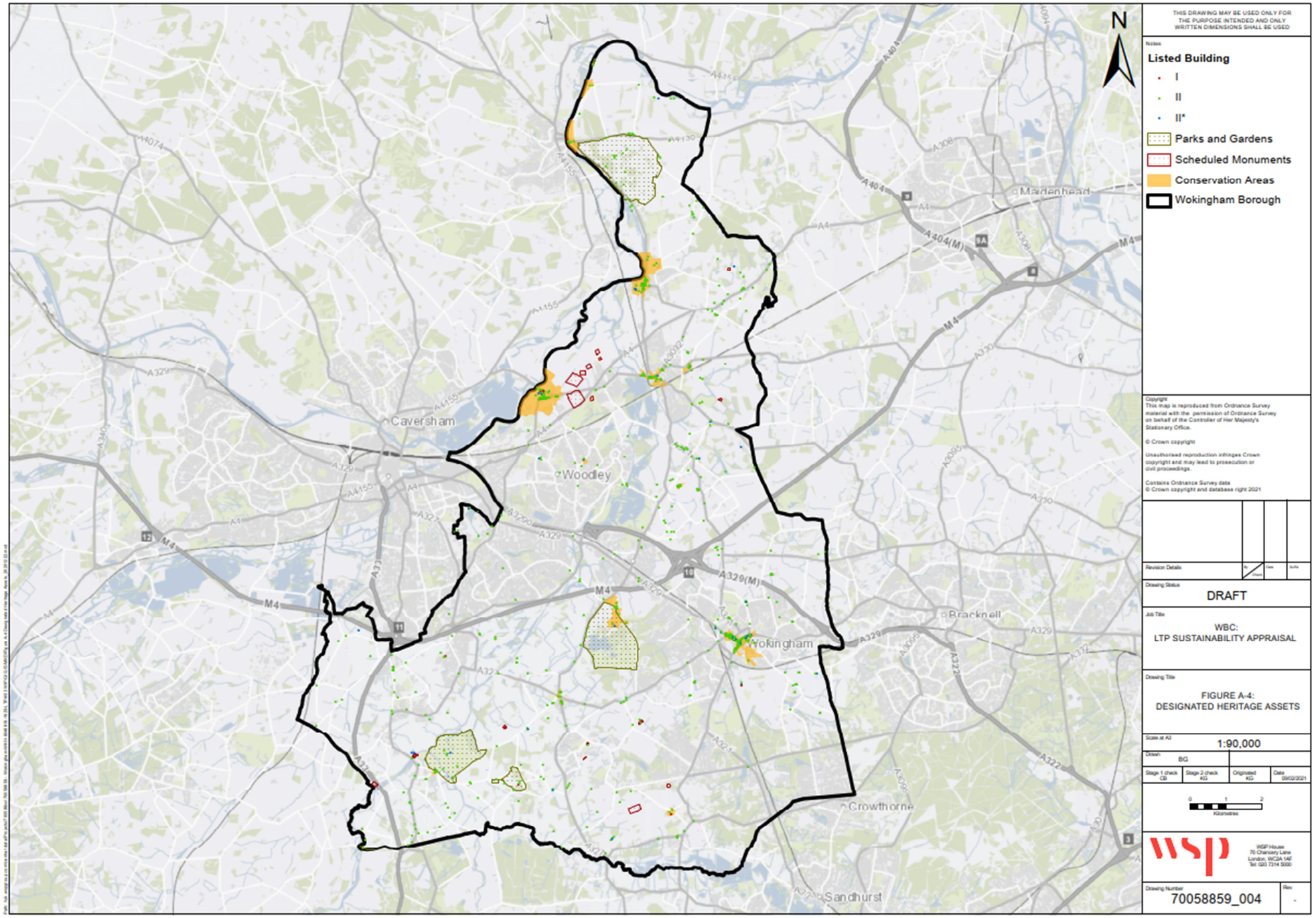


Figure A-5 - Flood Zones

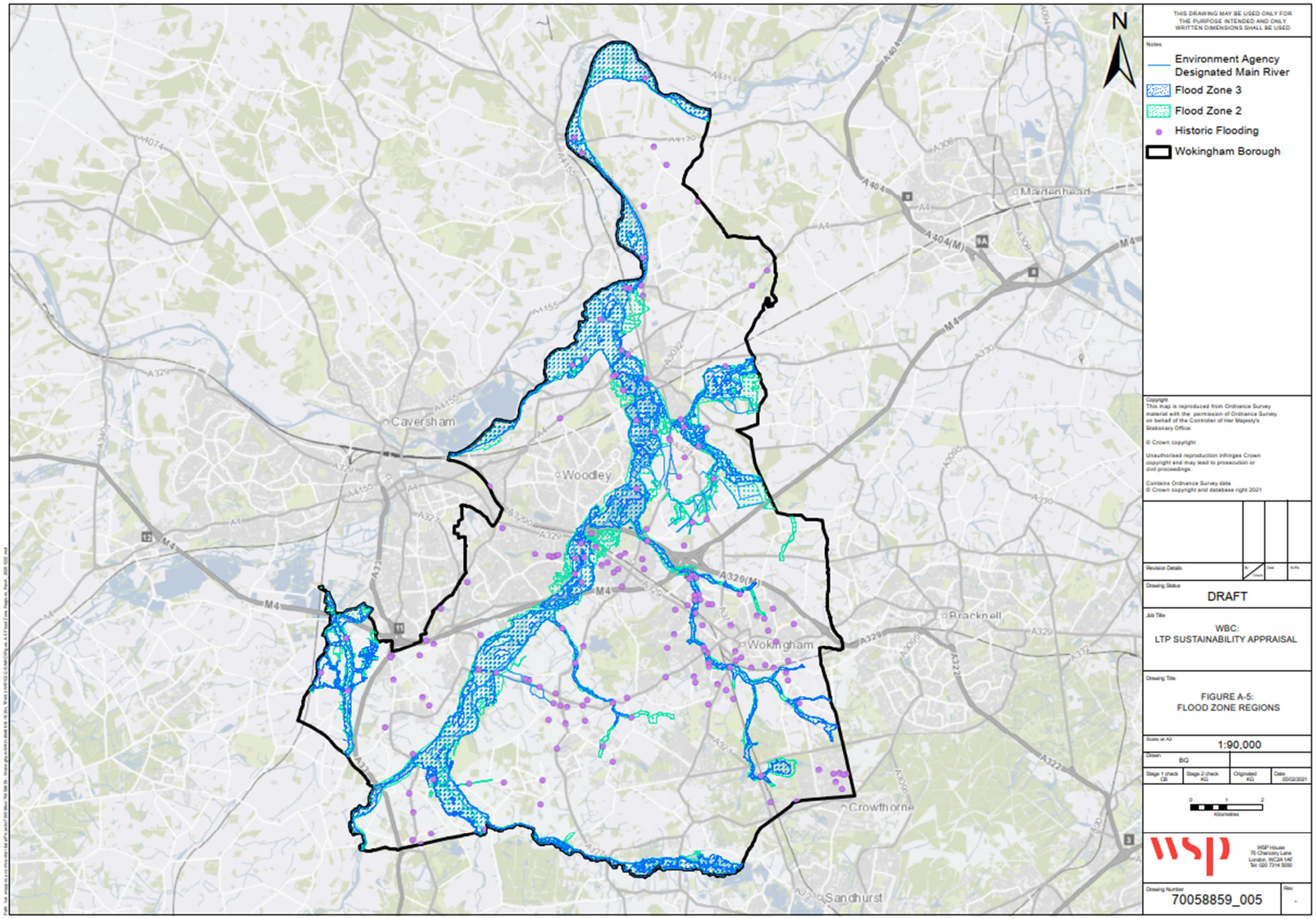
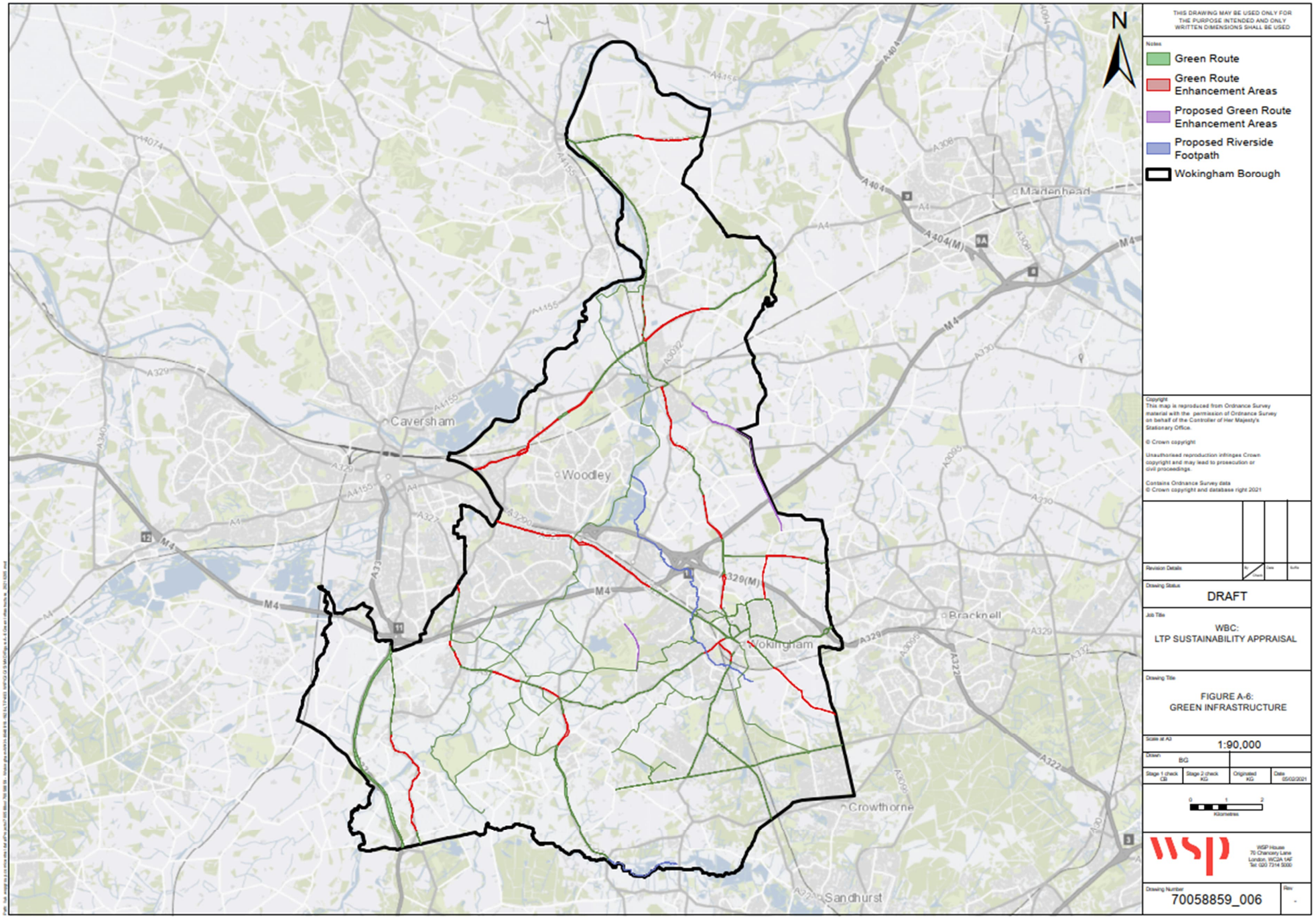


Figure A-6 - Green Infrastructure



Appendix B

Relevant Plans, Policies and Programmes

This appendix presents the findings of the review of legislation, policies and plans including relevant international, national and regional documents undertaken as a part of the evidence gathering exercise for the Wokingham LTP4 Sustainability Appraisal Scoping Report.

Tables B-1 – B-14 provide details of the relevant legislation, policies, plans and programmes (PPP) broken down by topic. Some SA topics have been combined as the content related to them overlap or are very similar and therefore the SA topics in **Chapter 5** are not entirely the same as those listed in **Table B-1 – Table B-14**.

Table B-1 – Relevant Plans, Policies, Strategies and Programmes – Natural Resources and Waste

Document	Key Messages/ Issues
National	
The Waste (England and Wales) Regulations 2011 (as amended)	Requires that an establishment that imports, produces, collects, transports, recovers or disposes of waste must take reasonable steps to apply the waste hierarchy when waste is transferred or disposed. A departure from the priority order is only permitted when this is justified by life-cycle thinking on the overall effect of generation or management of waste.  Source: Directive 2008/98/EC

Document	Key Messages/ Issues
	The main principles of the waste hierarchy include: ▪ Waste should be prevented or reduced at source as far as possible; ▪ Where waste cannot be prevented, waste materials or products should be re-used directly or refurbished and then re-used; ▪ Waste materials should be recycled or reprocessed into a form that allows them to be reclaimed as a secondary raw material; ▪ Where useful secondary raw materials cannot be reclaimed, the energy content of the waste should be recovered and used as a substitute for non-renewable energy resources; and ▪ Only if waste cannot be prevented, reclaimed, or recovered, should it be disposed of into the environment. If this occurs, then it should be disposed of in a controlled manner.
The Waste Management Plan for England (2013)	Provides an analysis on waste management in England, collating policies to meet the requirements of Article 28 of the Waste Framework Directive.
The Environment Act (2021)	The Environment Act, which became law in 2021, acts as the UK's new framework of environmental protection. The Environment Act allows the UK to enshrine better environmental protection into law. It provides the Government with powers to set new binding targets, including for air quality, water, biodiversity, and waste reduction. Objectives for targets under consideration ▪ increase resource productivity ▪ reduce the volume of 'residual' waste we generate
National Planning Policy Framework (NPPF), 2021	Paragraph 174 states: "… *contribute to and enhance the natural and local environment by:* ▪ Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils…; ▪ Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability…; and ▪ Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate". Paragraph 17 also seeks to facilitate the sustainable use of minerals. Paragraph 210 encourages so far as practicable, planning policies should "*take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the*

Document	Key Messages/ Issues
	supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously".
National Policy Statement for National Networks (2014)	Paragraph 5.117 requires land stability to be considered in respect of new development. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land instability. Paragraph 5.168 states "*Applicants should also identify any effects, and seek to minimise impacts, on soil quality, considering any mitigation measures proposed. Where possible, developments should be on previously developed (brownfield) sites provided that it is not of high environmental value. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination and how it is proposed to address this*". Paragraph 5.19 states "*Evidence of appropriate mitigation measures (incorporating engineering plans on configuration and layout and use of materials) in both design and construction should be presented*".
A Green Future: Our 25 Year Plan to Improve the Environment (2018)	Goal 5 'Clean and plentiful water' involves using resources from nature more sustainably and efficiently. The plan states: "*Improve our approach to soil management: by 2030 we want all of England's soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches*".
Our Waste, Our Resources: A Strategy for England (Dec 2018)	Sets out how the UK Government aims to preserve material resources by minimising waste, promoting resource efficiency and moving towards a circular economy in England.
Local	
Wokingham District Local Plan Update (undergoing development)	The Draft Wokingham District Local Plan is likely to contain policies related to materials and waste within Wokingham.
Central and Eastern Berkshire, Joint Minerals and Waste Plan	Sets out the vision for Central and Eastern Berkshire's waste and minerals: "… aim to ensure the maintenance of a steady and adequate supply of minerals, whilst maximising the contribution that

Document	Key Messages/ Issues
	minerals development can bring to local communities, the economy and the natural and historic environment." "Waste will be managed in a sustainable way, in accordance with the waste hierarchy. The Authorities will work in collaboration with others to ensure the best environmental solutions to waste management are delivered." "… ensure that the full extent of social, economic and environmental benefits of minerals and waste development are captured, contributing to Central and Eastern Berkshire's economic activity and enhancing the quality of life and living standards within the area. These benefits will be achieved, whilst minimising impacts on the natural and historic environment and positively contributing to climate change adaptation and mitigation."

Table B-2 – Relevant Plans, Policies, strategies and Programmes – Soils

Document	Key Messages/ Issues
National	
National Planning Policy Framework (NPPF), 2021	Paragraph 174 states: "… *contribute to and enhance the natural and local environment by:* ▪ Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils…; ▪ Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability…; and ▪ Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate".
National Policy Statement for National Networks (2014)	Paragraph 5.117 requires land stability to be considered in respect of new development. Specifically, proposals should be appropriate for the location, including preventing unacceptable risks from land instability. Paragraph 5.168 states "*Applicants should also identify any effects, and seek to minimise impacts, on soil quality, considering any mitigation measures proposed. Where possible, developments should be on previously developed (brownfield) sites provided that it is not of high environmental value. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination and how it is proposed to address this*".
A Green Future: Our 25 Year Plan to Improve the Environment (2018)	Goal 5 'Clean and plentiful water' involves using resources from nature more sustainably and efficiently. The plan states: "*Improve our approach to soil management: by 2030 we want all of England's soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches*".
The Natural Environment White Paper (2012)	This commits the UK government to ensuring that soils are managed in a sustainable manner by 2030. The paper highlights two major commitments: ▪ 'Undertaking a significant research programme to explore: how soil degradation can affect the soil's ability to support vital ecosystem services such as flood mitigation, carbon storage and nutrient cycling; and how to best manage our lowland peatlands in a way which supports efforts to tackle climate change; and

Document	Key Messages/ Issues
	▪ Reduce peat use to zero by 2030.'
The Path to Sustainable Farming: An Agricultural Transition Plan 2021 to 2024 (2020)	The Sustainable Farming Incentive will support sustainable approaches to farm husbandry to deliver for the environment, such as actions to improve soil health, quality, and management.
Local	
Wokingham Borough Landscape Character Assessment (LCA) (2019)	The LCA aims to provide an objective description of the landscape and a strategy for managing it. The LCA provides an evidence base to support policies within the Local Plan Update or more widely guide decision making around development and the management of future change.
Wokingham Borough Core Strategy (2010)	The Core Strategy for Wokingham also includes the priority to protect the most important areas for landscape from development and maintain the borough's landscape as far as possible.

Table B-3 – Relevant Plans, Policies, strategies and Programmes – Biodiversity and Natural Capital

Document	Key Messages/ Issues
International	
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)	The convention has three main aims which are stated in Article 1: ▪ To conserve wild flora and fauna and their natural habitats; ▪ To promote cooperation between states; and ▪ To give particular attention to endangered and vulnerable species including endangered and vulnerable migratory species.
Conservation of Natural Habitats and Wild Fauna & Flora (the 'Habitats Directive') (1992)	The identification of a European network of Sites of Community Importance (SCIs) to be designated as Special Areas of Conservation (SACs). A SA would need to report on any potential effects on SACs and all development plans should aim to avoid adverse effects on them.
EU (2011) EU Biodiversity Strategy to 2020 – towards implementation	Aimed at halting the loss of biodiversity and ecosystem services in the EU by 2020, the strategy provided a framework for action over the last decade and covers the following key areas: ▪ Conserving and restoring nature; ▪ Maintaining and enhancing ecosystems and their services; ▪ Ensuring the sustainability of agriculture, forestry and fisheries; ▪ Combating invasive alien species; and ▪ Addressing the global biodiversity crisis.
EU (2013) 7th Environment Action Programme (EAP) to 2020	The 7th EAP guided EU environmental policy up to 2020 and set ambitions for 2050. The Programme set the following as a priority objective: "to protect, conserve and enhance the Union's natural capital." The 7th EAP reflects the EU's commitment to the preservation of biodiversity and the ecosystem services it provides for both its intrinsic value and its contribution to economic well-being. The Programme highlights that integrating the value of ecosystem services into accounting and reporting across the Union and its member states by 2020 will result in the better management of natural capital.

Document	Key Messages/ Issues
The Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020	This plan provides an overarching framework on biodiversity, for all biodiversity-related conventions, the entire United Nations system and all other partners engaged in biodiversity management and policy development. The plan consists of five strategic goals, which address 20 Aichi targets:: ▪ Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across Government and society. ▪ Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use. ▪ Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity. ▪ Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services. ▪ Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building.
Ramsar Convention on the Conservation on Wetlands of International Importance (1971)	The Ramsar Convention covers all aspects of wetland conservation. It has three main pillars of activities: ▪ The designation of wetlands of international importance as Ramsar sites; ▪ The promotion of the wise use of all wetlands in the territory of each country; and ▪ International co-operation with other countries to further the wise use of wetlands and their resources. While the initial emphasis was on selecting sites of importance to waterbirds, now non-bird features are increasingly considered, both in the selection of new sites and when reviewing existing sites.
National	
The Environment Act (2021)	The Environment Act, which became law in 2021, acts as the UK's new framework of environmental protection. The Environment Act allows the UK to enshrine better environmental protection into law. It provides the Government with powers to set new binding targets, including for air quality, water, biodiversity, and waste reduction. The Biodiversity Gain objective requires the biodiversity value attributable to a development to exceed pre-development biodiversity value by at least 10%.

Document	Key Messages/ Issues
25 Year Environment Plan, HM Government (2018) 289	The 25 Year Environment Plan outlines the UK Government's ambition to leave our environment in a better state than we found it and the steps proposed to take to achieve that ambition. The Plan includes ten key targets, of which two focus on biodiversity. <u>Thriving plants and wildlife:</u> ▪ Restoring 75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition, securing their wildlife value for the long term; ▪ Creating or restoring 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits; ▪ Taking action to recover threatened, iconic or economically important species of animals, plants and fungi and where possible to prevent human-induced extinction or loss of known threatened species in England and the Overseas Territories; and ▪ Increasing woodland in England in line with our aspiration of 12% cover by 2060: this would involve planting 180,000 hectares by end of 2042. <u>Enhancing biosecurity:</u> ▪ Managing and reducing the impact of existing plant and animal diseases; lowering the risk of new ones and tackling invasive non-native species; ▪ Reaching the detailed goals to be set out in the Tree Health Resilience Plan of 2018; ▪ Ensuring strong biosecurity protection at our borders, drawing on the opportunities leaving the EU provides; and ▪ Working with industry to reduce the impact of endemic disease.
Environmental Improvement Plan 2023	The plan outlines the UK Government's pargets for improving the environment, including for biodiversity. The plan aims to restore biodiversity and enhance biosecurity within the UK. The plan aims to: ▪ Halt the decline in species abundance by 2030, and then increase abundance by at least 10% to exceed 2022 levels by 2042. ▪ Restore or create more than 500,000 hectares of wildlife-rich habitat by 2042, alongside our international commitment to protect 30% of our land and ocean by 2030. ▪ New interim target to restore or create 140,000 hectares of wildlife-rich habitats outside protected sites by 2028, compared to 2022 levels. ▪ Improve the Red List Index for England for species extinction by 2042 compared to 2022 levels. ▪ New interim targets for all sites of special scientific interest (SSSIs) to have an up-todate condition assessment; and for 50% of SSSIs to have actions on track to achieve favourable condition by 31 January 2028.

Document	Key Messages/ Issues
	▪ Increase tree canopy and woodland cover from 14.5% to 16.5% of total land area in England by 2050, with a new interim target to increase this by 0.26% (equivalent to 34,000 hectares) by 31 January 2028, in line with the trajectory required to achieve the long-term target. ▪ For 70% of designated features in Marine Protected Areas (MPAs) to be in favourable condition by 2042 with the remainder in recovering condition, with a new interim target of 48% of designated features to be in favourable condition by 31 January 2028, in line with the trajectory required to achieve the long-term target.
Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services (2011)	The mission for this strategy is: to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. This will be delivered through four areas: ▪ a more integrated large-scale approach to conservation on land and at sea ; ▪ putting people at the heart of biodiversity policy; ▪ reducing environmental pressures; and ▪ improving our knowledge.
Wildlife and Countryside Act (as amended 1981)	The Wildlife and Countryside Act 1981 consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) in Great Britain (NB Council Directive 79/409/EEC has now been replaced by Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version). The Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) and the protection of wildlife.
Working with the grain of nature: A Biodiversity Strategy for England 2002	The Biodiversity Strategy for England sets a fundamental shift by ensuring that biodiversity considerations become embedded in all the main sectors of economic activity, public and private. The Strategy capitalises on the opportunities presented by the report of the Policy Commission on Food and Farming and the transition away from the Common Agricultural Policy. The Strategy sets out a programme for five years for the other main policy sectors, to make the changes necessary to conserve,

Document	Key Messages/ Issues
	enhance and work with the grain of nature and ecosystems rather than against them. It takes account of climate change as one of the most important factors affecting biodiversity and influencing policies.
The Path to Sustainable Farming: An Agricultural Transition Plan 2021 to 2024 (2020)	By 2028, the goals are: ▪ a renewed agricultural sector, producing healthy food for consumption at home and abroad, where farms can be profitable and economically sustainable without subsidy; and ▪ farming and the countryside contributing significantly to environmental goals including addressing climate change The second goal will be backed up with support for tree planting, peatland restoration and nature recovery.
The Natural Environment White Paper (2011)	The White Paper sets out a clear 25 year framework for protecting and enhancing the things that nature gives us for free. Four core themes: ▪ Protecting and improving our natural environment ▪ Growing a green economy ▪ Reconnecting people and nature ▪ International and EU leadership The White Paper has led to the development of Natural Environment Indicators against which to assess progress towards the goals of the Paper.
Making Space for Nature: A review of England's Wildlife Sites and Ecological Network: Chaired by Professor Sir John Lawton CBE FRS (2010)	Species and habitats should be restored and enhanced in comparison with 2000 levels. Improve the long-term sustainability of ecological and physical processes that underpin the functioning of ecosystems, thereby enhancing the capacity of ecosystem services. Provide accessible natural environments rich in wildlife for people to enjoy and experience. This has also influenced other documents, such as the 25-year Environment Plan.
The Natural Choice: Securing the value of nature; HM Government (2011)	Protect and enhance biodiversity through Nature Improvement Areas (NIAs), biodiversity offsetting, Local Nature Partnerships and phasing out peat use by 2030.

Document	Key Messages/ Issues
	Place natural capital at the centre of economic decision making to avoid the unintended environmental consequences that arise from undervaluing natural assets.
National Networks National Policy Statement (NN NPS) (2014) 292	NN NPS states that development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation to counteract impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought. Paragraphs 3.2 to 3.5 of the NN NPS state that not only should national road and rail networks be designed to minimise social and environmental impacts, but that they should also seek to improve quality of life. In part this may be achieved by "reconnecting habitats and ecosystems […] improving water quality and reducing flood risk, […] and addressing areas of poor air quality." Paragraph 5.162 recognises the potential for developments to provide positive environmental and economic benefits through the provision of green infrastructure. Paragraph 5.175 of the NN NPS highlights that green infrastructure identified in development plans should be protected and, where possible, enhanced.
National Planning Policy Framework (NPPF), 2021	Paragraphs 174 and 179 to 182 of the NPPF require development to protect and safeguard biodiversity, and advise that development should aim to conserve, restore and enhance biodiversity adequately through mitigation or, as a last resort, using compensation. Proposals which aim to conserve or enhance biodiversity should be supported. Recognise the wider benefits of ecosystem services; minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the UK Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures. Paragraph 174 of the NPPF requires that planning decisions should be taken to enhance the natural environment by recognising the wider benefits from natural capital and ecosystem services. Further, Paragraph 175 requires plans to take a strategic approach to maintaining and enhancing green infrastructure networks and improving natural capital at a catchment or landscape scale.

Document	Key Messages/ Issues
The State of Natural Capital: Restoring our Natural Assets; Natural Capital Committee (2014)	Key points from the report are: ▪ Some assets are currently not being used sustainably and the benefits that we derive from them are at risk; ▪ There are major economic benefits to be gained from natural capital and that their value should be incorporated into decision making; and ▪ A long-term restoration plan is necessary to maintain and improve natural capital for future generations.
The State of Natural Capital; Natural Capital Committee (2020) 293	In the updated State of Natural Capital report, the Natural Capital Committee sets out that Despite some improvements, only limited progress has been made towards the 25 Year Environment Plan's goals. ▪ Its advice to Government that biodiversity net gain should be expanded to environmental net gain. ▪ Its advice that an England wide baseline of natural capital assets should be established to measure progress towards environmental goals. Natural capital should be seen as infrastructure in its own right, in recognition of its contribution to economic wellbeing.
Local	
Wokingham Biodiversity Action Plan (2012-2024)	This Wokingham Borough Biodiversity Action Plan (BAP) aims to build on the achievements of the previous Biodiversity Action Plan for the Borough (2003-2012). The overall aims of the Wokingham Borough BAP are to: ▪ Raise awareness of the issues impacting on local biodiversity ▪ Outline targets and actions which will enhance biodiversity in the Borough ▪ Encourage and support community engagement; enabling local action to deliver targets ▪ Encourage management practices sympathetic to wildlife; promoting "good practice" and providing guidance ▪ Ensure policies are in place for the protection, management and enhancement of the local wildlife resource
Biodiversity Strategy The Loddon Catchment (2003)	The Loddon catchment is located in the South East England Biodiversity Region, straddling the borders of Hampshire, Surrey and Berkshire. Objectives of the Loddon Strategy are: ▪ Ensuring that key areas for biodiversity are adequately protected

Document	Key Messages/ Issues
	▪ Creating stronger linkages between and around habitats to reduce fragmentation ▪ Influencing land use and planning to achieve sustainable development ▪ Providing conservation advice to landowners to enhance/restore habitats ▪ Working with communities on public land to enhance and restore habitats ▪ Conducting surveys on species and habitats where there is a lack of information to ensure that management decisions are based on the best available knowledge ▪ Monitoring species and habitats to ensure that management is maintaining them in favourable condition ▪ Raising awareness of the ecological value of the Loddon catchment with key sectors of the community ▪ Buying or leasing land to maintain and restore habitats where appropriate

Table B-4 – Relevant Plans, Policies, strategies and Programmes – Air Quality

Document	Key Messages/ Issues
International	
Ambient Air Quality Directive (2008)	The Ambient Air Quality Directive provides the current framework for the control of ambient concentrations of air pollution in the EU. The control of emissions from mobile sources, improving fuel quality and promoting and integrating environmental protection requirements into the transport and energy sector are part of these aims.
National	
The Environment Act (2021)	The Environment Act, which became law in 2021, acts as the UK's new framework of environmental protection. The Environment Act allows the UK to enshrine better environmental protection into law. It provides the Government with powers to set new binding targets, including for air quality, water, biodiversity, and waste reduction. Objectives for targets under consideration: ▪ reducing the annual mean level of fine particulate matter (PM2.5) in ambient air (as required by the Environment Bill) ▪ in the long-term, reducing population exposure to PM2.5
25 Year Environment Plan, HM Government (2018)	With regards to the transport sector, the 25 Year Environment Plan identifies four 'early' priorities through the 'Future of Mobility Grand Challenge'. These include encouraging new modes of transport; addressing the challenges of moving from hydrocarbon to zero emission vehicles; and Preparing for a future of new mobility services, increased autonomy, journey-sharing and a blurring of the distinctions between private and public transport.
The Clean Growth Strategy, 2017	This Strategy sets out a comprehensive set of policies and proposals that aim to accelerate the pace of "clean growth", i.e. deliver increased economic growth and decreased emissions. Key Policies and Proposals in the Strategy: ▪ Develop world leading Green Finance capabilities;

Document	Key Messages/ Issues
	▪ Develop a package of measures to support businesses to improve their energy productivity, by at least 20 per cent by 2030; ▪ Improving the energy efficiency of our homes; ▪ Rolling out low carbon heating; ▪ Accelerating the shift to low carbon transport; ▪ Delivering clean, smart, flexible power emissions; and ▪ Enhancing the benefits and value of our natural resources.
National Policy Statement for National Networks (2014)- Paragraph 5.12	Accords air quality considerations substantial weight where, after taking into account mitigation, a scheme would lead to a significant air quality impact in relation to Environmental Impact Assessment (EIA) and/ or where they lead to deterioration in air quality in a zone/ agglomeration.
Air Quality Strategy: Framework for Local Authority Delivery (2023)	This policy outlines the strategic framework for local authorities and other partners. It sets out their powers, responsibilities, and further actions the government expects them to take. The priorities of the strategy are: ▪ Planning reforms helping to deliver on air quality; ▪ Building capacity in local councils through training, guidance and knowledge sharing; ▪ Reducing emissions from industrial sources through improved enforcement of environmental permits; ▪ Reducing pollution from domestic burning through smoke control areas and cleaner fuels; ▪ Raising awareness within local communities of air quality impacts and how to reduce them; and ▪ Boosting active travel and public transport to improve air quality.
Local	
Wokingham Borough Council Air Quality Action Plan (2017-2026)	This report outlines the actions that Wokingham Borough Council will deliver between 2017-2026 to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the Wokingham Borough's administrative area.

Table B-5 – Relevant Plans, Policies, strategies and Programmes – Climate Change

Document	Key Messages/ Issues
International	
Kyoto Protocol to the UN Framework Convention on Climate Change (1992) Doha Amendment to the Kyoto Protocol (2012)	Developed countries commit themselves to reducing their collective emissions of six key greenhouse gases by at least 5%. Each country's emissions target must be achieved by the period 2008-2012. Doha Amendment saw parties commit to reduce GHG emissions by at least 18 percent below 1990 levels in the eight-year period from 2013 to 2020.
The Paris Agreement, 2015	Aims to limit the global warming change to below 2°C above pre-industrial levels. However, countries aim to limit the increase to 1.5°C to reduce the impacts of global warming. The UK has committed to a binding target of a reduction of at least 40% in greenhouse gas emissions by 2030 compared to 1990.
National	
National Planning Policy Framework (NPPF), 2021	Paragraph 154 of the NPPF states that "New development should be planned for in ways that: a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the UK Government's policy for national technical standards."
The Climate Change Act, 2008	Improve carbon management and help the transition towards a low carbon economy in the UK. Demonstrate strong UK leadership internationally, showing the commitment to taking shared responsibility for reducing global emissions in the context of developing negotiations on a post-2012 global agreement at Copenhagen in 2009.

Document	Key Messages/ Issues
	Greenhouse gas emission reductions through action in the UK and abroad of at least 80% by 2050, and reductions in CO2 emissions of at least 26% by 2020, against a 1990 baseline.
Department for Transport, National Policy Statement for National Networks, 2014	Paragraph 4.38 of the NN NPS states that "New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure." The NN NPS also requires carbon impacts to be considered as part of the appraisal of scheme options, and an assessment of any likely significant climate factors in accordance with the requirements in the EIA Directive. It goes on to state that "it is very unlikely that the impact of a road project will, in isolation, affect the ability of UK Government to meet its carbon reduction plan targets."
A Green Future: Our 25 Year Plan to Improve the Environment, 2018	The 25 Year Environment Plan outlines the UK Government's ambition to leave our environment in a better state than we found it and the steps proposed to take to achieve that ambition. Mitigating and adapting to climate change: ▪ Continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture and waste sectors and the use of fluorinated gases. The UK Climate Change Act 2008 commits us to reducing total greenhouse gas emissions by at least 80 per cent by 2050 when compared to 1990 levels; ▪ Making sure that all policies, programmes and investment decisions take into account the possible extent of climate change this century; and ▪ Implementing a sustainable and effective second National Adaptation Programme.
UK Committee on Climate Change, Interim UK Carbon Budgets	The UK has committed to an 80% reduction in its greenhouse gas emissions by 2050. In order to help meet this target, the UK Committee on Climate Change (CCC) has devised a series of interim UK "carbon budgets" as follows: ▪ 1st carbon budget (2008 to 2012): 23% reduction; ▪ 2nd carbon budget (2013 to 2017): 29% reduction; ▪ 3rd carbon budget (2018 to 2022): 35% reduction by 2020; ▪ 4th carbon budget (2023 to 2027): 50% reduction by 2025; ▪ 5th carbon budget (2028 to 2032): 57% reduction by 2030.

Document	Key Messages/ Issues
25 Year Environment Plan, HM Government (2018)	Goal 7 of the 25 Year Environment Plan, 'Mitigating and adapting to climate change', is to "take all possible action to mitigate climate change, while adapting to reduce its impact" by "continuing to cut greenhouse gas emissions including from land use, land use change…" and "making sure that all policies, programmes and investment decisions consider the possible extent of climate change this century".
How Local Authorities can Reduce Emissions and Manage Climate Risk (2012)	Planning functions are described as being a *'key lever in reducing emissions and adapting localities to a changing climate*', with it considered particularly important that local authorities use these to: ▪ Reduce transport emissions by concentrating new developments in existing cities and large towns and/or ensuring they are well served by public transport; ▪ Avoid increasing the area's risk to climate change impacts by locating new development in areas of lowest flood risk; and ▪ Plan for infrastructure such as low-carbon district heating networks, green infrastructure and sustainable drainage systems.
The Natural Environment White Paper (2014)	The Natural Environment White Paper (NEWP) sets out the importance of a healthy, functioning natural environment to sustained economic growth, prospering communities and personal well-being. The NEWP recognises that green infrastructure is *'one of the most effective tools available' to manage 'environmental risks such as flooding and heat waves'*.
Local	
Wokingham Borough Council Climate Emergency Action Plan (2022)	In July 2019, Wokingham Borough Council (WBC) members unanimously declared a climate emergency. The declaration set out the commitment to play as full a role as possible, leading by example as well as by exhortation, in achieving a carbon neutral borough by 2030.

Table B-6 – Relevant Plans, Policies, strategies and Programmes – Noise

Document	Key Messages/ Issues
National	
The Environmental Noise Directive (ENDS) (2002)	This requires noise action plans to be drawn up. Member states are required to produce noise maps for major roads, railways, airports and urban areas.
National Planning Policy Framework (NPPF) (2021)	The NPPF states that planning policies and decisions should aim to: ▪ Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development; ▪ Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions; and ▪ Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.
The Noise Policy Statement for England (NPSE) (2010)	The NPSE is the overarching statement of noise policy for England and applies to all forms of noise other than occupational noise, setting out the long term vision of Government noise policy which is to: *"Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."*
Planning Practice Guidance: Noise (2019)	This outlines that local authorities should take account of the acoustic environment in plan making and decision-making.
Local	
Wokingham Borough Council Core Strategy (2010)	The Core Strategy states that there is a need for proposals to provide mechanisms for noise mitigations, particularly next to the A329.

Table B-7 – Relevant Plans, Policies, strategies and Programmes – Landscape and Townscape

Document	Key Messages/ Issues
International	
European Landscape Convention 2000 (became binding March 2007)	The Council of Europe Landscape Convention promotes the protection, management and planning of the landscapes and organises international co-operation on landscape issues. Specific measures include: ▪ raising awareness of the value of landscapes among all sectors of society and of society's role in shaping them; ▪ promoting landscape training and education among landscape specialists, other related professions and in school and university courses; ▪ the identification and assessment of landscapes, ▪ analysis of landscape change, with the active participation of stakeholders; ▪ setting objectives for landscape quality, with the involvement of the public; and ▪ the implementation of landscape policies through the establishment of plans and practical programmes.
National	
Environment Act (2021)	Part 6 of the act aims to ensure biodiversity net gain and ensure nature recovery strategies for England, preserving local landscapes.
Accessible Natural Green Space Standards in Towns and Cities: A review and Toolkit for their Implementation (2003) and Nature Nearby: Accessible Green Space Guidance (2010)	English Nature (now Natural England) recommends that provision should be made of at least 2ha of accessible natural greenspace per 1000 population according to a system of tiers into which sites of different sizes fit: ▪ No person should live more than 300m from their nearest area of natural greenspace; ▪ There should be at least one accessible 20ha site within 2km from home; ▪ There should be one accessible 100ha site within 5km; and ▪ There should be one accessible 500ha site within 10km.

Document	Key Messages/ Issues
Guidance for Outdoor Sport and Play (2015)	Fields in Trust guidance, first published in the 1930s, is based on a broad recommendation that 6 acres (2.4 hectares) of accessible green space per 1,000 head of population enables residents of all ages to participate in sport and play; 75% of local authorities adopt this or an equivalent standard (2014 Fields in Trust / David Lock Associates Survey).
Local Green Infrastructure: helping communities make the most of their landscape: Landscape Institute for Green Infrastructure Partnership (2011).	Communities should identify green infrastructure requirements in their local area through addition to or creative enhancement of the existing network. Look to enhance local landscape character, heritage and biodiversity and ensure long term management is included in an overall strategy.
Green Infrastructure: An integrated approach to landscape use. Landscape Institute Position Statement (2013)	The Landscape Institute's most recent position statement, 'Green Infrastructure LI Position Statement 2013' sets out why GI is crucial to our sustainable future. The publication showcases a range of successful GI projects and shows how collaboration is key to delivering multifunctional landscapes. It also illustrates why landscape professionals should take the lead on the integration of GI.
National Planning Policy Framework (NPPF), 2021	Paragraph 174 of the NPPF requires developments to protect and enhance valued landscapes and recognise the intrinsic character and beauty of the countryside. Paragraph 176 of the NPPF states that great weight should be given to conserving and enhancing landscape and scenic beauty in National parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas. Paragraph 177 of the NPPF states that when considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest.

Document	Key Messages/ Issues
National Policy Statement for National Networks (2014)	Paragraph 5.149 states that when judging the impact of a project on landscape, the decision is dependent on the nature of the existing landscape likely to be affected and the nature of the effect likely to occur. The project should aim to avoid or minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.
25 Year Environment Plan (2018)	Goal 6: Enhancing beauty, heritage and engagement with the natural environment, is to "safeguard and enhance the beauty of our natural scenery and improving its environmental value while being sensitive to considerations of its heritage."
Local	
Wokingham Borough Landscape Character Assessment (2019)	The Landscape Character Assessment (LCA) forms the most up to date evidence base for planners, developers and land managers to take account of the character and valuable attributes of Wokingham's landscape when considering new development or land uses – and to pursue opportunities to enhance and strengthen landscape character whenever possible.

Table B-8 – Relevant Plans, Policies, strategies and Programmes – Historic Environment

Document	Key Messages/ Issues
International	
The Valetta Convention, 1992	This convention outlines protection measures for archaeological heritage assets, including the development and maintenance of an inventory of sites. The aim of this convention is to protect sites for future study, outlines the requirements to report 'chance finds', as well as controlling excavations. The input of expert archaeologists into the making of planning policies and decisions is also required under this convention.
Convention for the Protection of the Architectural Heritage of Europe, Granada (1985)	The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It affirms the needs for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. The convention considers comprising the following permanent properties, which are stated in Article 1: ▪ Monuments: all buildings and structures of conspicuous historical, archaeological, artistic, scientific, social or technical interest, including their fixtures and fittings; ▪ Groups of buildings: homogenous groups of urban or rural buildings conspicuous for their historical, archaeological, artistic, scientific, social or technical interest, which are sufficiently coherent to form topographically definable units; and ▪ Sites: the combined works of man and nature, being areas which are partially built upon and sufficiently distinctive and homogenous to be topographically definable and are of conspicuous historical, archaeological, artistic, scientific, social or technical interest.
National	
National Planning Policy Framework (NPPF), 2021	Paragraph 190 of the NPPF states that ▪ Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:

Document	Key Messages/ Issues
	▪ the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation; ▪ the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring; ▪ the desirability of new development making a positive contribution to local character and distinctiveness; and ▪ opportunities to draw on the contribution made by the historic environment to the character of a place.
The Government's Statement on the Historic Environment for England (2010)	The statement sets out its vision for the historic environment. It calls for those who have the power to shape the historic environment to recognise its value and to manage it in an intelligent manner in light of the contribution that it can make to social, economic and cultural life. Also of note is the reference to promoting the role of the historic environment within the government's response to climate change and the wider sustainable development agenda.
Heritage at Risk Register (2015)	This lists every heritage asset currently considered to be at risk in the UK according to local planning authority. Heritage assets are split into a number of categories namely; buildings, places of worship, scheduled monuments, registered parks and gardens, registered battlefields, protected wreck sites and conservation areas.
National Policy Statement for National Networks (2014)	Paragraph 5.132 states that any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification that will be needed for any loss.
25 Year Environment Plan (2018)	Goal 6: Enhancing beauty, heritage and engagement with the natural environment, is to "safeguard and enhance the beauty of our natural scenery and improving its environmental value while being sensitive to considerations of its heritage."
Planning (Listed buildings and Conservation Areas) Act 1990	This is an Act relating to special controls in respect of buildings and areas of special architectural or historic interest.

Document	Key Messages/ Issues
Ancient Monuments and Archaeological Areas Act, 1979	An Act to consolidate and amend the law relating to ancient monuments. It makes provision for the investigation, preservation and recording of areas of archaeological or historical interest.
Historic England Conservation Principles, Policies and Guidance (2008)	The primary aim of this guidance is to support the quality of decision making, with the ultimate objective of creating a management regime for all aspects of the historic environment that is clear and transparent in its purpose, and sustainable in its application.
Local	
Wokingham Borough Core Strategy (2010)	As part of the approach to the Core Strategy, WBC state that the most important areas for heritage should be protected from development. The Strategy also states that development should maintain the heritage of Wokingham as far as possible.

Table B-9 – Relevant Plans, Policies, strategies and Programmes – Water Environment

Document	Key Messages/ Issues
International	
Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy ("The Water Framework Directive")	The main aims of the Water Framework Directive (WFD) are to: ▪ prevent deterioration and enhance status of aquatic ecosystems, including groundwater ▪ promote sustainable water use ▪ reduce pollution ▪ contribute to the mitigation of floods and droughts The WFD requires the creation of River Basin Management Plans (RBMPs). Statutory objectives are set for Scottish waters through River Basin Management Planning. These objectives are based on ecological assessments and economic judgments. The plans cover all types of water body, e.g. rivers, lochs, lakes, estuaries, coastal waters and groundwater.
Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks	Requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk.
Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration	This Directive establishes a regime which sets groundwater quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater. The directive establishes quality criteria that takes account local characteristics and allows for further improvements to be made based on monitoring data and new scientific knowledge.
National	
The Water Framework Regulations (2003)	National water policies are primarily driven by the aims of the EC Water Framework Directive (WFD) as translated into national law by the Water Framework Regulations (2003). Key objectives include

Document	Key Messages/ Issues
	improving the quality of rivers and other water bodies to 'good ecological status' by 2015; considering flood risk at all stages of the plan and development process to reduce future damage to property and loss of life; and incorporating water efficiency measures into new developments. The Directive drives a catchment-based approach to water management. In England there are 83 water catchments and it is Defra's intention to establish a 'framework for integrated catchment management' across England. The Environment presented second river basin management plans to ministers in 2015. These plans aimed to deliver the objectives of the WFD, namely; ▪ Enhance the status and prevent the further deterioration of aquatic ecosystems and associated wetlands which depend on aquatic ecosystems; ▪ Promote the sustainable use of water; ▪ Reduce the pollution of water, especially by 'priority' and 'priority hazardous' substances; and ▪ Ensure the progressive reduction of groundwater pollution.
Blueprint to Safeguard Europe's Water Resources (2012)	This highlights the need for Member States to reduce pressure on water resources, for instance by using green infrastructure such as wetlands, floodplains and buffer strips along watercourses. This would also reduce the EU's vulnerability to floods and droughts.
National Planning Policy Framework (NPPF), 2021	Paragraph 159: "… inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere". Paragraph 174 (e) Planning policies and decisions should contribute to and enhance the natural and local environment by: preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.
Water for Life (The Water White Paper) (2011)	This sets out the government's vision for a more resilient water sector, where water is valued as the precious resource it is. It states the measures that will be taken to tackle issues such as poorly performing ecosystems, and the combined impacts of climate change and population growth on stressed water resources.

Document	Key Messages/ Issues
	The avoidance of pollution is also a consideration in the White Paper, which led to a government consultation on a national strategy on urban diffuse pollution in 2012. The consultation report notes that pollutions affecting failing waterbodies can be broken down into a number of categories including point source pollution and diffuse pollution. Transport infrastructure can contribute to diffuse pollution to waterbodies (e.g. untreated stormwater runoff from roads).
The Environment Act (2021)	The Environment Act, which became law in 2021, acts as the UK's new framework of environmental protection. The Environment Act allows the UK to enshrine better environmental protection into law. It provides the Government with powers to set new binding targets, including for air quality, water, biodiversity, and waste reduction. Objectives for targets under consideration: ▪ reduce pollution from agriculture, in particular phosphorus and nitrate; ▪ reduce pollution from wastewater, in particular phosphorus and nitrate; ▪ reduce water demand; ▪ improve the quality of habitat on land, including freshwater and coastal sites, expressed through the condition of our protected sites (SSSIs); and ▪ improve the overall status of species populations on land and in freshwaters.
National Policy Statement for National Networks (2014)	Paragraph 5.105 "… if there is no reasonably available site in Flood Zones 1 or 2, then national networks infrastructure projects can be located in Flood Zone 3, subject to the Exception Test. Both elements of the test will have to be passed for development to be consented…" Paragraph 5.109 "Any project that is classified as 'essential infrastructure' and proposed to be located in Flood Zone 3a or 3b should be designed and constructed to remain operational and safe for users in times of flood; and any project in Zone 3b should result in no net loss of floodplain storage and not impede water flows". Paragraph 5.224 "Activities that discharge to the water environment are subject to pollution control" Paragraph 5.225 "… impacts on the water environment should be given more weight where a project would have adverse effects on the achievement of the environmental objectives established under the Water Framework Directive".

Document	Key Messages/ Issues
A Green Future: Our 25 Year Plan to Improve the Environment (2018)	Goal 2 ‘Clean and plentiful water’ “Improve at least three quarters of our waters to be close to their natural state as soon as is practicable by: […] Reaching or exceeding objectives for rivers, lakes, coastal and ground waters that are specially protected, whether for biodiversity or drinking water”.
Local	
Wokingham Borough Council Local Flood Risk Management Strategy (2015)	The Strategy focuses on local flood risk sources and explains the ways in which WBC will ensure flood risk is managed in an integrated and effective way. The objectives of the Strategy are to: ▪ Continue to improve knowledge and understanding of current and future local sources of flood risk within Wokingham. ▪ Continue to work collaboratively and develop effective partnerships with other Flood Risk Management Authorities and local communities to deliver a sustainable, cost effective approach to flood risk management that reduces flood risk and provides wider environmental and social economic benefits where possible. ▪ Ensure that land use planning and application decisions take full account of flood risk, avoiding development in inappropriate locations, preventing an increase in flood risk and minimising existing flood risk wherever possible. ▪ Maintain and, where necessary, improve local flood risk management infrastructure and work with riparian landowners to ensure privately owned flood defence assets, features and Ordinary watercourses, are well maintained to reduce risk. ▪ Ensure that emergency plans and responses to flood incidents are effective and that communities are prepared and resilient to local flood risk. ▪ Identify national, regional and local funding mechanisms to deliver flood risk management solutions and schemes.

Table B-10 – Relevant Plans, Policies, strategies and Programmes – Population and Equalities

Document	Key Messages/ Issues
National	
Ready for Ageing? (2013)	The Select Committee on Public Service and Demographic Change report 'Ready for Ageing?' warns that society is underprepared for the ageing population. The report says that: *'Longer lives can be a great benefit, but there has been a collective to address the implications and without urgent action this great boon could turn into a series of miserable crises'.* Key projections about ageing include 51% more people aged 65 and over and 101% more people aged 85 and over in England in 2030 compared to 2010; and a 90% increase in people with moderate or severe need for social care for the same time period. Organisations involved in urban planning will need to adjust to an older population and will have an important role to play in preventing the social isolation of older citizens.
Local Growth White Paper (2010)	The paper notes that government interventions should support investment that will have a long term impact on growth, working with markets rather than seeking to create artificial and unsustainable growth. In some cases this means focusing investments at areas with long term growth challenges, so that these areas can undergo transition to an economy that responds to a local demand. Places that are currently successful may also wish to prioritise activity to maximise further growth by removing barriers, such as infrastructure constraints.
The Equality Act, 2010	The Equality Act 2010 legally protects people from discrimination in the workplace and in wider society. It is against the law to discriminate against anyone because of: ▪ Age; ▪ Being or becoming a transsexual person; ▪ Being married or in a civil partnership; ▪ Being pregnant or having a child; ▪ Disability; ▪ Race including colour, nationality, ethnic or national origin; ▪ Religion, belief or lack of religion/belief; ▪ Sex; and

Document	Key Messages/ Issues
	▪ Sexual orientation.
National Planning Policy Framework (NPPF), 2021	When delivering new schemes, applicants must avoid and mitigate environmental and social impacts in line with the principles set out in the NPPF and the UK Government's planning guidance. Applicants should provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes.
Department for Transport, Transport for Everyone: an action plan to promote equality, 2012	The Action Plan sets what the UK Government is doing to ensure people from all communities in society have the option to use public transport. The main aim of the report is to *'deliver better access to jobs and key services through an accessible and socially inclusive transport system, by removing the barriers to travel and ensuring that social impacts are addressed in policy development and service delivery'*.
Strong and Prosperous Communities: The Local Government White Paper, 2006	Deliver better public services through involving and consulting users more fully, providing better information about local standards and managing services at neighbourhood level.
Foresight Mental Capital and Wellbeing Project (2008). Final Project report. The Government Office for Science	As the number of older adults increases substantially in the UK over the next six decades, the existing urban and rural infrastructure will need to be adapted so that the needs of these people are met. For example, issues of access, transport, amenity and security will substantially affect the wellbeing of older people.
Addressing Transport Barriers to work in Low Income Neighbourhoods, Sheffield Hallam University, 2017	Transport is a key factor shaping experiences of poverty. The ability of households in poverty to find paid work often depends on access to affordable, regular and reliable transport. Residents of low-income neighbourhoods generally have a significant reliance on bus services. This can create issues regarding variable frequency, timing, reliability and range of places served. There is considerable evidence that transport issues affect different groups to varying extents and in particular ways, especially in terms of gender.

Document	Key Messages/ Issues
	A distinguishing feature of low-income neighbourhoods is the relatively low incidence of motor vehicle ownership. This means that residents have a much higher reliance on public transport than those living in middle and high-income areas. Difficulties in meeting the costs of transport from current incomes have given rise to the concept of 'transport poverty'.
Build Back Fairer: The Covid-19 Marmot Review, 2020 313	The Marmot Review identified that the levels of social, environmental and economic inequality in society are damaging health and well-being. This report identifies that as the UK emerges from the pandemic it would be a mistake to attempt to re-establish the status quo that existed before the pandemic. The reductions in car traffic during the pandemic resulted in cleaner air and reduction in emission of greenhouse gases. Walking and cycling as modes of transport became both necessary and desirable. As the pandemic is brought under control and public transport again becomes safe, a future for our cities based on reduction in vehicle traffic and made safe for walking and cycling in addition to public transport is a future we can both imagine and realise. Building Back Fairer requires a sizeable reduction in private car use and greater active travel and use of public transport. Efforts to support this are required urgently and would help to reduce Greenhouse Gas Emissions and lead to a more sustainable environment.
TfL, Healthy Streets for London, 2017	Although the initial strategy is based in London, the approach is becoming more widely adopted nationally. The Healthy Streets Approach puts people and their health at the centre of decisions about how we design, manage and use public spaces. It aims to make our streets healthy, safe and welcoming for everyone. The Approach is based on 10 Indicators of a Healthy Street which focus on the experience of people using streets. These are as follows: ▪ Pedestrians from all walks of life; ▪ Easy to cross; ▪ People chose to walk, cycle and use public transport; ▪ Clean air; ▪ People feel safe; ▪ Not too noisy; ▪ Places to stop and rest; ▪ Shade and shelter;

Document	Key Messages/ Issues
	▪ People feel relaxed; and ▪ Things to see and do.
Local	
Wokingham Borough Joint Strategic Needs Assessment	The Joint Strategic Needs Assessment (JSNA) assess the current and future health, care and wellbeing and needs of the population in Wokingham Borough. It highlights the key needs of the Borough and assesses how to meet these needs with partners. The evidence, analysis of needs and agreed priorities is used to help us and our partners (like the local NHS) determine what actions to take to meet health and social care needs. As well as helping address the wider factors that impact on health and wellbeing.
Wokingham Borough Council Older People's Strategy (2018)	The Strategy is aimed primarily at people aged 50 and over, and clearly refers to the needs of older people. The Strategy is described as "Young at Heart" and is a ten year strategy to signal a direction of travel for Wokingham Borough Council, its residents and partner agencies, so to anticipate and influence the changes of the next 10 years, and put some of the groundwork in place.

Table B-11 – Relevant Plans, Policies, strategies and Programmes – Human Health

Document	Key Messages/ Issues
National	
Health and Social Care Act (2012)	The increasing role that local level authorities are expected to play in producing health outcomes is well demonstrated by recent government legislation. The Health and Social Care Act 2012 transferred responsibility for public health from the NHS to local government, giving local authorities a duty to improve the health of the people who live in their areas. This requires a more holistic approach to health across all local government functions.
Ending Childhood Obesity Plan (2016)	This links transport planning to opportunities for physical activity and access to healthy food. The plan recommends increased recreational space and safe walking and cycling paths for active transport, to help make physical activity functions of daily life. These spaces will, of course, benefit the entire economy.
Transport for Health: The Global Burden of Disease from Motorised Road Transport (2014)	This explores the relationship and burden that road transport places upon global health development. It attempts to quantify global health losses arising from injury and air pollution associated with road transport. It reiterates the need for safe and clean transport methods in order to achieve global health goals, and the importance of multi-disciplinary collaboration – transport, health and urban sectors – in achieving sustainable development.
Walking and cycling: local measures to promote walking and cycling as forms of travel or recreation (2012)	The NHS National Institute of Health and Clinical Excellence (NICE) published guidance on Local measures to promote walking and cycling. The evidence presented in this report suggests that 'effective support' from local councils plays a key role in increasing rates of walking and cycling. The report emphasises that increasing the numbers of people who walk and cycle, and how often, can reduce the health costs associated with air pollution and inactivity. Relevant recommendations made in the report include: ▪ Ensure local, high-level strategic policies and plans support and encourage both walking and cycling; ▪ Develop coordinated, cross-sector programmes to promote walking and cycling for recreation as well as for transport, based on a long-term vision of what can be achieved, taking account of the needs of the whole population; and ▪ Address infrastructure issues that may prevent people from wanting to walk.

Document	Key Messages/ Issues
Wellbeing and Resilience Strategy Framework (2017)	The strategy is still in development, but it outlines five ways to wellbeing: ▪ **Give** e.g. ability to access volunteering opportunities; ▪ **Keep learning** e.g. access to school, university, workplace; ▪ **Be active** e.g. active transport, access to physical activity; ▪ **Connect** e.g. access to social activities; and ▪ **Take notice** e.g. access to green space. Projects could be delivered in a way that both provides more of the opportunities above and uses the transport network as a means of delivering those opportunities in its own right e.g. use the network itself as a learning opportunity.
Mental Health and Transport Summit (2016)	In 2016, the Department for Transport sponsored a Mental Health and Transport Summit: 1 in 4 people will experience a mental health condition at some time in their lives and 1 in 10 people live with a long term mental health condition. The summit highlighted some of the barriers that people face when using the transport network and the vital role that being able to travel plays in maintaining some control over their condition. The summit also raised the issue of both direct and indirect discrimination. Direct discrimination is easier to identify and deal with, but indirect discrimination is less visible. For example, a policy that means people can only book train tickets online may have a disproportionate impact on people with a mental health problem who experience paranoia.
Fair Society, Healthy Lives: The Marmot Review: Strategic review of health inequalities in England post, 2012	Reducing health inequalities is a matter of fairness and social justice. In England, the many people who are currently dying prematurely each year as a result of health inequalities would otherwise have enjoyed, in total, between 1.3 and 2.5 million extra years of life. Ensure a healthy standard of living for all; Create and develop healthy and sustainable places and communities; and strengthen the role and impact of ill health prevention.
Build Back Fairer: The Covid-19 Marmot Review, 2020	The Marmot Review identified that the levels of social, environmental and economic inequality in society are damaging health and well-being. This report identifies that as the UK emerges from the pandemic it would be a mistake to attempt to re-establish the status quo that existed before the pandemic. The reductions in car traffic during the pandemic resulted in cleaner air and reduction in emission of greenhouse gases. Walking and cycling as modes of transport became both necessary and desirable. As the pandemic is brought under control and public transport again becomes safe, a future for our cities

Document	Key Messages/ Issues
	based on reduction in vehicle traffic and made safe for walking and cycling in addition to public transport is a future we can both imagine and realise. Building Back Fairer requires a sizeable reduction in private car use and greater active travel and use of public transport. Efforts to support this are required urgently and would help to reduce Greenhouse Gas Emissions and lead to a more sustainable environment.
National Planning Policy Framework (NPPF), 2021 317	Paragraph 92 of the NPPF states: *'Planning policies and decisions should aim to achieve healthy, inclusive and safe places which:* *a) promote social interaction, including opportunities for meetings between people who might not otherwise come into contact with each other – for example through mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;* *b) are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of attractive, well-designed, clear and legible pedestrian and cycle routes, and high quality public space, which encourage the active and continual use of public areas; and* *c) enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments and layouts that encourage walking and cycling.'*
Chartered Institution of Highways & Transportation (CIHT), Better planning, better transport, better places, 2019	Poorly located and designed new development seriously hinders healthy lifestyles. Physical inactivity directly contributes to one in six deaths in the UK, drives rising levels of obesity, and is the fourth largest cause of disease and disability. It costs society an estimated £7.4 billion a year and places the national healthcare system under increasing financial strain. By enabling compact, higher density, and mixed-use patterns of development. This encourages more people to incorporate physical activity into their daily journeys, improving productivity and dramatically reducing ill health.

Document	Key Messages/ Issues
Transport, health, and wellbeing: An evidence review for the Department for Transport, 2019	There are three main mechanisms that link transport and health and wellbeing: ▪ Transport and access: Transport plays a key role in improving access to health services, particularly for vulnerable groups like older people. ▪ Mode of transport: Mode of transport affects physical and mental health, via mechanisms including physical activity and commuting time. ▪ Wider effects of transport and infrastructure: Transport can facilitate social interactions and promote social inclusion.
Public Health England, Health Matters, Physical Activity: Prevention and management of long-term conditions	Regular physical activity provides a range of physical and mental health and social benefits, including: ▪ Reducing the risk of many long-term conditions ▪ Helping manage existing conditions ▪ Ensuring good musculoskeletal health ▪ Developing and maintaining physical and mental function and independence ▪ Supporting social inclusion ▪ Helping maintain a healthy weight ▪ Reducing inequalities for people with long-term conditions The CMOs' Physical Activity Guidelines state that for good physical and mental health, adults should aim to be physically active every day. Any activity is better than none, and more is better still. Regular physical activity can help to prevent and manage a range of chronic conditions and diseases, many of which are on the rise and affecting people at an earlier age.
Local	
Wokingham Borough Open Space, Sport and Recreation Facilities Strategy (2013)	The purpose of the Strategy is to consider how Wokingham Borough's network of open spaces and sports facilities is planned, managed, protected, designed, and maintained; and to set out a series of objectives to ensure that these open spaces and sports facilities are of a consistent high standard and continue to meet the needs of Wokingham Borough's current and future communities.
Berkshire West Health and Wellbeing Strategy (2021-2030)	The strategy sets out how professionals across health and social care will work together to improve the health of the population. The new strategy is based around five health and wellbeing priorities: ▪ Reduce the differences in health between different groups of people

Document	Key Messages/ Issues
	▪ Support individuals at high risk of bad health outcomes to live healthy lives ▪ Help families and children in early years ▪ Promote good mental health and wellbeing for all children and young people ▪ Promote good mental health and wellbeing for all adults

Table B-12 – Relevant Plans, Policies, strategies and Programmes – Economy

Document	Key Messages/ Issues
International	
Europe 2020: A strategy for smart, sustainable and inclusive growth (2010)	The European Union published its strategy for achieving growth up until 2020. This strategy focuses on smart growth, through the development of knowledge and innovation; sustainable growth, based on a greener, more resource efficient and more competitive economy; and inclusive growth, aimed at strengthening employment, and social and territorial cohesion.
National	
National Planning Policy Framework, 2021	To determine the minimum number of homes needed, strategic policies should be informed by a local housing need assessment. In addition to the local housing need figure, any needs that cannot be met within neighbouring areas should also be taken into account in establishing the amount of housing to be planned for. Within this context, the size, type and tenure of housing needed for different groups in the community should be assessed and reflected in planning policies, including, but not limited to: ▪ Those who require affordable housing; ▪ Families with children; ▪ Older people; ▪ Students; ▪ People with disabilities; ▪ Service families; ▪ Travellers; ▪ People who rent their homes; and ▪ People wishing to commission or build their own homes. Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future.

Document	Key Messages/ Issues
Growth and Infrastructure Act (2013)	The Act allows the modification or discharge of the affordable housing elements of section 106 agreements in order to make developments more viable. Contains measures to extend permitted development rights to allow single-storey extensions of up to eight metres. Reduces the volume of extra paperwork required with a planning application; removing over-lapping development consent regimes that require multiple extra permissions from different government agencies.
The Enterprise Act (2016) 321	The Enterprise Act includes measures to: ▪ Establish a Small Business Commissioner to help small firms resolve issues. ▪ Extend the Primary Authority scheme to make it easier for businesses to access tailored and assured advice from local authorities, giving them greater confidence to invest and grow. ▪ Protect and strengthen apprenticeships by introducing targets for apprenticeships in public sector bodies in England, and establish an Institute for Apprenticeships – an independent, employer-led body that will make sure apprenticeships meet the needs of business.
UK Industrial Growth Strategy, 2017	The Industrial Strategy sets out a long term plan to boost the productivity and earning power of people throughout the UK. It sets out how the UK Government is working towards building a Britain fit for the future – how they will help businesses create better, higher-paying jobs in every part of the UK with investment in the skills, industries and infrastructure of the future. The strategy includes five foundations: ▪ Ideas: the world's most innovative economy ▪ People: good jobs and greater earning power for all ▪ Infrastructure: a major upgrade to the UK's infrastructure ▪ Business environment: the best place to start and grow a business ▪ Places: prosperous communities across the UK The UK Government will use this strategy to work with industry, academia and civil society over the coming years to build on the UK's strengths, make more of untapped potential and create a more productive economy that works for everyone across the UK.

Document	Key Messages/ Issues
The Clean Growth Strategy, 2017	This Strategy sets out a comprehensive set of policies and proposals that aim to accelerate the pace of "clean growth", i.e. deliver increased economic growth and decreased emissions. The Strategy has two guiding objectives: 1. To meet our domestic commitments at the lowest possible net cost to UK taxpayers, consumers and businesses; and, 2. To maximise the social and economic benefits for the UK from this transition. In order to meet these objectives, the UK will need to nurture low carbon technologies, processes and systems that are as cheap as possible.
Local	
Wokingham Borough Economic Development Strategy (2016-2021)	The key objectives set out in the strategy are: ▪ Create a place where businesses thrive by offering good quality housing and infrastructure ▪ Facilitate business growth though business support and inward investment ▪ Ensure that people have the skills that businesses need and are able to support themselves into employment ▪ Encourage innovation and technology to build a competitive business environment
Thames Valley Berkshire: Delivering national grown locally, Strategic Economic Plan (2015/16-2020/21)	The vision for the Plan is: *"By 2021, the vibrancy of our business community will be internationally envied. The ambition and creativity of our established businesses will be energised through strong, knowledge-rich, networks. Our Workforce will be the lifeblood of our economy; young people will be inspired and older workers valued. Our infrastructure will match the scale of our ambition and potential. And people will choose Thames Valley Berkshire as the place to live and work."*
Wokingham Borough Arts and Culture Strategy (2021-2030)	This Strategy states the ambition for Wokingham Borough to be a great place to live, learn, work and grow and a great place to do business. The vision for the Strategy is: "*By 2030 Wokingham Borough will be recognised regionally and nationally as a dynamic cultural hub, a Borough of surprises that delight across all our towns and villages, a Borough where everyone can access or get involved in creating high quality cultural experiences and where creativity is nurtured across all age-groups."*

Table B-13 – Relevant Plans, Policies, strategies and Programmes – Crime and Disorder

Document	Key Messages/ Issues
National	
The Crime and Disorder (Formulation and Implementation Strategy) Regulations (2007)	The regulations require all local authorities to have a county strategy group who public a community safety agreement; for Wokingham Borough Council this is the Community Safety Partnership. The Wokingham Community Safety Partnership (CSP) is made up of the following partner agencies: ▪ Wokingham Borough Council ▪ Thames Valley Police ▪ Berkshire Fire & Rescue Service ▪ Thames Valley Police and Crime Commissioner ▪ Berkshire West Clinical Commissioning Group ▪ Berkshire Healthcare Trust ▪ Wokingham Youth Offending Services ▪ National Probation Service
Resource Guide for Local Authorities: Transport Solutions for Older People (2012)	The guide identifies a number of barriers that older people face in using transport systems. It notes that local transport plans offer "*the opportunity to tackle these barriers in a clear and systematic way. Any improvements will benefit not just older people but improve access for many other members of the community".* The resource guide covers a wide range of transport issues facing older people including affordability (given many people are likely to be on fixed incomes) and accessibility in terms of providing transport options to destinations older people need to access. The guide also notes that nationally the number of older people in rural areas has increased at a faster rate than in urban areas, particularly those aged over 85. It goes on to note that "*a lack of frequent, accessible public transport is a particular concern for people living in rural areas. It may, therefore, be necessary to consider alternative transport solutions and innovative means of service delivery to help maintain access to key health, shopping and leisure facilities".*

Document	Key Messages/ Issues
National Planning Policy Framework (NPPF), 2021	Paragraph 185 of the NPPF states that any significant impacts from developments on the transport network (in terms of capacity and congestion), or on highway safety, should be cost effectively mitigated to an acceptable degree. Paragraph 92 (b) of the policy states that policies should help to develop places that '*are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion – for example through the use of attractive, well-designed, clear and legible pedestrian and cycle routes, and high quality public space, which encourage the active and continual use of public areas'*. Places and developments should also create safe spaces where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.
National Networks National Policy Statement (NN NPS) (2014)	Paragraphs 3.10 – 3.12 of the NN NPS advise that "scheme promoters are expected to take opportunities to improve road safety, including introducing the most modern and effective safety measures where proportionate", and that it is the UK Government's policy to ensure that risks of rail passenger and workforce accidents are reduced so far as reasonably practicable.
Highways England Delivery Plan 2015-2020, 2015	Whilst the number of people Killed or Seriously Injured (KSI) on UK roads has generally been declining since 2005, over the last few years the number of fatalities has remained fairly consistent with a small increase in KSIs in 2013. Highways England recognise that they must continue to improve safety by investing in the road network, both to prevent incidents from occurring and to reduce the severity of those that do. By end of 2020, they aim to have reached a target of no more than 1,393 KSIs across the network in a year. This will be achieved by a year on year reduction in those harmed across the network.
Department for Transport, Road Investment Strategy: for the 2015/16 – 2019/20 Road Period, 2015	Safety is an important consideration for road users owing to the significant impact of serious and fatal accidents. A considerable economic cost is also associated with collisions on all roads, estimated at £15 billion annually to the UK economy. While driverless technology still has to mature, it clearly has the potential to transform the UK's transport networks – improving safety, reducing congestion, and lowering emissions.

Document	Key Messages/ Issues
	Safety and the environment suffering as congested traffic is more polluting and there is an increased risk of accidents. The Strategic Road Network and local networks should work together to provide flexibility and door-to door connectivity for all users. Schemes such as the A453 upgrade highlighted below do just this, and we have also set aside funding in the ring-fenced Cycling, Safety, and Integration Fund to further support connectivity with local networks.
Local	
Wokingham Borough Older People's Strategy (2012)	The Strategy aims to reduce the fear of crime amongst older people, making them feel safer in their homes and in the Borough. This includes reducing anti-social behaviour amongst young people.
Great Western Franchise Consultation Strategy (2017)	This Strategy aims to reduce crime and anti-social behaviour on its trains, enabling passengers to feel safer while travelling.
Wokingham Borough Community Safety Strategy (2021-2024) (Draft)	The proposed draft priorities and strategic themes for the Strategy are: ▪ Listening to the needs and concerns of local residents and taking action; ▪ Intervening early and preventing issues escalating; and ▪ Working together to protect vulnerable residents.

Table B-14 – Relevant Plans, Policies, strategies and Programmes – Transport and Accessibility

Document	Key Messages/ Issues
National	
National Planning Policy Framework (NPPF), 2021	Paragraph 104 - Transport issues should be considered from the earliest stages of plan-making and development proposals so that potential impacts and opportunities are addressed. Paragraph 105 - Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. Paragraph 106 – Planning policies should: ▪ support an appropriate mix of uses across an area to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities; ▪ be prepared with the active involvement of local highways authorities; ▪ identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development; ▪ provide for attractive and well-designed walking and cycling networks; and ▪ recognise the importance of maintaining a national network of general aviation airfields, and their need to adapt and change over time Paragraph 112 - address the needs of people with disabilities and reduced mobility in relation to all modes of transport. Paragraph 112 - Create places that are safe, secure and attractive. Paragraph 112 – Developments should be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.
Transport Investment Strategy, 2017	This Strategy sets out how the government will build on recent transport progress and how they intend to respond realistically and pragmatically to today's challenges. They aim to create a more reliable, less congested, and better connected transport network that works for the users who rely on it. Through investment they aim to achieve:

Document	Key Messages/ Issues
	▪ A network that is reliable, well-managed, and safe; ▪ Journeys that are smooth, fast, and comfortable; and ▪ The right connections in the right places
Local	
Wokingham Borough Active Travel Plan (2011-2026)	The vision for the Active Travel plan is: *"To work with partners to promote walking and cycling as a health-enhancing physical activity for all of our residents and as a viable alternative to travelling short distances in cars"* There are four objectives within the plan: ▪ We will work in partnership with businesses to encourage walking and cycling to centres of employment ▪ We will actively encourage walking and cycling to schools, colleges and other education facilities ▪ Improve and encourage active travel access to town and local centres, public open spaces and public transport interchanges ▪ Work with partners and key stakeholders to promote the benefits of active travel to reinforce public heath messages
Wokingham Borough Home to School Travel Assistance Policy (2022-2023)	The goals of the strategy are to, where possible, encouraged and support children and young people, including those with special educational needs and/or disability, to travel independently. This approach helps to deliver the Community Vision and Strategic Priorities.
Wokingham Borough Council Post-16 Transport Policy Statement (2022-2023)	This policy is based on the following principles: ▪ Independence and wellbeing - Our commitment is to support and prepare every young person for adulthood, including those young people with Special Educational needs or disability through the development and promotion of individual independence, facilitating opportunities for social inclusion as well as supporting the physical well-being for all young people. Travel assistance, and the form this takes, is a key contributor to achieving these goals. ▪ Sustainability - The council will favour environmentally sustainable forms of travel, including walking, cycling and the use of public transport. The council will also promote those options which make the most effective use of public resources. In order to support a young person's needs and assisting them to develop greater independence for adulthood, a range of travel options will be explored when deciding what form of travel assistance will be offered. All pupils should be encouraged to follow a healthy lifestyle including walking a reasonable distance to college/sixth form, where possible.

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Wokingham Borough Council

Local Transport Plan 4 Sustainability Appraisal

Appendix D – Assessment of LTP4 Strategy Objectives

September 2023

Wokingham Borough Council

Local Transport Plan 4 Sustainability Appraisal

Appendix D – Assessment of LTP4 Strategy Objectives

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Contents

Tables

Introduction

The assessment of the polices will predict the following:

- Overall effect significance (negative, positive, uncertain, both positive and negative or negligible);
- Nature of effect (direct, indirect);
- Spatial extent (local, regional, national, international);
- Reversibility of effect:
  - Reversible: The receptor can return to baseline condition without significant intervention;
  - Irreversible: The receptor would require significant intervention to return to baseline condition.
- Duration (short, medium or long term) – Short term: 0-5 years, Medium term: 5-10 years (up to the end of the plan period) Long term: 10+ years (beyond the plan period).

Table A-1 below shows the key to effects that have been used within the assessments below. It should be noted that where uncertain and neutral effects have been identified, it has not been possible to determine the nature of effect, the spatial extent, the reversibility or the duration of effect. In this instance, these cells have been left blank.

Table A-1 – Key to Effects

Effect Significance	Key
Potential for significant positive effects	++
Potential for minor positive effects	+
Potential for minor negative effects	-
Potential for significant negative effects	--
Potential for both positive and negative effects	+/-
Uncertain effects	?
Negligible / No effect	0
Nature of effect (direct / indirect)	D / I
Spatial extent (local / regional / national / international)	L / R / N / I
Reversibility of effect (reversible / irreversible)	R / I
Duration (short / medium / long term)	ST / MT / LT

Create Healthy and Safe Places

SAFER STREETS FOR ALL, 50% REDUCTION IN KSIS

Vision Theme	Create Liveable, Healthy and Safe Places							
Objective	Safer Streets for All, 50% reduction in KSIs							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	+	M	I	L	R	P	MT	There are potential positive effects upon natural capital as a result of the reduced degradation to biodiversity from noise and air quality improvements, and the potential for improvements to green infrastructure.
SA2: Materials and Waste	?							Uncertain effects have been identified for materials and waste as there is potential for development arising from this objective. However, the use of materials and generation of waste from development is currently unclear.
SA3: Soils	?							There are uncertain effects on soils due to the likelihood for development arising from this objective. It is currently uncertain if this will include the use of existing roads, or additional land take for new infrastructure.
SA4: Biodiversity	+	M	I	L	R	P	MT	Minor positive effects are anticipated for biodiversity as a result of the objective. The objective is likely to result in improvements to both noise and air quality, reducing disturbance and degradation of local biodiversity, particularly those species living within hedgerows.
SA5: Green Infrastructure	?							Uncertain effects have been identified for green infrastructure as it is currently uncertain if there will be additional green infrastructure included within development that may arise. Effects upon this are likely to be determined by individual schemes that may arise.
SA6: Air Quality	+/-	M	D/I	R	R/I	P	MT/LT	The development of improved infrastructure, speed limit changes, and increasing the network of quiet roads is likely to reduce congestion throughout Wokingham. The development of safer pedestrian and cycle infrastructure is also likely to encourage a modal shift towards active travel modes, improving air quality along these routes. Additionally, the development of additional quieter rural roads may improve air quality in rural areas of the Borough. However, there is potential that changing speed limits may result in increased congestion on heavily utilised routes such as the A4 and B3349.
SA7: Greenhouse Gases	+/-	L	D/I	R	R/I	P	MT/LT	There is potential that increases in road infrastructure may encourage additional private car use, resulting in increased greenhouse gases. However, improving the routes and encouraging active travel is likely to result in reductions in greenhouse gases.
SA8: Climate Resilience	?							Uncertain effects have been identified for climate resilience as these measures are likely to be determined by individual scheme design that may arise from this outcome.
SA9: Noise	+	M	I	L	R	P	MT	There are anticipated minor positive effects upon noise as a result of this outcome. The outcome is likely to reduce both the speed and volume of vehicles on the Borough's roads, indirectly reducing noise. There is potential that increasing the network of rural roads may result in increased vehicles in these areas, and low level noise increase, however this is likely to be low level due to the quieter nature of the roads.

SA10: Landscape and Townscape	++	M	D	R	I	P	LT	There are significant positive effects anticipated for landscape as a result of this outcome. The outcome is likely to result in improvements to the local landscape setting through reductions in traffic disturbance, as well a contribute to improvements to the public realm through the development of quieter and safer streets. There is also likely to be improvements to the landscape through the development of attractive pedestrian and cyclist environments.
SA11: Historic Environment	+	L	I	L	R	P	MT/LT	There are minor positive effects anticipated for the historic environment as a result of this outcome. Indirectly, improvements to the landscape and landscape setting are likely to improve the setting of local heritage assets, and reductions in noise are also likely to contribute to improving the setting, therefore improving the significance of settings.. Additionally, improvements in air quality contributes to reducing the degradation of heritage assets.
SA12: Water Quality	0							
SA13: Flooding	?							Uncertain effects have been identified for flooding as both the A4 and B3349 intersect areas of flood zone 3. The nature of development along these routes is unclear, however there is potential for flooding along the route, particularly if there are increases in hard standing and impermeable surfaces.
SA14: Population	++	M	D	R	I	P	LT	The prosed developments to infrastructure provide increased connectivity throughout the Borough as well as infrastructure to provide for current population needs. Additionally, there is potential that the Boroughwide cycle skills network audit will result in improvements to infrastructure, however, this is currently uncertain.
SA15: Health	++	M	D	R	I	P	LT	The development of the outcome results in improvements to road safety throughout Wokingham Town Centre, the A4 and B3349, reducing the number of KSI on these routes. Additionally, the outcome also provides improved safety to schools streets and routes to school, reducing the number of accidents involving children. The development of safer school routes, as well as the development of pedestrian and cyclist routes, is also likely to encourage active travel and subsequently improve physical activity and health amongst the population. There are also potential improvements to safety as a result of the Boroughwide cycle skills network audit.
SA16: Economy and Employment	+/-	L	I	R	R	P	MT	Developments to the local network as proposed have the potential to result in improved connectivity between the town centre and rural areas. This is likely to improve accesses to employment and the local economy. However, implementing speed limit changes along key routes may result in increased traffic volumes and increased congestion during peak times.
Potential Cumulative / Synergistic Effects	There are potential for cumulative effects upon health, population and landscape due to the increased safety and development of routes. There are also potential cumulative effects upon biodiversity, noise, air quality and greenhouse gases due to changes in vehicle volumes.							
Mitigation and Enhancement Measures	The outcomes of the vision could be enhanced through incorporating drainage methods to minimise flood risk within development.							
EqIA considerations	*Older people, disabled users and those with long term health conditions, and younger people are more vulnerable to collisions on roads *Children in Wokingham walking and cycling to school may be vulnerable to collisions. *Same sex couples may be targeted on streets *Pregnant women and new mothers may struggle accessing public transportation *People holding a religion or belief may experience discrimination on public transport *LGBTQ+ can experience sexual orientation based discrimination on public transport							

Recommendations	The outcome could be expanded to include reference to how the network of safer pedestrian and cycle routes will allow access for all inclusively. The outcome could be expanded to specify how routes to school will be improved, including safer crossings and lower speeds. To improve safer streets, motor vehicle traffic should be reduced or excluded entirely.

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50% ACTIVE TRAVEL IN TOWNS BY 2030

Vision Theme	Create Liveable, Healthy and Safe Places							
Objective	50% Active Travel in Towns							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	L	I	L	R	P	MT	There are minor positive effects anticipated for biodiversity as a result of this outcome. The reduction in vehicles in town centres is likely to reduce noise and air quality impacts on local biodiversity.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	M	D/I	L	R/I	P	MT/LT	Minor positive effects are anticipated for air quality as a result of vehicle changes within the town centre. Reducing the dominance of vehicles and reducing the number of vehicles within town centres contributes to improving air quality. Additionally, the outcome contributes to encouraging a modal shift away from private car use, towards active travel modes including cycling and walking.
SA7: Greenhouse Gases	+	M	D/I	L	R/I	P	MT/LT	Minor positive effects have been identified for greenhouse gases as a result of changes to vehicle infrastructure. A reduction in cars within the town centre contributes to a reduction in greenhouse gases. Additionally, reducing the speed limit to 20mph results in a reduction in GHG emissions from cars as lower speeds require less energy, and therefore emit lower levels of GHGs.
SA8: Climate Resilience	0							
SA9: Noise	+	M	I	L	R	P	MT	There are anticipated minor positive effects upon noise as a result of the outcome. A 20mph speed limit is likely to reduce vehicle noise along key town centre routes. Additionally, reducing the dominance of vehicles contributes to reductions in noise.
SA10: Landscape and Townscape	+	L	I	L	R	P	LT	If positively designed, the developments to cycle parking and e-scooter hire are likely to result in improvements to the streetscape. Additionally, a reduction in vehicles in town centres improves the landscape setting.
SA11: Historic Environment	+	L	I	L	R	P	LT	Indirectly, improving air quality and reducing noise within town centres is likely to improve the settings and reduce the degradation of heritage assets within town centres.
SA12: Water Quality	0							

SA13: Flooding	0							
SA14: Population	+	M	I	L	R	P	MT	Minor positive effects have been identified for population as the development to town centres provides improved provisions for current and future populations within town centres, including improved cycle parking. The development of e-scooter hire and adapted cycle parking also provides provisions for those who are disabled, elderly, or have mobility issues.
SA15: Health	++	M	D	L	R	P	MT	There are significant positive effects anticipated for health as the developments within town centres improve pedestrian and cycle infrastructure, which is likely to encourage active travel modes, improving physical activity and therefore health. Additionally, the outcome results in improvements to user safety, reducing the number of accidents.
SA16: Economy and Employment	+	M	D	L	I	P	LT	There are anticipated minor positive improvements to economy and employment as a result of the increased space for businesses within town centres. This provides more space for economies. Additionally, improving the pedestrian environment and improving cycle facilities is likely to encourage residents to access town centres.
Potential Cumulative / Synergistic Effects	There are potential for cumulative effects upon air quality, noise, population and health due to improvements within town centres for safety, and improved active travel facilities. There are also potential cumulative effects upon economy due to town centre developments and increased space for business.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified at this stage. Mitigation is likely to be based on individual schemes that may arise as a result of the LTP4.							
EqIA considerations	*All age groups may be more likely to utilise safer active travel routes *Disabled users may be less likely to use unsuitable environments with inaccessible areas *Adapted cycle parking increasing accessibility for disabled users *Women are generally primary caregivers for the first 26 weeks after birth, and tend to accompany children to school and childcare. *Pregnant women and new mothers may struggle accessing public and active travel							
Recommendations	The policy could be expanded to outline the high quality cycle facilities from the LCWIP that will be carried into the LTP4. The policy could outline how vehicle dominance will be reduced within town centres. The policy could include measures to ensure that e-scooter hire schemes are affordable for all, namely elderly and disabled users.							

THRIVING VILLAGES AND TOWN CENTRES

Vision Theme	Create Liveable, Healthy and Safe Places							
Objective	Thriving Villages and Town Centres							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	0							
SA5: Green Infrastructure	?							It is uncertain if the expansion of the Greenways scheme will include green infrastructure. Effects upon this are likely to be determined by individual schemes that may arise.
SA6: Air Quality	+	L	D	L	I	P	LT	The development of additional EV charging, cycle parking, motorcycle parking, and enhancing pedestrian access is likely to encourage more sustainable modes of transportation within rural areas. This is likely to reduce traditional fuelled car use to travel to these destinations, improving air quality. Additionally, trialling low traffic areas is likely to result in improvements in air quality.
SA7: Greenhouse Gases	+	L	D	L	I	P	LT	Encouraging sustainable vehicle modes such as EV's, and improving walking and cycling environments is likely to result in a reduction in GHGs from private vehicles.
SA8: Climate Resilience	0							
SA9: Noise	+	L	D	L	I	P	LT	Encouraging the use of EV's within rural areas of the Borough is likely to result in reduced vehicle noise within these areas.
SA10: Landscape and Townscape	+	M	I	L	I	P	LT	The expansion of the Greenways network results in improvements to local landscapes, through improvements to the public realm. Additionally, this objective outcome is likely to improve local landscape setting through a reduction in private vehicle numbers and increase in improved pedestrian, cyclist, and horse riding infrastructure.
SA11: Historic Environment	+	L	I	L	R	P	LT	There is potential for positive effects to the setting of heritage assets as a result of improvements to the public realm through the Greenways expansion, and the improvement in pedestrian and cyclist infrastructure. Additionally, improvements to air quality will result in the reduction in degradation of heritage assets.
SA12: Water Quality	0							
SA13: Flooding	0							

SA14: Population	++	M	D	L	I	P	LT	Significant positive effects are identified for population as the outcome includes developments that facilitate local community needs, as well as enhancing community access for the local population. Improving EV charging and parking facilities also provides infrastructure for current and future populations. The development of the Greenways network also provides improvements to connectivity for a range of social groups, including children, and provides improvements to services where required. The development also includes improvements to public spaces, developing these facilities for public use. Additionally, the development of active travel route web-based maps provides an up-to-date service for the local population.
SA15: Health	++	M	D	L	I	P	LT	The outcome includes measures to enhance pedestrian access to local service centres. This may improve health if these services are healthcare or leisure centres. There are also potential improvements to mental wellbeing as a result of this outcome, through improving access to green spaces. Additionally, the development of active travel route web-based maps provides an improved network for encouraging physical activity and the uptake of active travel. Measures within the objective support the improvements of pedestrian, cyclist and horse riding infrastructure, encouraging physical activity.
SA16: Economy and Employment	+	L	D	L	R	P/T	MT	There are anticipated minor positive effects upon economy as a result of the support for opportunities for temporary highway closures for local events in rural villages. This supports the vitality of rural villages and encourages visitors to rural areas of Wokingham, boosting the rural economy.
Potential Cumulative / Synergistic Effects	There are potential cumulative effects on air quality, population, and healthcare through enhancing access to local amenities within rural areas. Additionally, there are potential cumulative effects on economy in rural areas as a result of boosting local events.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified at this stage. Mitigation is likely to be based on individual schemes that may arise as a result of the LTP4.							
EqIA considerations	*Elderly and disabled users may struggle with access to services and require improved access *Same sex couples are more likely to be a victim of harassment or discrimination when on public transport, walking or cycling *People holding a religion or belief may experience discrimination on public transport							
Recommendations	The policy could be expanded to include specifications as to what local service centres will have enhanced access.							

Reduce Environmental Impacts

Net Zero Carbon Emissions
Clean Air, Removal of All Air Quality Exceedances
High Quality Sustainable Travel Corridors

NET ZERO CARBON EMISSIONS

Vision Theme	Reduce Carbon Emissions from Transport							
Objective	Net Zero Carbon Emissions							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	+/-	L	I	R	R/I	P/T	ST/LT	Improvements to air quality across the Borough is likely to result in improvements to natural capital and reduce degradation of this asset due to poor air quality, resulting in positive effects. However, there is potential that development to decarbonise the transport network may result in negative effects due to poor air quality associated with construction. It is noted that construction effects are likely to be temporary, and determined by individual schemes that may arise.
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	M	D	R	R	P/T	MT/LT	There are likely to be minor positive effects on biodiversity as a result of Net Zero Emissions due to improvements in air quality and reductions in noise and traffic. This is likely to reduce the disturbance to local biodiversity, particularly those in habitats bordering the Borough's busiest roads, and may also contribute to reducing biodiversity loss as a result of poor air quality.
SA5: Green Infrastructure	0							
SA6: Air Quality	++	M	D/I	R	R/I	P/T	MT/LT	There are likely to be improvements to air quality as a result of the Net Zero Emissions objective. There is anticipated to be a reduction in vehicle movements on Wokingham Borough Council (WBC)'s roads, with encouragement of the transition to zero emissions buses. The objective outcome also includes the development of electric vehicle (EV) charging infrastructure. These outcomes are likely to contribute to reducing the number of private vehicles on the network, including petrol and diesel vehicles, and encourage a modal shift towards sustainable transport. Therefore, there is likely to be a reduction in emissions across the Borough, contributing to improvements in air quality.
SA7: Greenhouse Gases	++	M	D	R	R/I	P	MT/LT	There are anticipated significant positive effects on GHGs as a result of Net Zero Emissions. A reduction in total traffic movements, combined with an encouragement of EVs and decarbonisation of the transport network, including zero emission buses. This is likely to result in a reduction in GHG emissions from transport, particularly due to the transition away from petrol and diesel fuelled vehicles.

SA8: Climate Resilience	?							There is potential that the decarbonisation of the transport network, and development of solutions to decarbonise the network, may result in increased climate resilience. However, it is currently uncertain what developments may arise and whether developments will contribute to climate resilience as this is likely to be determined by individual scheme design.
SA9: Noise	+	M	I	R	R	P	MT	An overall reduction in total traffic movements in WBC is likely to result in a reduction in road noise. This is particularly likely to occur on heavily congested and noisy routes, including the A329, M4, A329(M), A33, Reading Road, London Road, and Finchampstead Road. Additionally, EVs result in lower noise levels than petrol and diesel vehicles. Therefore encouraging a shift towards the use of EVs is likely to result in reduced noise along roads across the Borough.
SA10: Landscape and Townscape	+	L	I	R	R	P	MT	Reducing the number of vehicles on the Borough's roads is likely to result in reduced congestion. This, alongside a reducing in vehicle noise, is likely to improve the setting of Wokingham Borough's landscape and townscape.
SA11: Historic Environment	+	L	I	L	R	P	MT	Poor air quality has been linked to increased degradation of the surfaces of heritage assets. Therefore improvements to air quality within the Borough are likely to result in reductions in the degradation of heritage assets. There is also the potential that reductions in noise pollution may improve the setting of heritage assets and improve the significance of settings.
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+/-	M	I	R	R	P	LT	Improving digital accessibility will have positive effects on the population due to an increase in efficiency and accessibility of information. Improving digital accessibility also has the potential for negative impacts on the population for individuals without the means to access digital services, who may be left without access to information. Provisions need to be in place to ensure those without the means or knowledge to access digital services are supported.
SA15: Health	+	M	I	R	R	P	MT	Indirectly, the Net Zero Emissions objective is likely to positively impact upon health. Air quality improvements are likely to result in improved health, particularly as air quality has been linked to poor health. For residents located close to areas of poor air quality, or those who regularly use highly congested routes, there are likely to be reductions to the exacerbation of respiratory conditions such as asthma. Additionally, a reduction in noise for those residents close to noisy routes is likely to result in improved mental wellbeing as a result of reduced disturbance.
SA16: Economy and Employment	+	M	I	R	R	P	MT	There are anticipated to be indirect effects on economy and employment as a result of the Net Zero Emissions objective. There are likely to be improvements to journey times as a result of reductions in the number of vehicles on the Borough's roads. This is likely to improve the reliability of transport networks and journey to work times.
Potential Cumulative / Synergistic Effects	There are potential cumulative effects on air quality and greenhouse gases as a result of encouraging a modal shift away from petrol and diesel vehicles across the transport network. Subsequently, there is also potential for cumulative benefits to health, biodiversity, and noise if multiple developments were to arise.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified at this stage. Mitigation is likely to be based on individual schemes that may arise as a result of the LTP4.							

EqIA considerations	* Younger working aged people may struggle to access EV charging infrastructure in areas with limited off-street parking. *Implementing driverless buses may increase isolation amongst the elderly *People undergoing gender reassignment and same sex couples may feel unsafe on public transport *BAME communities may be more at risk of discrimination on public transport *Pregnant women and new mothers are vulnerable to social isolation. *People holding a religion or belief may experience discrimination on public transport. *People with disabilities, deaf or hard of hearing, blind or with poor vision, may struggle to hear low noise vehicles and may be more at risk of accidents.
Recommendations	The objective outcome could be developed to be more specific about the quantity of total traffic reduction on WBC roads. The objective outcome could be expanded to outline where the sustainable corridors would be located.

CLEAN AIR, REMOVAL OF ALL AIR QUALITY EXCEEDANCES

Vision Theme	Reduce Carbon Emissions from Transport							
Objective	Clean Air, removal of all air quality exceedances							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	+	M	D	R	R	P/T	MT/LT	There are likely to be minor positive effects on biodiversity due to improvements in air quality as a result of Clean Air. This is likely to reduce the disturbance to local biodiversity, particularly those in habitats bordering Town Centre roads, and may also contribute to minimising biodiversity loss in these areas as a result of poor air quality.
SA5: Green Infrastructure	0							
SA6: Air Quality	++	M	D	R	R	P	LT	The proposed outcome should result in improved air quality within the Borough, particularly within AQMA's. Additionally, reducing the quantity of traffic and changing speed limits to achieve this objective is likely to encourage a modal shift away from private transport. Improving the safety for active travel within Twyford Town Centre is also likely to contribute to a modal shift. However, the measures considered within the Wokingham Town Centre Freight Strategy are currently unclear, and therefore the contribution to air quality improvements cannot be established at this time. It is anticipated that the strategy will include improvements to freight within the town centre, including reducing emissions on deliveries.
SA7: Greenhouse Gases	++	M	D	R	R	P	LT	There are anticipated improvements to greenhouse gases as a result of this outcome. The outcome includes reducing the number of private vehicles, and likely freight, within Wokingham Town Centre, reducing vehicle related greenhouse gas emissions. Additionally, facilitating the transition to zero emission buses, and supporting the decarbonisation of the rail network will further reduce transport related greenhouse gases.
SA8: Climate Resilience	0							
SA9: Noise	0							
SA10: Landscape and Townscape	+	L	I	L	R	P	MT	Reducing the number of vehicles within the town centre is likely to result in reduced congestion. This contributes to improving the setting of Wokingham Borough's landscape and townscape.
SA11: Historic Environment	+	L	I	L	R	P	MT	Improvements to air quality within the Borough are likely to result in reductions in the degradation of heritage assets. There is also the potential that reductions in traffic, and traffic speeds, may improve the setting of heritage assets and improve the significance of settings.

SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	+	M	D	R	R	P	MT	Positive effects are anticipated for population as a result of Clean Air. Improvements to safety for cyclists, pedestrians, and reliability of public services is likely to provide improvements to infrastructure and services for the current population, and reduce the number of accidents involving cyclists and pedestrians.
SA15: Health	+	M	D	R	R	P	MT	. Air quality improvements are likely to result in improved health, this is particularly likely for those living within and using areas of air quality exceedances and AQMAs. Additionally, the outcome includes improved safety for cycling and pedestrians, increasing the likelihood of active travel usage and physical activity rates. These improvements are also likely to result in improvements to health through a reduction in accidents, improving safety.
SA16: Economy and Employment	+/-	L	I	R	R	P	LT	Positive effects on economy and employment are anticipated as a result of improvements to the reliability of public transport services, improving journey times. However, there is potential for negative effects as changes to accessibility may restrict access and cause increased journey times for those accessing work and services within Wokingham Town Centre by car.
Potential Cumulative / Synergistic Effects	There are potential for cumulative effects upon air quality and greenhouse gases through improvements to air quality. There are also potential positive effects on human health as a result of these improvements.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified at this stage. Mitigation is likely to be based on individual schemes that may arise as a result of the LTP4.							
EqIA considerations	*People with long term health conditions may be more negatively impacted by poor air quality *People holding a religion or belief may experience discrimination on public transport. *People on lower incomes often live in areas that suffer with poor air quality so may benefit from improved air quality. *BAME communities may be more at risk of discrimination on public transport.							
Recommendations	The outcome objective 'Wokingham Town Centre Freight Strategy' could be expanded to give more information on what this may entail for Clean Air. The outcome objective could expand upon the nature of potential changes to access in Wokingham Town Centre and how traffic may be reduced in these areas.							

High Quality Sustainable Travel Corridors

Boroughwide

Vision Theme	Reduce Carbon Emissions from Transport							
Objective	High Quality Sustainable Travel Corridors - Boroughwide							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	?							Uncertain effects have been identified as it is currently unclear if improving access to public transport, disabled parking, bus stop enhancement, and level access improvements at stations and Tan House Bridge will result in construction works that may include additional materials, or land take if required. This is likely to be determined by individual developments arising as a result of this objective.
SA3: Soils	?							Uncertain effects have been identified as it is currently unclear if improving access to public transport, disabled parking, bus stop enhancement, and level access improvements at stations and Tan House Bridge will result in construction works that may include additional land take. This is likely to be determined by individual developments arising as a result of this objective.
SA4: Biodiversity	+/-	L	I	R	R	P/T	MT/LT	There are likely to be minor positive effects on biodiversity due to improvements in air quality. This is likely to reduce the disturbance to local biodiversity and may also contribute to minimising biodiversity loss as a result of poor air quality. However, there is potential that development may result in land take, resulting in loss of biodiversity and disturbance to local habitats and species.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	L	I	R	R	P	LT	There are anticipated indirect positive effects on air quality as a result of this objective improving access to public transport. Indirectly, this encourages a modal shift away from private vehicles through making public transport more accessible and attractive to residents of the Borough, improving air quality.
SA7: Greenhouse Gases	+	L	I	R	R	P	LT	There are anticipated indirect positive effects on greenhouse gases as this objective improves access to public transport. Indirectly, this results in a likely reduction in vehicle related GHGs.
SA8: Climate Resilience	0							
SA9: Noise	0							
SA10: Landscape and Townscape	0							
SA11: Historic Environment	0							

SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	++	M	D	R	I	P	LT	Significant positive effects have been identified for population as this objective outcome improves public transport infrastructure inclusively for the current and future population. Additionally, this objective includes measures to develop lower bus fares. Lower fares help to ensure that bus services are accessible to all within the community, including those on low incomes. Additionally, community dial-a-ride services provide services for largely disabled or elderly users, providing accessibility and improving community services.
SA15: Health	+	L	I	R	R	P	LT	Indirect positive effects have been identified for health. This objective outcome is likely to improve mental well-being through providing access to the wider Borough, improving access to socialisation, facilities and employment.
SA16: Economy and Employment	+	L	I	R	R	P	LT	Minor positive effects have been identified for the economy as a result of this objective outcome. The outcome improves access to public transport and therefore improves access to the wider Borough, and employment opportunities. This also likely to improve access to retail and services across the Borough.
Potential Cumulative / Synergistic Effects	There are potential cumulative effects on population, air quality and greenhouse gases as a result of encouraging a modal shift away from private vehicles, and providing improvements to accessibility. Subsequently, there is also potential for cumulative benefits to biodiversity, health and economy.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified at this stage. Mitigation is likely to be based on individual schemes that may arise as a result of the LTP4.							
EqIA considerations	*Improved public transportation improves access for younger working aged people *Improved access to railway stations may have potential positive effects on disabled and elderly users, as well as those relying on public transport *Pregnant women and new mothers may struggle accessing public transport. *BAME communities utilise bus services more than other ethnic groups. *Developing improved access to public transport improves access for low income groups.							
Recommendations	This objective outcome could be expanded to include improvements to the frequency of public transport services.							

Vision Theme	Reduce Carbon Emissions from Transport							
Objective	High Quality Sustainable Travel Corridors - Earley, Woodley and Shinfield							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	?							Uncertain effects have been identified as it is unclear if development will occur as part of the high quality cycle facilities and improved interchange facilities at Earley. There is potential for development to require additional materials, however this is currently uncertain.
SA3: Soils	?							Uncertain effects have been identified as it is unclear if development will occur as part of the high quality cycle facilities and improved interchange facilities at Earley. There is potential for development to require additional land.
SA4: Biodiversity	+	M	D	R	R	P/T	MT/LT	There are likely to be minor positive effects on biodiversity due to improvements in air quality. This is likely to reduce the disturbance to local biodiversity, particularly those in habitats bordering the A4/A321, A33, A329 and A327, and may also contribute to minimising biodiversity loss as a result of poor air quality. However, there is potential that if there are increases in noise as a result of bus services, this may disturb biodiversity along these routes.
SA5: Green Infrastructure	+	M	D	L	I	P	LT	There is anticipated positive effects on green infrastructure as the development of new cycle facilities may improve green infrastructure. Green infrastructure measures are likely to be specific to each development, however there is potential for improvements to biodiversity and ecosystem services in Earley, Woodley and Shinfield.
SA6: Air Quality	+	M	I	R	R/I	P	LT	There are anticipated indirect positive effects on air quality as a result of a modal shift away from private vehicle use. An increase in bus frequency and improved facilities at Earley train station are likely to encourage users to use public transport. Additionally, improving the cycle facilities along strategic cycle routes is likely to encourage users, particularly commuters, to use public and active travel. Through reducing the number of users on roads, there are likely to be reductions in emissions and therefore improvements in air quality.
SA7: Greenhouse Gases	+	M	D	R	R/I	P	LT	Positive effects on greenhouse gases are anticipated due to the outcome encouraging a modal shift away from private car use, providing improved public and active travel modes. Therefore, there is potential for GHG emissions from private cars to reduce across the edge of Reading area. This is particularly likely due to the large number of commuters in the area. However, it is uncertain whether the increased bus frequency will include green buses, further reducing GHG emissions.
SA8: Climate Resilience	?							There are uncertain effects upon climate resilience as it is currently unclear if development will be undertaken upon strategic cycle routes to improve facilities. There is potential that development may result in increased embodied carbon, or include climate resilience measures.

SA9: Noise	+/-	L	D/I	R	R	P	LT	The outcomes proposed within High Quality Sustainable Travel Corridors result in potential indirect positive effects on noise, through encouraging a modal shift away from private vehicles and towards public and active transport. This has the potential to reduce the number of vehicles on WBC roads, particularly reducing noise on the Borough's most congested roads. However, there is potential that an increase in bus services along priority bus corridors may result in increased noise on these routes. This is particularly notable as some of the priority bus corridors included within the scheme are not located within existing areas of high noise and are therefore likely to have increased effects on the local population.
SA10: Landscape and Townscape	+	L	I	R	R	P	MT	Encouraging a modal shift away from private vehicles is likely to result in reduced congestion, improved air quality, and reductions in vehicle noise. This has the potential to improve the setting of Wokingham Borough's landscape and townscape.
SA11: Historic Environment	+	L	I	L	R	P	MT	Air quality has been linked to increased degradation of the surfaces of heritage assets, therefore improvements to air quality within the Borough are likely to result in reductions in the degradation of heritage assets. Reductions in traffic is also likely to improve the number of
SA12: Water Quality	0							
SA13: Flooding	0							
SA14: Population	++	M	D	R	R/I	P	LT	Increasing bus frequency within priority bus corridors will result in increased services for local residents and the wider population, improving connectivity within the Borough. Increased bus services are also likely to result in positive effects through inclusively improving access to public transport services, this is particularly likely to benefit those who are more likely to rely on public transport, such as people on lower incomes, the elderly, and young adults. Additionally, providing high quality cycle facilities provides improved services for current and future populations. The proposed high quality facilities also form part of Reading Strategic Cycle Routes, further improving connectivity both within the Borough and with neighbouring areas. The improved interchange and access facilities at Earley rail station will also contribute to improving accessibility to all social groups inclusively and improving connectivity.
SA15: Health	+	L	I	R	R	P	MT	There are likely to be indirect positive effects on health as a result of the High Quality Sustainable Travel Corridors objective. The improvement of cycle facilities contributes to encouraging the update of active travel, improving physical activity rates.
SA16: Economy and Employment	+	M	I	R	R	P	LT	There are likely to be positive effects on economy and employment as a result of improvements to bus journey times and cycle facilities. This, alongside the improved interchange at Earley rail station is likely to result in improvements to both journey times and connectivity to wider employment areas. Improvements on the Edge of Reading are particularly likely to result in improved access to employment, connecting with the wider region and Reading.
Potential Cumulative / Synergistic Effects	There are potential cumulative effects on air quality and greenhouse gases as a result of encouraging a modal shift away from private vehicles. Subsequently, there is also potential for cumulative benefits to population, health and economy.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified at this stage. Mitigation is likely to be based on individual schemes that may arise as a result of the LTP4.							

EqIA considerations	*Improved public transportation improves access for younger working aged people *Improvements to access to railway stations may have potential positive effects on disabled and elderly users, as well as those relying on public transport *Pregnant women and new mothers may struggle accessing public transport. *BAME communities utilise bus services more than other ethnic groups. *BAME communities may be more at risk of discrimination on public transport. *Developing improved access to public transport improves access for low income groups. *People holding a religion or belief may experience discrimination on public transport.
Recommendations	Improved access facilities could be expanded to include reference to improving equal access to rail services. The outcome could also benefit from including measures for integrated ticketing, to improve the accessibility and cost of public transport. The outcome could be expanded to specify that sustainable fuelled buses will provide increased bus frequencies.

Vision Theme	Reduce Carbon Emissions from Transport							
Objective	High Quality Sustainable Travel Corridors - Wokingham & Winnersh							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	?							Uncertain effects have been identified as there is potential for the construction works to result in loss of natural capital due to land take, as well as resulting in increased disturbance during construction. However, it is also uncertain if the developments will include measures to enhance natural capital.
SA2: Materials and Waste	?							It is currently uncertain if the development of a high-quality sustainable transport corridor along the A329 will involve the development of new infrastructure, or utilise the existing transport network. There is potential for waste, and increase use of materials if the development requires new infrastructure. This is also applicable to improving access to the stations along the North Downs Line.
SA3: Soils	?							Uncertain effects are identified for soils as it is unclear if the delivery of the transport corridor along the A329 will require additional land take, or utilise the existing highway. Similarly, it is uncertain if the improvements to access to stations will require additional land, or if this will upgrade existing access routes.
SA4: Biodiversity	+/-	M	D/I	L	R/I	P/T	ST/LT	Developing a high-quality sustainable travel corridor, as well as improving access to stations along the North Downs Line have the potential to indirectly positively effect biodiversity through reductions in noise and improvements in air quality as a result of reduced congestion on roads and improving public transport accessibility. However, there is potential for short-term negative effects on biodiversity due to construction related noise, vibration and emissions. It is also currently uncertain if land take will be required for these schemes, and therefore if there will be any direct loss of biodiversity.
SA5: Green Infrastructure	+	M	D	L	I	P	LT	There is anticipated positive effects on green infrastructure as the development of active travel corridors may improve green infrastructure. Green infrastructure measures are likely to be specific to each development, however there is potential for improvements to biodiversity and ecosystem services.
SA6: Air Quality	+	M	D	L	R	P	MT	Minor positive effects are identified for air quality as it is anticipated that the development of the A329 sustainable travel corridor will reduce congestion along this route, improving air quality. Additionally, improving the access to stations along the North Downs Line is likely to encourage a modal shift towards public transport use.
SA7: Greenhouse Gases	+/-	M	D	L	R	P/T	ST/MT	There are potential negative effects upon greenhouse gases during the construction of the sustainable travel corridor, and construction works at stations in the North Downs Line, from construction equipment. However, during operation, the routes are likely to result in reductions in vehicle emissions, reducing GHGs.
SA8: Climate Resilience	?							It is currently uncertain if the development of the new transport corridor will include climate resilience measures, including heat and flooding mitigation. It is recommended that due to its proximity to flood zone 3, there may be SuDS included within development close to the A329.

SA9: Noise	+/-	M	D	L	R	P/T	ST/MT	There is potential for increases in noise during the construction of development as a result of plant equipment. However, during operation there is likely to be a reduction in vehicle noise due to reductions in congestion along the A329.
SA10: Landscape and Townscape	+/-	M	D	L	R/I	P/T	ST/MT	During construction, there may be changes to the local landscape and townscape, including the addition of construction and plant equipment and noise. This is likely to result in negative effects upon the local landscape and townscape setting. However, developments to the facilities at stations may contribute to improving frontages, and the reductions in congestion are likely to positively affect landscape and townscape settings.
SA11: Historic Environment	+/-	M	D	L	R/I	P/T	ST/LT	There are potential negative effects anticipated for the historic environment as there are a number of heritage assets located long the boundary of the North Downs Line and the A329. There is potential that during construction, these assets may be disturbed, with negative effects on their settings as a result of construction noise, vibration and emissions. However, there is potential for positive effects on the settings of assets following construction, due to a reduction in vehicles and congestion.
SA12: Water Quality	0							
SA13: Flooding	?							Uncertain effects have been established for flooding. It is unclear if there will be development to or along the A329. However, areas bordering this route are located within Flood Zone 3. Therefore, there is potential for flooding along the route, particularly if there are increases in hard standing and impermeable surfaces.
SA14: Population	+	M	I	L	I	P	LT	Minor positive effects have been identified for population, as the development of the sustainable transport corridor along the A329 and access to stations is likely to provide additional access to Wokingham Borough, as well as the wider community. This provides improved access to services, such as leisure and healthcare, as well as providing infrastructure for a growing population. It is assumed that improvements too access may also improve access for disabled and elderly users, however this is currently uncertain.
SA15: Health	0							
SA16: Economy and Employment	+	L	I	R	R	P	MT	Minor positive, indirect effects are identified for economy and employment as the developments to both the A329 and station access is likely to result in reductions to congestion, and improvements to journey times. Additionally, this improves connections within Wokingham and Winnersh, the wider Borough, and Reading.
Potential Cumulative / Synergistic Effects	There are potential cumulative effects on economy and employment due to improved journey reliability times, and improved connectivity to the wider region. Additionally, there are potential cumulative effects on air quality, greenhouse gases, and biodiversity as a result of construction and operational phases of development.							
Mitigation and Enhancement Measures	The outcomes of the vision could be enhanced through incorporating drainage methods to minimise flood risk within development.							
EqIA considerations	*Improved public transportation along the A329 and A321 improves access for younger working aged people *Improved access to railway stations may have potential positive effects for disabled and elderly users, as well as those relying on public transport *Pregnant women and new mothers may use adapted cycles to travel and struggle accessing public transport. *BAME communities utilise bus services more than other ethnic groups. *Developing improved access to public transport improves access for low income groups.							
Recommendations	Specific measures could be included to improve access to stations for the disabled and elderly, for example, improving access routes for all users, and reducing congestion on key routes to stations.							

Vision Theme	Reduce Carbon Emissions from Transport							
Objective	High Quality Sustainable Travel Corridors - South Wokingham							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	?							There are potential for minor negative effects upon natural capital if the development along the B3349 and A321 results in the loss of biodiversity. However, the scale of this effect is currently unknown.
SA2: Materials and Waste	?							It is currently uncertain if the upgrade of active travel facilities along the B3349 and A321 will involve the development of new infrastructure, or utilise the existing infrastructure. There is potential for waste, and increased use of materials if the development requires new infrastructure.
SA3: Soils	?							Uncertain effects are identified for soils as it is unclear if the if the upgrade of active travel facilities along the B3349 and A321 will require additional land take, or utilise the existing brownfield land and footpath infrastructure.
SA4: Biodiversity	+/-	M	D	L	I	P	ST/LT	Negative effects have been identified for biodiversity as a result of the developments along the B3349 and A321. There are areas of hedgerow located along the route, which are home to a diverse range of species, including birds and other small mammals. As the current active travel route is narrow, it is assumed that the development would include additional land take. This may result in the loss or damage to habitats, and therefore species. However, there are anticipated positive effects on biodiversity as a result of improved air quality.
SA5: Green Infrastructure	-	M	D	L	I	P	ST/LT	Minor negative effects have been identified for biodiversity as a result of the developments along the B3349. There is potential that the development of active travel routes may result in small scale loss of green infrastructure, and temporary disturbance to the green routes and riverside paths located along the route.
SA6: Air Quality	++	M	D	L	R	P	LT	There are anticipated positive effects on air quality as a result of the objective. The improvement of public and active travel infrastructure is likely to facilitate a modal shift away from private car use, improving air quality along the B3349 and A321. Furthermore, increasing bus service frequency is likely to encourage residents in this area to utilise bus services to travel to Wokingham Town Centre, and the wider region, further improving air quality through a reduction in car use.
SA7: Greenhouse Gases	+/-	M	D	L	R	P/T	ST/MT	There are potential negative effects upon greenhouse gases during the construction of both the upgraded active travel routes from construction equipment. However, during operation, the routes are likely to result in reductions in vehicle emissions, reducing GHGs. Additionally, improving bus transportation services may reduce private car related GHGs.
SA8: Climate Resilience	?							It is currently uncertain if the development of the active travel facilities will include climate resilience measures, including heat and flooding mitigation. Climate resilience measures are likely to be development specific and determined in the development design stage.
SA9: Noise	+/-	L	D/I	L	R	P/T	ST/LT	Developing the active travel routes, as well as improving bus services, is likely to reduce private car use along these key routes. Indirectly, this then reduces vehicle noise along

								these routes, particularly in the Arborfield area. However, during construction, there may be changes to local noise levels as a result of construction and plant equipment and noise.
SA10: Landscape and Townscape	+/-	M	D	L	R/I	P/T	ST/MT	During construction, there may be changes to the local landscape and townscape, including the addition of construction and plant equipment and noise. This is likely to result in negative effects upon the local landscape and townscape setting. However, developing the active travel facilities along the B3349 and A321 have the potential to improve the public realm in these areas, resulting in positive effects.
SA11: Historic Environment	-	L	D	L	R	T	ST	There are potential negative effects anticipated for the historic environment as there are a number of heritage assets located along the B3349, including conservation areas, archaeological sites, and a historic park and garden. There is potential that during construction, these assets may be disturbed, with negative effects on their settings as a result of construction noise, vibration and emissions.
SA12: Water Quality	0							
SA13: Flooding	?							Uncertain effects have been established for flooding. The B3349 intersects multiple areas of Flood Zone 3 and it is currently unclear if there will be increased flood resilience measures included within the development of upgraded facilities. Therefore, there is potential for flooding along the route, particularly if there are increases in hard standing and impermeable surfaces.
SA14: Population	++	M	D	R	R/I	P	LT	Significant positive effects on population have been identified as a result of the objective. The increase to bus services, as well as the upgraded active travel facilities are likely to improve connectivity between Arborfield, Finchampstead and Wokingham Town Centre. This provides connectivity for the rural populations within Arborfield and Finchampstead, providing access to services and leisure within Wokingham, as well as providing connectivity to the wider region. These effects are particularly likely to be felt if bus services are further developed to every 15 minutes.
SA15: Health	+	M	D	L	R	P	MT	Improving active travel facilities are likely to result in an increased uptake in active travel between Arborfield and Wokingham Town Centre. This is likely to result in increased physical activity, and therefore improved physical health, amongst the local population.
SA16: Economy and Employment	+	M	I	L	R	P	MT	Improving the connectivity between the Arborfield, Finchampstead and Wokingham Town Centre is likely to result in improved access to employment for those living in rural areas in South Wokingham. Additionally, it improves the connectivity of the local economies, increasing the number of people travelling to retail and leisure across areas. Additionally, increasing bus frequency is likely to result in improved journey times for commuters in rural areas relying on public transport.
Potential Cumulative / Synergistic Effects	There are potential cumulative effects upon population, health and the economy, due to the improved connectivity between the rural towns in South Wokingham and Wokingham Town Centre. There is also potential for cumulative effects upon air quality as a result of encouragement of a modal shift towards sustainable transport modes.							
Mitigation and Enhancement Measures	The outcomes of the vision could be enhanced through incorporating drainage methods to minimise flood risk within development. Developments arising from this objective that intersect with Flood Zone 3 should incorporate SUDs.							

EqIA considerations	*Younger people have a higher reliance on active and public transportation *The current footpaths not wide enough for cyclists and pedestrians, new upgrades have the potential to increase width and make the path wide enough for cyclists, pedestrians and adapted bikes *Disabled users may struggle accessing active travel options *Pregnant women and new mothers may use adapted cycles to travel and struggle accessing public transport. *BAME communities utilise bus services more than other ethnic groups. *Developing improved access to public transport improves access for low income groups.
Recommendations	The objective outcomes could be widened to include additional rural areas within South Wokingham, linking these to the active travel network and improving bus facilities. The objective outcome could also include a measure to ensure inclusive accessibility of bus services to rural communities, through measures such as disabled access and affordable ticketing.

Vision Theme	Reduce Carbon Emissions from Transport							
Objective	High Quality Sustainable Travel Corridors - North Wokingham							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	?							There are uncertain effects upon natural capital as a result of development. There is potential that development may results in the loss of biodiversity. However, the scale of this effect is currently unknown.
SA2: Materials and Waste	?							It is currently uncertain if the upgrade of active travel facilities into Twyford and the improvements at Twyford station will involve the development of new infrastructure, or utilise the existing infrastructure. There is potential for waste, and increased use of materials if the development requires new infrastructure.
SA3: Soils	?							Uncertain effects are identified for soils as it is unclear if the if the upgrade of active travel facilities will require additional land take, or utilise the existing brownfield land and footpath infrastructure.
SA4: Biodiversity	+/-	M	D/I	L	R/I	P/T	ST/LT	Developing active and public transport modes has the potential to indirectly positively effect biodiversity through reductions in noise and improvements in air quality as a result of reduced congestion on roads and improving public transport accessibility. However, there is potential for short-term negative effects on biodiversity due to construction related noise, vibration and emissions. It is also currently uncertain if land take will be required for these schemes, and therefore if there will be any direct loss of biodiversity. There are areas of hedgerow located along the route, which are home to a diverse range of species, including birds and other small mammals. As the current active travel route is narrow, it is assumed that the development would include additional land take. This may result in the loss or damage to habitats, and therefore species.
SA5: Green Infrastructure	-	M	D	L	I	P	ST/LT	Minor negative effects have been identified for biodiversity as a result of the developments arising from this objective. There is potential that the development of active travel facilities and forecourt developments may result in small scale loss of green infrastructure, and temporary disturbance to the green routes and riverside paths located along the route.
SA6: Air Quality	++	M	D	L	R	P	LT	There are anticipated positive effects on air quality as a result of the objective facilitating a modal shift away from private car use, improving air quality within Twyford and Wargrave. This is particularly notable as this could contribute to improving air quality within Twyford Crossroads AQMA. Furthermore, reducing bus journey times and improving service reliability is likely to encourage residents in this area to utilise bus services to travel to Wokingham Town Centre, and the wider region, further improving air quality through a reduction in car use.
SA7: Greenhouse Gases	+/-	M	D	L	R	P/T	ST/MT	There are potential negative effects upon greenhouse gases during the construction of both the upgraded active travel route and Twyford station improvements from construction equipment. However, during operation, the routes are likely to result in reductions in vehicle emissions, reducing GHGs. Additionally, improving bus transportation services may reduce private car related GHGs.

SA8: Climate Resilience	?							It is currently uncertain if climate resilience measures will be included within the developments of improved infrastructure at Twyford station and along active travel facilities. There are areas of Twyford and Wargrave located within Flood Zone 2 and 3. Therefore these areas are likely to be at risk of increased flooding from climate change. However, climate resilience measures are likely to be determined at individual design stage.
SA9: Noise	+/-	L	D/I	L	R	P/T	ST/LT	Developing the active travel routes, as well as improving bus services, is likely to reduce private car use along these key routes. Indirectly, this then reduces vehicle noise along these routes, particularly in the Twyford to Wargrave area. However, during construction, there may be changes to local noise levels as a result of construction and plant equipment and noise.
SA10: Landscape and Townscape	+/-	M	D	L	R/I	P/T	ST/MT	Twyford station is located within Twyford Station Conservation Area. Therefore, improvements to the forecourt and facilities at the station are likely to, if sensitively designed, contribute to improvements to the setting of this conservation area and the assets within it. Additionally, this, and improvements to active travel facilities, result in public realm improvements. During construction, there may be changes to the local landscape and townscape, including the addition of construction and plant equipment and noise. This is likely to result in negative effects upon the local landscape and townscape setting.
SA11: Historic Environment	-	L	D	L	R	T	ST	There are potential negative effects anticipated for the historic environment as there are a number of heritage assets located around Twyford and Wargrave, including conservation areas, archaeological sites, and a listed buildings. There is potential that during construction, these assets, including buried archaeological assets, may be disturbed, with negative effects on their settings as a result of construction noise, vibration and emissions.
SA12: Water Quality	0							
SA13: Flooding	?							Uncertain effects have been identified for flood risk as there is potential that the location of active travel improvements may be located in areas of flood zone 2 or 3. However, any flood mitigation measures are likely to be determined by individual scheme design. It is assumed that if located in flood zone 2 or 3, SuDS will be incorporated into the scheme design.
SA14: Population	++	M	D	R	R/I	P	LT	Positive effects have been identified as the developments to infrastructure are likely to provide improved services for current and future populations. Additionally, improving bus services, Twyford station, and active travel facilities contributes to improving connectivity between North Wokingham and the rest of the Borough, as well as wider region.
SA15: Health	+	M	D	L	R	P	MT	Improving active travel facilities are likely to result in an increased uptake in active travel. This is likely to result in increased physical activity, and therefore improved physical health, amongst the local population.
SA16: Economy and Employment	+	M	I	L	R	P	MT	Improving the connectivity between North Wokingham and the rest of the Borough is likely to result in improved access to employment for those living in North Wokingham. Additionally, it improves the connectivity of the local economies, increasing the number of people travelling to retail and leisure across areas. Additionally, improving bus journey times and improving bus reliability improves journey times for commuters accessing employment.
Potential Cumulative / Synergistic Effects	There are potential cumulative effects upon population, health and the economy, due to the improved connectivity between North Wokingham and Wokingham Town Centre. There is also potential for cumulative effects upon air quality as a result of encouragement of a modal shift towards sustainable transport modes.							
Mitigation and Enhancement Measures	The outcomes of the vision could be enhanced through incorporating drainage methods to minimise flood risk within development.							

EqIA considerations	*Younger people have a higher reliance on active and public transportation *The width of the current active travel route is not wide enough for cyclists and pedestrians, new upgrades have the potential to increase width and make the path wide enough for cyclists, pedestrians and adapted bikes *Disabled users may struggle accessing active travel options *Pregnant women and new mothers may use adapted cycles to travel and struggle accessing public transport. *BAME communities utilise bus services more than other ethnic groups. *Developing improved access to public transport improves access for low income groups.
Recommendations	It is currently unclear how the forecourt and interchange facilities at Twyford station will be improved, the objective outcome could be expanded to include these measures and include measures to provide inclusive access. The active travel facility improvements could also include measures such as expanding paths to accommodate disabled users and reduce user conflicts, as well as provide safe routes through lighting and signage measures.

Grow the Economy

PROTECT AND ENHANCE STRATEGIC CONNECTIVITY AND FREIGHT

Vision Theme	Enable Sustainable and Inclusive Economic Growth							
Objective	Protect and Enhance Strategic connectivity and freight							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	?							It is currently uncertain if improvements to access to the A329 (M) and the capacity of the North Downs and Reading to Waterloo lines may result in development along these routes. There is potential that development may use additional resources.
SA3: Soils	?							It is currently uncertain if improvements to access to the A329 (M) and the capacity of the North Downs line may result in development along these routes. There is potential that development may require additional land take, particularly with regards to any A329 (M) development.
SA4: Biodiversity	-	L	D	R	R	P	MT	Freight movements are likely to result in increased noise, increasing disturbance to local biodiversity, particularly those species in hedgerows. Additionally, freight vehicles contribute to worsening air quality. Poor air quality is also likely to degrade local biodiversity. There is potential that freight management policies and management of freight with neighbouring authorities may reduce freight movements, minimising noise and air quality impacts, however these measures are currently unclear.
SA5: Green Infrastructure	0							
SA6: Air Quality	+/-	M	D/I	R	R/I	P	MT/LT	Improvements to the frequency of services, and capacity of the North Downs Line and Reading to Waterloo rail line is likely to result in indirect positive effects on air quality due to a modal shift away from the utilisation of private transport to travel between these destinations. Additionally, improving the access to the A329 (M) is likely to reduce congestion, improving air quality. However, the developments to the A329 (M) has the potential to encourage the use of private vehicles, reducing air quality. Additionally, it is uncertain whether the management of freight will increase the amount of freight within Wokingham Borough - there is potential that increases in freight may decrease air quality.
SA7: Greenhouse Gases	+/-	M	D/I	R	R/I	P	MT/LT	There is potential that improvements to infrastructure, including the A329 (M), service frequency on North Downs Line and Reading to Waterloo rail line may result in vehicle related greenhouse gases. Also, improving the ease of access to the road network, and freight, has the potential to increase greenhouse gases along these routes.
SA8: Climate Resilience	0							
SA9: Noise	0							

SA10: Landscape and Townscape	0							
SA11: Historic Environment	0							
SA12: Water Quality	0							
SA13: Flooding	?							Uncertain effects have been established for flooding. It is unclear if there will be development to or along the A329 (M). However, areas bordering this route are located within Flood Zone 3. Therefore, there is potential for flooding along the route, particularly if there are increases in hard standing and impermeable surfaces in close proximity to flood zones.
SA14: Population	+	M	D	R	I	P	LT	There are anticipated positive effects upon population as increasing the accessibility of both the road and rail networks provides increased capacity for current and future population needs. This objective also provides improved connectivity, allowing access to the wider area, facilities and leisure opportunities.
SA15: Health	+	L	D	L	R	P	MT	Improving safe access to the A329 (M) results in positive impacts on health as a result of reductions in accidents along the A329 (M).
SA16: Economy and Employment	+	M	D	R	R	P	MT	The continuation of freight operations further links Wokingham's economy with the wider region, resulting in minor positive effects. Additionally, improving the capacity and frequency of rail services connecting Wokingham to Reading and Waterloo improves the connectivity of the region, allowing improved access to employment.
Potential Cumulative / Synergistic Effects	There are potential positive effects upon population and economy through the improved connectivity between Wokingham Borough and the wider region.							
Mitigation and Enhancement Measures	Freight management policies could encourage freight movements by rail, reducing freight on roads.							
EqIA considerations	*Increased freight on local roads could discriminate against those most likely to be on foot, including lower income and young people.							
Recommendations	The objective could be expanded to include specifications as to how freight will be managed. The objective could also be expanded to outline how safe and efficient access will result in positive effects upon user safety, and the measures that are likely to be included within this.							

WELL-MAINTAINED TRANSPORT NETWORK

Vision Theme	Enable Sustainable and Inclusive Economic Growth							
Objective	Well-Maintained Transport Network							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	+	M	D	L	I	P/T	MT/LT	There are potential positive effects upon materials and waste as a result of the objective outcome. The outcome includes the use of recycled materials in construction and maintenance, reducing waste and contributing to a circular economy.
SA3: Soils	0							
SA4: Biodiversity	0							
SA5: Green Infrastructure	+							There are minor positive effects anticipated for green infrastructure as a result of maintaining footpath and cycle ways. This is likely to result in improved infrastructure for active travel and improved open spaces.
SA6: Air Quality	+	M	D/I	L	R/I	P/T	ST/MT	There are anticipated minor positive effects on air quality as a result of the objective. Indirectly, improving the maintenance programme links with the active travel improvements has the potential to improve the quality of the active travel facilities and environment, encouraging users and therefore improving air quality. Additionally, the trial measures included have the potential to improve air quality. However, the scale and nature of improvements are currently unknown.
SA7: Greenhouse Gases	0							
SA8: Climate Resilience	++	M	D	R	I	P	LT	There are anticipated significant positive effects on climate resilience as a result of the objective. It is currently unclear what these climate resilience measures will be, however it is anticipated that these will include heat and rainfall resilience measures.
SA9: Noise	0							
SA10: Landscape and Townscape	+	L	I	L	R	P	MT	Improving the maintenance of the transport network, including active travel use, has the potential to result in positive effects upon landscape and townscape through improved maintenance and public realm improvements.
SA11: Historic Environment	0							
SA12: Water Quality	0							
SA13: Flooding	0							

SA14: Population	0							
SA15: Health	?							Whilst there are anticipated positive effects upon health due to the road safety improvements included, these are currently not permanent due to the trial nature of measures. The nature of these measures, and maintenance improvements, are also currently uncertain, and there is also uncertainty as to the level of improvements these could have towards targets.
SA16: Economy and Employment	0							
Potential Cumulative / Synergistic Effects	There are potential cumulative effects on air quality, biodiversity and health as a result of the objective's contribution towards achieving targets. Additional positive effects on climate resilience are anticipated due to increased climate resilience within the network.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified at this stage. Mitigation is likely to be based on individual schemes that may arise as a result of the LTP4.							
EqIA considerations	*Construction and maintenance works can impact the way people travel and restrict users *People undergoing gender reassignment are more likely to feel unsafe on public transport *Same sex couples are more likely to be a victim of harassment or discrimination, and feel unsafe on public transport *BAME and ethnic minority groups may experience harassment on public transport *People holding a religion or belief may experience discrimination on public transport *LGBTQ+ can experience sexual orientation based discrimination on public transport							
Recommendations	The policy could be expanded to include examples of measures to contribute towards targets. Additionally, this point could state that successful measures will be permanently implemented. The policy could also be expanded to include specific measures that will improve climate resilience.							

ENABLE SUSTAINABLE DEVELOPMENT

Vision Theme	Enable Sustainable and Inclusive Economic Growth							
Objective	Enable Sustainable Development							
SA Objective	**Significance**	**Magnitude**	**Nature of effect**	**Spatial Extent**	**Reversibility**	**Permanence**	**Duration**	**Description of potential Effects**
SA1: Natural Capital	0							
SA2: Materials and Waste	0							
SA3: Soils	0							
SA4: Biodiversity	?							Uncertain effects have been identified as the Wokingham Living Streets guidance has not been published. There is potential that this guidance may include measures that support biodiversity net gain.
SA5: Green Infrastructure	0							
SA6: Air Quality	+	M	D/I	R	R/I	P	LT	There are anticipated minor positive effects upon air quality as a result of the Support Sustainable Development objective. The objective encourages a modal shift towards sustainable travel options, including walking and cycling, and EV use. Additionally, the development of new infrastructure to support development is likely to reduce congestion, improving air quality.
SA7: Greenhouse Gases	+/-	M	D	L	R	P/T	ST/LT	The objective includes the development of infrastructure for new development. This is likely to result in localised increases in greenhouse gas emissions as a result of construction equipment. However, subsequently, improvements to this infrastructure is likely to reduce congestion, reducing greenhouse gases. Additionally, improving active and sustainable travel options reduces GHGs.
SA8: Climate Resilience	?							Uncertain effects have been identified for climate resilience. This is likely to be determined in individual schemes arising from this objective.
SA9: Noise	0							
SA10: Landscape and Townscape	++	M	D/I	L	I	P	LT	The objective is likely to result in significant positive effects on landscape and townscape as a result of attractive streets and high quality developments. This is likely to improve streetscapes as well as the public realm, and local townscape settings.
SA11: Historic Environment	+	L	I	L	R	P	MT	Indirectly, the improvements to the landscape and townscape setting improves the setting of local heritage assets.
SA12: Water Quality	0							
SA13: Flooding	0							

SA14: Population	+	M	D	R	R	P	MT/LT	Improving infrastructure, including in line with Living Streets, provides accessibility to all social groups, including the elderly, those with disabilities, and people with young children in pushchairs. Additionally, the development of infrastructure for new developments provides for a growing population with increased transport connectivity requirements. This provides for both current and future generations, resulting in positive effects.
SA15: Health	+	M	D/I	R	R	P	MT	There are anticipated minor positive effects on health as the improvements in accordance with Living Streets improves access to social and leisure facilities, and services. This is likely to improve the wellbeing of local residents. Additionally, developing active travel options is likely to result in increased physical activity rates, and improved physical health.
SA16: Economy and Employment	+	M	I	R	R	P	MT	The development of active travel, sustainable travel, and additional infrastructure supporting developments improves the connectivity of developments to Wokingham's town centres and employment opportunities, resulting in positive effects.
Potential Cumulative / Synergistic Effects	There are potential positive cumulative effects upon landscape and townscape, population, health, and economy due to the connectivity and high quality developments. Additionally, encouraging a modal shift results in cumulative effects on air quality.							
Mitigation and Enhancement Measures	No mitigation or enhancement measures have been identified at this stage. Mitigation is likely to be based on individual schemes that may arise as a result of the LTP4.							
EqIA considerations	*Construction and maintenance works can impact the way people travel and restrict users. *People undergoing gender reassignment are more likely to feel unsafe on active travel routes. *Same sex couples are more likely to be a victim of harassment or discrimination and are more likely to feel unsafe on active travel routes. *BAME and ethnic minority groups may experience harassment and are more likely to feel unsafe on active travel routes. *People holding a religion or belief may experience discrimination and are more likely to feel unsafe on active travel routes. *LGBTQ+ can experience sexual orientation based discrimination and are more likely to feel unsafe on active travel routes.							
Recommendations	The objective could be expanded to include reference to community needs and how development will result in improved journey times. The objective could be expanded to include biodiversity requirements within the development of new layouts.							

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wsp.com

Equality Impact Assessment (EqIA) form: the **initial** impact assessment

1. Process and guidance

The purpose of an EqIA is to make sure that the council is meeting the needs of all our residents by ensuring we consider how different groups of people may be affected by or experience a proposal in different ways. EqIAs help us to meet our Public Sector Equality Duty and where applicable the Armed Forces Duty. The council has a two stage EqIA process:

- Stage 1 - the initial impact assessment.
- Stage 2 - the full impact assessment.

Date started:	May 2023
Completed by:	WSP on behalf of Wokingham Borough Council: VH (author) / MV (reviewed) / WP (authorised)
Service:	Highways and Transport
Project or policy EqIA relates to:	Wokingham Borough Council Local Transport Plan 4 (LTP4)
Date EqIA discussed at service team meeting:	[TBC - Wokingham Borough Council]
Conclusion (is a full assessment needed?):	No
Signed off by (AD):	[TBC - Wokingham Borough Council]
Sign off date:	[TBC - Wokingham Borough Council]

PLEASE NOTE: the wording used throughout this EqIA form is in line with terminology used by the Office for National Statistics (ONS) 2021 Census, the Equality Act (2010), and the Equality and Human Rights Commission (EHRC).

2. Summary of the policy, project, or service

What is the purpose of the proposal, what are the aims and expected outcomes, and how does it relate to service plans and the corporate plan?
CONTEXT Wokingham is a thriving area, with great opportunities and is a desirable location to live. Reflecting this, the Borough is one the fastest growing districts in the country. A growing population can present challenges to transport system, yet over the last 15 years traffic volumes had remained stable, air quality has improved, the number of people cycling has increased and, prior to the COVID-19 pandemic, public transport use had been growing. Transport infrastructure plays a significant role in a successful economy and for accessing a range of vital amenities. However, transport is one of the largest polluting sectors and traffic can be a barrier to healthy lifestyles, so transport policy needs to strike the right balance. PURPOSE The Local Transport Plan 4 (LTP4) sets out the approach for all aspects of Transport across Wokingham Borough. A significant part of the old strategy (LTP3) has been delivered, technology has evolved, and there is a better understanding of travel habits; as such, there is a need to refresh the transport strategy to better reflect current priorities and the needs of communities. To help inform the development of the LTP4, a public opinion survey seeking resident's views on transport in Wokingham was conducted for six weeks from 01 February 2023. This survey received 750 public responses, plus feedback from a range of stakeholder organisations. VISION, AIMS AND EXPECTED OUTCOMES

Four visions were developed to clearly set out the aims and subsequent outcomes from the LTP4. These were developed from existing national, regional and local policies and refined through engagement and consultation on the LTP vision in 2020, and the Council Plan ambition: *"being the best we can be"*. These vision, aims, and expected outcomes are:

Create Liveable, Healthy and Safe Places

- Safer streets for All: safer environment for all road users, leading to a 50% reduction in serious injuries from road traffic collisions.
- **50% Active Travel in Towns by 2030:** healthier and more active towns that prioritise the movement of people leading to 50% of trips being made by foot or cycle.
- Thriving Villages and Rural Centres: villages and local centres that support local communities through a transport system that works for them.

Reduce Emissions from Transport

- Net Zero Emissions: reducing the impact on the environment of transport and introducing new innovative measures to support the transition to net zero emissions.
- Clean Air: improved air quality and removal of all air quality exceedances in the Borough.
- High Quality Sustainable Travel Corridors: increase the attractiveness and convenience of sustainable transport through improved facilities, better frequency and integration.

Grow the Economy

- **Protect and Enhance Strategic Road and Rail Connectivity**: retain and enhance the strategic road and rail network for effective travel and freight movements.
- A Well-Maintained Transport Network: a transport network that is well maintained for all modes, providing attractive and comfortable transport links for all users.
- Support Sustainable Development: new development that helps to create sustainable communities that meets the needs of new and existing residents.

RELATION TO SERVICE PLANS AND CORPORATE PLAN

The LTP4 seeks to support and/or achieve the Borough's Service Plans and Corporate Plan in the following ways:

- Create Liveable, Healthy and Safe Places: Aligned with national policy there will be an objective for 50% of trips in towns to be made by active travel. This will require a greater focus on active travel in urban areas, where amenities are often within walking or cycling distance.
- Reduce Emissions from Transport: Consistent with local, regional and national targets, the LTP will support the transition of the transport sector to net zero emissions. Alongside changes to travel behaviour and more sustainable travel choices to support greater access to opportunities, there will need to be an increase zero emission vehicles and charging facilities.
- Grow the Economy : Future development proposals will need to be set out in a Local Plan. Aligning transport and land use planning to support sustainable development will be a key focus of the LTP and support essential infrastructure being delivered up front.

How will the proposal be delivered, what governance arrangements are in place and who are the key internal stakeholders?

DELIVERY

The LTP4 will be delivered by the Wokingham Borough Council Transport Planning team, in accordance with current Government guidance of the requirements for LTPs. The Plan is being delivered by a Delivery Group comprising senior officers and the Borough Council's Framework Consultant (WSP) and is scrutinised and steered by a Cross-party Member Steering Group.

GOVERNANCE

The project is overseen by the Executive Member for Active Travel, Transport and Highways at the Borough Council. The LTP4 will ultimately be approved and adopted by the Council's Executive, made up of Executive Members and the Borough's Mayor and Deputy Mayor.

KEY INTERNAL STAKEHOLDERS Three stakeholder groups provide an indication of the possible LTP4 content: the LTP4 Officer Group (comprising Climate Emergency team, Local Plan team, Public Health team, etc.); the LTP4 Stakeholder Group (made up of Thames Valley Berkshire Local Enterprise Partnership (LEP), Great Western Railway, Thames Valley Buses, etc.); and the LTP4 People's Group (membership to be determined but may include the Emergency Services, Guide Dogs for the Blind Association, etc.

Who will be affected by the proposal? Think about who it is aimed at and who will deliver it.
AFFECTED PERSONS It is expected that those primarily affected by the LTP4 would be people that use Wokingham's transport network. In addition, people who live, work, and/or pass through the Borough may also be affected. This is due to the Borough enabling strategic connectivity through the following infrastructure provisions: • National Rail Network: The Gatwick - Reading Line, and the London Waterloo - Portsmouth Harbour Line. • Strategic Road Network: The M4 Motorway. • Transport for London Network: The Abbey Wood - Reading (Elizabeth) Line. As such, Wokingham Borough attracts people from a range of areas; to ensure that all potential affected persons are considered, this EqIA will assess the impacts on the population profiles of Wokingham Borough, the South East of England, and for England where possible.

3. Data **& Protected Characteristics**

The table below sets out the nine protected characteristics (under the Equality Act 2010) considered in the impact assessment:

Protected Characteristic	**Description**
Age	A person belonging to a particular age or range of ages
Disability	A person has a disability if she or he has a physical or mental impairment which has a substantial and long-term adverse effect on that person's ability to carry out normal day-to-day activities
Gender Reassignment	A person has the protected characteristic of gender reassignment if the person is proposing to undergo, is undergoing or has undergone a process (or part of a process) for the purpose of reassigning the person's sex by changing physiological or other attributes of sex.
Marriage and Civil Partnership	Marriage is a union between a man and a woman or between a same-sex couple. Same-sex couples can also have their relationships legally recognised as civil partnerships
Pregnancy and Maternity	Pregnancy is the condition of being pregnant or expecting a baby. Maternity refers to the period after the birth. In the non-work context, protection against maternity discrimination is for 26 weeks after giving birth
Race	Race refers to a group of people defined by their race, colour, and nationality (including citizenship) ethnic or national origins
Religion or Belief	Religion refers to any religion, including a lack of religion. Belief refers to any religious or philosophical belief and includes a lack of belief
Sex	A man or a woman
Sexual Orientation	Whether a person's sexual attraction is towards their own sex, the opposite sex or to both sexes

Other priority areas include: 1) socio-economic disadvantage; and 2) the Armed Forces under the Armed Forces Act 2021.

What data and **information** will be used to help assess the impact of the proposal on di**ff**erent groups of people? A list of useful resources is available for o**ffi**cers on the Council's Tackling Inequality Together intranet pages.
ASSESSMENT DATA AND INFORMATION Secondary datasets and information from trusted sources will be used to assess the LTP4's impact on different groups. Examples include: • The Department for Transport (DfT) National Travel Surveys. • The Equality and Human Rights Commission (EHRC). • The Ministry of Housing, Communities and Local Government (MHCLG) e.g., Indices of Multiple Deprivation (2019). • The Office for National Statistics (ONS) e.g., 2021 Census.

INITIAL ASSESSMENT DATA SUMMARY

At this stage, the high-level nature of the LTP4 and its associated aims preclude the comprehensive identification of specific impacts on unlawful discrimination, harassment and victimisation towards protected characteristic groups and/or other priority areas.

Age

Category	Wokingham Borough	South East England	England
Aged 0-15	19.5%	17.4%	17.4%
Aged 16-64	63.3%	63.1%	64.2%
Aged 65+	17.2%	19.4%	18.4%

Disability

Category	Wokingham Borough	South East England	England
Disabled under the Equality Act 2010	12.5%	16.1%	17.3%
Not Disabled under the Equality Act 2010	87.5%	83.9%	82.7%

Gender Reassignment

Category	Wokingham Borough	South East England	England
Gender Identity Same as Sex Registered at Birth	95.0%	94.1%	93.5%
Gender Identity Difference from Sex Registered at Birth	0.4%	0.5%	0.5%
Not Answered	5.0%	5.4%	6.0%

Marriage and Civil Partnership

Category	Wokingham Borough	South East England	England
Never Married and Never Registered a Civil Partnership	30.3%	34.8%	37.9%
Married or in a Registered Civil Partnership	55.0%	47.6%	44.7%
Separated, but Still Legally Married or Still Legally in a Civil Partnership	1.6%	2.1%	2.2%
Divorced or Civil Partnership Dissolved	7.6%	9.3%	9.1%
Widowed or Surviving Civil Partnership Partner	5.5%	6.1%	6.1%

Pregnancy and Maternity

Category	Wokingham Borough	South East England	England
Births	0.3%	0.3%	0.3%

Race

Category	Wokingham Borough	South East England	England
Asian, Asian British or Asian Welsh	12.9%	7.0%	9.6%
Black, Black British, Black Welsh, Caribbean or African	2.4%	2.4%	4.2%
Mixed or Multiple Ethnic Groups	3.1%	2.8%	3.0%
White	79.9%	86.3%	81.0%
Other Ethnic Group	1.6%	1.5%	2.2%

Religion or Belief

Category	Wokingham Borough	South East England	England
No Religion	36.9%	40.2%	36.7%
Christian	44.7%	46.5%	46.3%
Buddhist	0.5%	0.6%	0.5%
Hindu	4.8%	1.7%	1.8%
Jewish	0.2%	0.2%	0.5%
Muslim	4.8%	3.3%	6.7%
Sikh	1.7%	0.8%	0.9%
Other Religion	0.4%	0.6%	0.6%
Not Answered	5.9%	6.1%	6.0%

Sex

Category	Wokingham Borough	South East England	England
Female	50.9%	51.1%	51.0%
Male	49.1%	48.9%	49.0%

Sexual Orientation

Category	Wokingham Borough	South East England	England
Straight or Heterosexual	91.2%	89.8%	89.4%
Lesbian, Gay, Bisexual or Other (LGB+)	2.2%	3.1%	3.2%

Armed Forces Communities

Category	Wokingham Borough	South East England	England
Have previously served in the UK regular armed forces	2.4%	3.2%	2.9%
Have previously served in the UK reserve armed forces	0.7%	0.8%	0.7%
Have previously served in both the regular and reserve UK armed forces	0.1%	0.2%	0.2%

4. Assessing & Scoring Impact

Scoring Impact for Equality Groups	**Description**
Positive	The proposal promotes equality of opportunity by meeting needs or addressing existing barriers to participation and/or promotes good community relations.
Neutral	The proposal has no impact or no disproportionate impact.
Low negative	The proposal is likely to negatively impact a small number of people, be of short duration and can easily be resolved.
High negative	The proposal is likely to have a significant negative impact on many people or a severe impact on a smaller number of people.

5. **Assumptions**

This assessment has been conducted based on the assumption that the following recommended measures are adhered to as best-practice:

1) continue to undertake continuous engagement with Wokingham's independent Equality Forum;
2) follow legislation, guidance, and best practice in the delivery of the LTP4's aims, such as the DfT's Local Transport Note (LTN) 1/20; and
3) consider how to best to mitigate the low negative impacts of construction and maintenance of the LTP4 aims.

Equality Group: Age

A person's ability to access and use Wokingham Borough's transport network may differ dependent on their age. In 2021, the overall population was 56,489,800 in England and 9,278,100 in South East England, whilst the total population of Wokingham Borough stood at 177,500 residents. The Borough's population is expected to grow to 191,867 residents by 2043; of which 18.6% will be aged 0-15, 57.6% will be aged 16-64, and 23.8% will be aged 65+:

- There is a slightly higher proportion of 0-15-year-olds in Wokingham Borough compared to regionally and nationally, meaning that any impact(s) may affect this particular sub-group to a greater extent.
- The proportion of working aged people in Wokingham Borough is broadly in line with regional and national figures, meaning that any impact(s) are not likely to affect this particular sub-group to a lesser nor greater extent.
- There is a slightly lower proportion of people aged 65+ in Wokingham Borough compared to regionally and nationally, meaning that any impact(s) may affect this particular sub-group to a lesser extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
POSITIVE	• Younger working aged people may have a higher dependence on active travel and public transport services due to the cost of purchasing a vehicle and its associated (upfront and prolonged) costs. The LTP4 seeks to explore expanding the Electric Vehicle network (car clubs). • Elderly people are typically inhibited from accessing public transport services as a result of digital barriers to viewing travel times and cost, leading to a reliance on motor vehicles. This is reflected in the high proportion of full car driving licence holders aged 60-69 (85.0%) and over 70 (67.0%). The minimum journey time to eight key services in Wokingham Borough by private vehicle was 18.5 minutes. LTP4's aim to reduce total traffic movements on Wokingham Borough Council roads would help to improve journey times for people reliant on a private vehicle(s). Moreover, this policy aims to support improvements to digital accessibility which will aid in the uptake of public transport by elderly residents.
Clean air, removal of all air quality exceedances	
POSITIVE	• Exposure to poor air quality can impact pre-existing and cause respiratory conditions across all age groups, particularly the young and elderly. The LTP4 aims to reduce traffic to remove air quality exceedances in Wokingham Town Centre, improve air quality in Twyford Town Centre, and support the transition to zero emission buses across the borough. • The transition to net zero buses as supported by this policy will also bring about improvements to air quality throughout the borough which will be particularly beneficial to the young and elderly.
High quality sustainable travel corridors	
POSITIVE	• A lack of suitable infrastructure can be a barrier to active travel for younger people and the elderly due to actual / perceived safety issues. The LTP4 aims to deliver high quality walking, cycling, and public transport through improved throughout the borough. The LTP4 also includes upgrades to active travel facilities along the B3349 Barkham Road (connecting Arborfield-Wokingham Town centre), A321 Finchhampstead Road, and into Twyford including to and from Wargrave. • In 2021, the national proportion of full car driving licence holders aged 17-20 (21.0%) and aged 21-29 (67.0%) was considerably lower than for all other age groups (average 82.0%), indicating that younger working aged people may have a higher dependence on active travel and public transport services. In terms of public transport, the Borough Council aims to increase bus frequency and improve bus journey times along priority bus

	corridors (A4/A321, A33, A329 and A327), deliver a high-quality sustainable transport corridor along the A329 and increasing rail service frequency to 20-minutes along the North Downs Line. • In 2021, almost a third of people aged 60 and over in England used the bus at least once a month. Wokingham Borough is forecast to become an ageing population within the next decade, meaning there will be a growing number of residents holding free Older Persons Bus Passes. This is likely to lead to additional demand on local bus services. The LTP4 seeks to increase bus frequency along priority bus corridors (A4/A321, A33, A329 and A327), and between Wokingham Town-Arborfield and Finchampstead, enabling a greater capacity for the growing demands placed on the service. • In Wokingham Borough, the minimum journey time to eight key services by public transport was 10.8 minutes. Age-related health conditions can lead to difficulty boarding and alighting public transport, leading to a greater journey time and reduced journey quality. The LTP4 looks to improve interchange and access facilities at Earley rail station, improve access to stations along the North Downs Line, and improve the forecourt, interchange facilities and car parking at Twyford Station, helping to increase access and journey quality.
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• Whilst a well-maintained transport network is beneficial to people of all ages, construction and maintenance works can impact the way in which people travel. Air pollution generated through construction activities will be particularly detrimental to the young and elderly. As such, the LTP4 is expected to bring about temporary minor adverse effects to the aforementioned age groups. • In the long term, a well-maintained transport network will be beneficial to all age groups throughout the borough. The adaption of network maintenance to increase resilience to a changing climate will be beneficial to elderly residents who's pre-existing health conditions may be exacerbated under a changing climate.
Enable sustainable development	
POSITIVE	• All age groups will benefit from the enablement of sustainable development. The LTP4 looks aims to provide streets that are attractive and permeable for pedestrians and cyclists. This will encourage the uptake of active travel amongst the young and elderly through improvements to safety and connectivity.
Protect and enhances strategic connectivity and freight	
NEUTRAL	• All age groups benefit from use of strategic connectivity. The increase in local service frequency on the Reading to Waterloo rail line under this policy will enhance connectivity for all residents. Increased frequency will enable young people to access a wider range of employment opportunities, as well as reduce the potential for loneliness experienced by elderly residents through improved opportunities for visitors.
Create Healthy and Safe Places	
50% Active travel in towns	
POSITIVE	• All age groups are less likely to cycle if they perceive the local environment to be unsafe. The LTP4 aims to increase the proportion of people cycling through the delivery of high-quality cycle facilities. • A lack of dedicated, secure cycle parking can stop people of all age groups from cycling. The LTP4 seeks to increase cycle parking provision at local destinations. • Younger people may have a higher dependence on active travel and public transport services due to the expense associated with private vehicle travel and obtaining a licence. The LTP4 seeks to deliver on-street E-scooter hire schemes to improve door-to-door transport options, increasing access to employment opportunities for this age group. • The LTP4 seeks to improve access to green space, especially across Lower Earley Way and to the River Loddon. Improved access to greenspace will encourage the uptake of active travel by all.
Safer streets for all, 50% reduction in KSIs	

POSITIVE	• Certain age groups, such as younger people and older people can be more vulnerable to collisions due to reduced awareness and mobility. Targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349), revising speed limits across the borough with targeted interventions, where appropriate, to improve road safety, and increasing the network of quiet rural roads and residential streets. • With regard to school aged pupils in 2019, 97.0% of pupils residing in Wokingham Borough were within a 15-minute journey by private vehicle to the nearest school, 79.0% lived within a 15-minute walk, and 100.0% lived within a 15-minute cycle to school. The LTP4 would support the trial and delivery of School Streets and safer routes to school across the borough.
Thriving villages and town centres	
POSITIVE	• The LTP4 includes the identification of local priorities for improving walking, cycling and horse riding and trial changes to increase network of low traffic rural/green lanes. • Road closures have been found to improve the character of streets, making streets into more pleasant, environments for people of all ages. The LTP4 aims to trial temporary highway closures for local events to support vitality of rural villages. • A lack of dedicated transport infrastructure can limit the mobility of people of all ages. The LTP4 seeks to deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations.

Equality Group: Disability

A person's ability to access and use Wokingham Borough's transport network may differ dependent on whether or not they self-declare as Disabled under the Equality Act 2010. The proportion of people self-declared as Disabled under the Equality Act 2010 was slightly lower in Wokingham Borough compared to in the south east and England, meaning that any impact(s) may affect this particular group to a lesser extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
POSITIVE	• In 2019, disabled adults in England made 26% fewer trips than those without a disability[1]. The inhibited access to public transport experienced by disabled users results in a reliance on motor vehicles. For Disabled people who are not able to cycle, walk and/or wheel, nor access public transport, the LTP4's aim to reduce total traffic movements on Wokingham Borough Council roads would help to improve journey times for Disabled people and people with short- and long-term health conditions reliant on a private vehicle(s). • Disabled people and people with short- and long-term health conditions (particularly those with mobility issues) may struggle to access and/or use Electric Vehicle charging infrastructure due to inaccessible parking or the presence of heavy charging cables. Within the centre of Wokingham, there are circa four charging points that are both publicly accessible and have no access restrictions, limiting options for Disabled people and people with short- and long-term health conditions. The LTP4 seeks to deliver suitable provisions with a priority focus in Wokingham town, Winnersh, Earley and local service centres, as well as promote of peer-to-peer electric charging networks to meet growing demand for EV charging and providing suitable EV charging infrastructure to support carbon neutral development.
Clean air, removal of all air quality exceedances	
POSITIVE	• Exposure to poor air quality can impact pre-existing respiratory conditions for Disabled people and people with short- and long-term health conditions. The LTP4 aims to reduce traffic to remove air quality exceedances in Wokingham Town Centre, improve air quality in Twyford Town Centre, and seek prioritisation of zero emission buses on routes through Wokingham Town Centre and Twyford Crossroads.
High quality sustainable travel corridors	
POSITIVE	• A lack of suitable infrastructure for Disabled people and people with short- and long-term health conditions can be a barrier to active travel. The LTP4 aims to deliver high quality walking, cycling, and public transport through improved throughout the borough. The LTP4 also includes upgrades to active travel facilities along the B3349 Barkham Road (connecting Arborfield-Wokingham Town centre), A321 Finchhampstead Road, and into Twyford including to and from Wargrave. • A lack of infrastructure that supports Disabled people and people with short- and long-term health conditions can lead to difficulty boarding and alighting public transport, leading to a greater journey time. The LTP4 looks to deliver improved interchange and access facilities at Earley rail station, improved access to stations along the North Downs Line, and to improve the forecourt, interchange facilities and car parking at Twyford Station, helping to increase access and journey quality. • In Wokingham Borough, Disabled person's bus passes are free for residents who have a permanent disability or a disability that is expected to last at least one year. The LTP4 seeks to increase bus frequency along priority bus corridors (A4/A321, A33, A329 and A327) and between Wokingham Town-Arborfield-Finchampstead, as well as the delivery of a high-quality sustainable travel corridor between Reading and Coppid Beach Roundabout, via Winnersh and Wokingham.
Grow the Economy	

[1] Transport: Disability and Accessibility Statistics, England 2019/20 (2021) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/972438/transport-disability-and-accessibility-statistics-england-2019-to-2020.pdf [Accessed: 21/09/2023]

Impact score	**Impact and supporting data**
Well-maintained transport network	
POSITIVE	• Whilst a well-maintained transport network is beneficial to disabled people and people with short- and long-term health conditions, construction and maintenance works can impact the way in which people travel. Temporary disruption to and blocking of pedestrian routes by construction and maintenance vehicles and plant is particularly detrimental to those reliant on mobility aids. Equally, increased air pollution as a result of construction will adversely affect those with health issues including respiratory conditions. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact on this group in the short-term, but a positive impact in the longer term: o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets. o Work with operators to share operational and real time data to improve transport services and maintenance.
Enable sustainable development	
POSITIVE	• The LTP4 aims to provide streets that are attractive and permeable for pedestrians and cyclists, the accessibility and adaptation considerations of which will be of particular benefit to disabled groups in the area. Equally, the provision of secure cycle parking including adapted cycles will continue the uptake of active travel by disabled groups who may initially be less likely to choose transport modes of this nature.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic connectivity. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
POSITIVE	• Disabled people and people with short- and long-term health conditions may be less likely to cycle due to unsuitable environments, infrastructure not being accessible for adaptive cycles, and a lack of support. The LTP4 aims to increase the proportion of people cycling through the delivery of high-quality cycle facilities. • A lack of dedicated, secure cycle parking that accommodate adaptive cycles can stop disabled people and people with short- and long-term health conditions from cycling. The LTP4 seeks to increase cycle parking provision, including adapted cycles, at local destinations.
Safer streets for all, 50% reduction in KSIs	
POSITIVE	• Disabled people and people with short- and long-term health conditions are four times more likely to be injured as a pedestrian than people without a disability[2]. Targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349), revising speed limits across the borough with targeted interventions, where appropriate, to improve road safety, and increasing the network of quiet rural roads and residential streets. • With regard to school aged pupils with a disability or short- and long-term health condition, travel to school via active modes may be difficult, even with parent / carer supervision. The LTP4 would support the trial and delivery of School Streets and safer routes to school across the borough to improve actual and perceived of safety.
Thriving villages in town centres	
POSITIVE	• Road closures have been found to improve the character of streets, making streets into more pleasant, environments for all people, in particular disabled people and people with short- and long-term health conditions. The LTP4 aims to trial temporary highway closures for local events to support vitality of rural villages.

[2] ROAD INJURIES
IN THE NATIONAL
TRAVEL SURVEY UNDER-REPORTING AND INEQUALITIES IN INJURY RISK (2018)
https://westminsterresearch.westminster.ac.uk/download/131c6fd3314dc19383f95fa6a791562f9a0dd3d1a965abbd5058a91296822352/1888783/Road_Injuries_Report_April2018.pdf [Accessed: 21/09/2023]

Impact score	**Impact and supporting data**
	• A lack of dedicated, accessible transport infrastructure can limit the mobility of disabled people and people with short- and long-term health conditions. The LTP4 seeks to deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations. Adapted cycle parking is a measure included in the Active Travel policy and as such it is assumed inclusive provision will be applied here as well.

Equality Group: Gender Reassignment

A person's ability to access and use Wokingham Borough's transport network may differ dependent on whether they propose to undergo, are undergoing, or have undergone a process to reassign their sex. Wokingham Borough has a marginally lower proportion of people whose gender identity is difference from their sex registered at birth compared to regionally and nationally, meaning that any impact(s) may affect this particular sub-group to a lesser extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
Low **Negative**	• People that propose to undergo, are undergoing or have recently undergone gender reassignment may experience difficulties or discomfort when accessing transport due to limitations on gender-neutral toilets for instance. This can inhibit use of transport services, leading to a temporary reliance on motor vehicles. For people who feel unable to cycle, walk and/or wheel, nor access public transport, the LTP4's aim to reduce total traffic movements on Wokingham Borough Council roads would help to improve journey times. • The potential implementation of a network of shared electric vehicles (car clubs) under this policy may have adverse impacts for those that propose to undergo, are undergoing or have recently undergone gender reassignment as the low level of regulation and causal nature of this proposed scheme may lead to people experiencing identity-based discrimination in this space. The policing of such car clubs would be necessary to ensure such negative effects are not felt by this group.
Clean air, removal of all air quality exceedances	
NEUTRAL	• Due to its high-level and indirect impact on transport users that propose to undergo, are undergoing, or have undergone gender reassignment, the LTP4 is deemed to potentially have a neutral impact on this particular group: o Wokingham Town Centre Freight Strategy. o Reduce traffic to remove air quality exceedances in Wokingham Town Centre. o Improve air quality in Twyford Town Centre. o Seek prioritisation of zero emission buses on routes through Wokingham Town Centre and Twyford Crossroads.
High quality sustainable travel corridors	
POSITIVE	• A lack of infrastructure that supports people with short-term health conditions due to undergoing / having undergone gender reassignment can lead to difficulty boarding and alighting public transport, leading to a greater journey time. The LTP4 looks to deliver improved interchange and access facilities at Earley rail station, improved access to stations along the North Downs Line, and to improve the forecourt, interchange facilities and car parking at Twyford Station, helping to increase access and journey quality. • The dial-a-ride service under this policy will be beneficial to this group. In instances where public transport usage is not preferable due to unfolding acts of discrimination or harassment, the provision of a private vehicle service will be beneficial.
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• Individuals that propose to undergo, are undergoing, or have undergone gender reassignment are more likely to be a victim of harassment or acts of discrimination; this results in reduced feelings of safety when using public transport, walking or cycling, particularly at night-time or on quiet streets. The LTP4 seeks to enhance pedestrian access and safety in local service centres which will be beneficial to this group. • Whilst a well-maintained transport network is beneficial to people of all ages, construction and maintenance works can impact the way in which people travel. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact in the short-term, but a positive impact in the longer term: o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets.

Enable sustainable development	
NEUTRAL	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic connectivity. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
POSITIVE	• People that propose to undergo, are undergoing, or have undergone gender reassignment may be less likely to engage in active travel modes as a result of fear of discrimination in the public realm. The LTP4 aims to increase the proportion of people cycling through the delivery of high-quality cycle facilities. • Increased engagement through MyJourney under this policy will also give individuals the opportunity to feedback on their experience of active transport in the borough, enabling a process of continual improvement to boost feelings of safety and accessibility.
Safer streets for all, 50% reduction in KSIs	
NEUTRAL	• Due to its high-level and indirect impact on transport users that propose to undergo, are undergoing, or have undergone gender reassignment, the LTP4 is deemed to potentially have a neutral impact on this particular group: o Targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349), revising speed limits across the borough with targeted interventions, where appropriate, to improve road safety, and increasing the network of quiet rural roads and residential streets. o Support a trial and delivery of School Streets and safer routes to school across the borough.
Thriving villages in town centres	
NEUTRAL	• The presence of uneven surfaces, lack of dropped kerbs and use of shared spaces can all limit the mobility of people, especially if having recently undergone gender reassignment surgery. The LTP4 seeks to enhance pedestrian access in local service centres. • Due to its high-level and indirect impact on transport users that propose to undergo, are undergoing, or have undergone gender reassignment, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Trial temporary highway closures for local events to support vitality of rural villages. o Deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations.

Equality Group: Marriage and Civil Partnership

A person's ability to access and use Wokingham Borough's transport network may differ dependent on whether they are in and opposite- or same-sex marriage or registered civil partnership. There are a higher proportion of people married or in a registered civil partnership in Wokingham Borough compared to regionally and nationally, meaning that any impact(s) may affect this particular sub-group to a greater extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
NEUTRAL	• Due to their high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Reduce total traffic movements on Wokingham Borough Council. o Collaborate with supporting partners and innovators in developing new solutions for decarbonising transport. o Energy generation at Park and Ride sites. o Promote of peer-to-peer electric charging networks to meet growing demand for EV charging. o Provide suitable EV charging infrastructure to support carbon neutral development. o Explore expanding the Electric Vehicle network (car club).
Clean air, removal of all air quality exceedances	
NEUTRAL	• Due to its high-level and indirect impact on transport users that are in a marriage or civil partnership, the LTP4 is deemed to potentially have a neutral impact on this particular group: o Wokingham Town Centre Freight Strategy. o Reduce traffic to remove air quality exceedances in Wokingham Town Centre. o Improve air quality in Twyford Town Centre.
High quality sustainable travel corridors	
NEUTRAL	• Due to its high-level and indirect impact on transport users that are in a marriage or civil partnership, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Deliver high quality cycle facilities as part of the identified Reading Strategic Cycle Routes. o Upgrade active travel facilities along the B3349 Barkham Road (connecting Arborfield-Wokingham Town centre. o Deliver high quality cycle facilities as part of identified Reading Strategic cycle network and along Barkham Road, the A329 and the A321 Finchampstead Road. o Increase bus frequency and improve bus journey times along priority bus corridors (A4/A321, A33, A329 and A327). o Deliver a high-quality sustainable transport corridor along the A329. o Increasing rail service frequency to 20-minutes along the North Downs Line. o Increase bus frequency along priority bus corridors (A4/A321, A33, A329 and A327), and between Wokingham Town-Arborfield and Finchampstead. o Improve interchange and access facilities at Earley rail station. o Improve access to stations along the North Downs Line. o Improve the forecourt, interchange facilities and car parking at Twyford Station.
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• Due to its high-level and indirect impact on transport users that are in a marriage or civil partnership, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group:

	o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets. o Work with operators to share operational and real time data to improve transport services and maintenance.
Enable sustainable development	
NEUTRAL	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic connectivity. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
NEUTRAL	• Due to its high-level and indirect impact on transport users that are in a marriage or civil partnership, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Increase cycle parking provision at local destinations. o Deliver on-street E-scooter hire schemes to improve door-to-door transport. o Improve access to green space, especially across Lower Earley Way and to the River Loddon. o Delivery of high-quality cycle facilities; part of the Reading Strategic cycle network and along Barkham Road, A329 and A321 Finchampstead Road. o Improved pedestrian environments and space for businesses in town centres and increase the range of services and engagement.
Safer streets for all, 50% reduction in KSIs	
POSITIVE	• The LTP4 aims to develop safety initiatives, including through supporting a trial and delivery of School Streets and safer routes to school across the borough. This will be particularly beneficial to those in a marriage or civil partnership with children who attend school.
Thriving villages in town centres	
NEUTRAL	• Due to its high-level and indirect impact on transport users that are in a marriage or civil partnership, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Trial temporary highway closures for local events to support vitality of rural villages. o Deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations.

Equality Group: Pregnancy and Maternity

A person's ability to access and use Wokingham Borough's transport network may differ dependent on whether they, their partner, or their surrogate are pregnant, have recently given birth, or have adopted. The proportion of births in Wokingham Borough is the same as regionally and nationally, meaning that any impact(s) are not likely to affect this particular group to a lesser nor greater extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
POSITIVE	• A reduction in traffic movements under this policy will be beneficial to pregnant women as it will enable them more reliable estimations of journey time to maternity appointments. Moreover, in emergency events, reduced traffic movements will aid in the quick transport of the mother to the relevant healthcare facility. • The potential implementation of the Electric Vehicle Network (car club) may be a new way pregnant women and young mothers can meet and socialise. This will be beneficial due to the positive health and mental wellbeing effects associated with socialisation.
Clean air, removal of all air quality exceedances	
POSITIVE	• Exposure to poor air quality can impact foetal development, cause miscarriages, premature births, low birth weights, and stillbirths[3]. The LTP4 aims to reduce traffic to remove air quality exceedances in Wokingham Town Centre and improve air quality in Twyford Town Centre Crossroads. • Due to its high-level and indirect impact on transport users, the following LTP4 aim is deemed to potentially have a neutral impact on this particular group: o Wokingham Town Centre Freight Strategy.
High quality sustainable travel corridors	
POSITIVE	• People that are pregnant or travelling with small children may require or use adapted cycles to travel, such as bike seats, cargo bikes, etc. The presence of uneven surfaces and lack of dropped kerbs can all also limit the mobility of parents / carers with a younger person, especially if using aids such as pushchairs, walkers, wheelchairs, etc. The LTP4 seeks to increase adapted cycle parking provision across the borough. • People that are pregnant or have recently given birth may struggle to board and/or alight public transport services and/or cycle, walk or wheel due to medication and/or medical conditions related to their natal or postnatal (postpartum) stage - considered a short-term and/or long-term impairment. The LTP4 looks to deliver improved interchange and access facilities at Earley rail station, and improved access to stations along the North Downs Line, and improve the forecourt, interchange facilities and car parking at Twyford Station, helping to increase access and journey quality.
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• Whilst a well-maintained transport network is beneficial to all, construction and maintenance works can impact the way in which people travel. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact on this group in the short-term, but a positive impact in the longer term: o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets. o Work with operators to share operational and real time data to improve transport services and maintenance.
Enable sustainable development	

[3] Outdoor Air Pollution and Pregnancy Loss: a Review of Recent Literature (2022) https://link.springer.com/article/10.1007/s40471-022-00304-w#:~:text=Each%2010%20%CE%BCg%2Fm3,%25)%20increased%20risk%20of%20miscarriage. [Accessed: 21/09/2023]

NEUTRAL	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area. Pregnant women may feel safer moving through the space upon public realm improvements under this policy.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic connectivity. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line, continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
POSITIVE	• Mothers tend to take shorter journeys for childcare, work, and household responsibilities; these are more likely to involve multi-stop journeys outside of peak hours ('trip chaining'). These journey types are less likely to be served by public transport corridors due to their unique, indirect nature and can be more expensive than direct trips. The LTP4 will aid in this dilemma by providing increasing public transport services.
Safer streets for all, 50% reduction in KSIs	
NEUTRAL	• Due to its high-level and indirect impact on transport users that are pregnant or have recently given birth, the LTP4 is deemed to potentially have a neutral impact on this particular group: o Targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349). o Revising speed limits across the borough with targeted interventions to improve road safety. o Increasing the network of quiet rural roads and residential streets.
Thriving villages in town centres	
POSITIVE	• The presence of uneven surfaces, lack of dropped kerbs, use of shared spaces can all limit the mobility of people who are pregnant or have recently given birth and travelling with prams. The LTP4 seeks to enhance pedestrian access in local service centres.

Equality Group: Race

A person's ability to access and use Wokingham Borough's transport network may differ dependent on their ethnicity. The proportion of people identifying as Asian, Asian British or Asian Welsh in Wokingham Borough is considerably higher than regionally and nationally, meaning that any impact(s) are likely to affect this particular sub-group to a greater extent. All other ethnicities are broadly similar as regionally and nationally, meaning that any impact(s) are not likely to affect these groups to a lesser nor greater extent.

Impact score	Impa**ct and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
NEUTRAL	• Due to their high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Collaborate with supporting partners and innovators in developing new solutions for decarbonising transport. o Energy generation at Park and Ride sites. o Reduce total traffic movements on Wokingham Borough Council roads. o Promote peer-to-peer electric charging networks. o Provide suitable EV charging infrastructure to support carbon neutral development. o Explore expanding the Electric Vehicle network (car club).
Clean air, removal of all air quality exceedances	
POSITIVE	• People from ethnic minorities are more likely to reside in areas that experience increased levels of pollution[4]. The LTP4 aims to reduce traffic to remove air quality exceedances in Wokingham Town Centre, improve air quality in Twyford Town Centre, and seek prioritisation of zero emission buses on routes through Wokingham Town Centre and Twyford Crossroads.
High quality sustainable travel corridors	
NEUTRAL	• Bus usage by people in ethnic minority groups is typically higher than for people in White groups[5]. The LTP4 seeks to increase bus frequency along priority bus corridors (A4/A321, A33, A329 and A327) and between Wokingham Town-Arborfield-Finchampstead, as well as the delivery of a high-quality sustainable travel corridor between Reading and Coppid Beach Roundabout, via Winnersh and Wokingham. • Due to its high-level and indirect impact on transport users from ethnic minority backgrounds, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Deliver improved interchange and access facilities at Earley rail station. o Deliver high quality cycle facilities as part of the identified Reading Strategic Cycle Routes. o Upgrade active travel facilities along the B3349 Barkham Road (connecting Arborfield-Wokingham Town centre). o Deliver improved access to stations along the North Downs Line. o Improve the forecourt, interchange facilities and car parking at Twyford Station.
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• Whilst a well-maintained transport network is beneficial to all, construction and maintenance works can impact the way in which people travel. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact on this group in the short-term, but a positive impact in the longer term:

[4] BAME and poorer Londoners more likely to live in areas with toxic air (2021) https://www.london.gov.uk/press-releases/mayoral/bame-and-poorer-londoners-face-air-quality-risk#:~:text=Research%20shows%20that%20those%20exposed,most%20severe%20impacts%20of%20COVID. [Accessed: 21/09/2023]
[5] Travel, GOV.UK (2023) https://www.ethnicity-facts-figures.service.gov.uk/culture-and-community/transport/travel/latest#by-ethnicity-number-of-trips-and-mode-of-transport [Accessed: 21/09/2023]

	o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets.
Enable sustainable development	
NEUTRAL	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic connectivity. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
POSITIVE	• People from ethnic minorities are more likely to have reduced access to green spaces[6]. LTP4 seeks to improve access to green space, especially across Lower Earley Way and to the River Loddon. • 55.0% of people from ethnic minority groups who do not currently cycle would like to start[7]. The LTP4 proposes the delivery of the following infrastructure to improve confidence, and as such, these specific LTP4 aims are deemed to potentially have a positive impact on this particular group: o High-quality cycle facilities as part of the identified Reading Strategic Cycle Routes. o Targeted infrastructure changes to reduce collisions at identified cluster sites, including Wokingham Town Centre, A4 and B3349. o Revise speed limits across the borough with targeted interventions where appropriate to improve road safety. o Increased network of quieter rural roads and residential streets. o Support a trial and delivery of School Streets and safer routes to school across the borough. o Deliver high-quality cycle facilities under the Reading Strategic cycle network. o Deliver cycle facilities along Barkham Road, A329 and A321 Finchampstead Road, reducing the dominance of vehicles to enable improved pedestrian environments and space for businesses in town centres, o Increase cycle parking provision at local destinations. o Deliver on-street E-scooter hire schemes to improve door-to-door transport options
Safer streets for all, 50% reduction in KSIs	
POSITIVE	• On average, there are 86 ethnic minority casualties per 10,0000 pedestrian casualties compared to 68 White pedestrians per 10,0000 pedestrian casualties[8]. The LTP4 seeks to develop targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349), revising speed limits across the borough with targeted interventions, where appropriate, to improve road safety, support a trial and delivery of School Streets and safer routes to school across the borough, and increasing the network of quiet rural roads and residential streets.
Thriving villages in town centres	
NEUTRAL	• Around 25.0% of younger people from ethnic minority groups experience harassment due to their colour, race, or religion, on public transport[9]; this can result in reduced feelings of safety, particularly at night-time or whilst waiting for services on quieter streets. The LTP4 seeks to enhance pedestrian access and safety in local service centres. • Due to its high-level and indirect impact on transport users from ethnic minority backgrounds, the following LTP4 aim is deemed to potentially have a neutral impact on this particular group: o Trial temporary highway closures for local events to support vitality of rural villages.

[6] Out of Bounds Equity in Access to Urban Nature (2021) https://www.groundwork.org.uk/wp-content/uploads/2021/05/Out-of-Bounds-equity-in-access-to-urban-nature.pdf [Accessed: 21/09/2023]
[7] Sustrans (2020) https://www.sustrans.org.uk/our-blog/research/all-themes/all/inclusive-cycling-in-cities-and-towns [Accessed: 21/09/2023]
[8] Living Streets https://www.livingstreets.org.uk/news-and-blog/press-media/deprived-and-ethnic-minority-pedestrians-three-times-more-likely-to-be-injured-on-britain-s-roads [Accessed: 21/09/2023]
[9] Department for Transport (2012) Transport for Everyone: an action plan to promote equality [Accessed: 22/09/2023]

	o Deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations.

Equality Group: Religion or Belief

A person's ability to access and use Wokingham Borough's transport network may differ dependent on whether they hold a religion and/or a philosophical belief, or alternatively no religion and/or belief. The proportion of people identifying as Hindu in Wokingham Borough is considerably higher than regionally and nationally, whilst the proportion of people identifying as Sikh is slightly higher comparatively. This means that any impact(s) are likely to affect these particular sub-groups to a greater extent. All other ethnicities are broadly similar as regionally and nationally, meaning that any impact(s) are not likely to affect these groups to a lesser nor greater extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
NEUTRAL	• Due to their high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Collaborate with supporting partners and innovators in developing new solutions for decarbonising transport. o Energy generation at Park and Ride sites. o Reduce total traffic movements on Wokingham Borough Council roads. o Promote of peer-to-peer electric charging networks to meet growing demand for EV charging. o Provide suitable EV charging infrastructure to support carbon neutral development. o Explore expanding the Electric Vehicle network (car club).
Clean air, removal of all air quality exceedances	
NEUTRAL	• Due to their high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Wokingham Town Centre Freight Strategy. o Reduce traffic to remove air quality exceedances in Wokingham Town Centre o Improve air quality in Twyford Town Centre o Prioritise zero emission buses on routes through Wokingham Town Centre and Twyford Crossroads.
High quality sustainable travel corridors	
NEUTRAL	• Due to its high-level and indirect impact on transport users that visibly hold a religion or belief, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Deliver improved interchange and access facilities at Earley rail station. o Deliver improved access to stations along the North Downs Line. o Improve the forecourt, interchange facilities and car parking at Twyford Station. o Increase bus frequency along priority bus corridors (A4/A321, A33, A329 and A327) and between Wokingham Town-Arborfield-Finchampstead. o Deliver a high-quality sustainable travel corridor between Reading and Coppid Beach Roundabout, via Winnersh and Wokingham. o high quality cycle facilities as part of the identified Reading Strategic Cycle Routes, and upgrade active travel facilities along the B3349 Barkham Road (connecting Arborfield-Wokingham Town centre
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• There is the potential of a heightened risk of discrimination and/or harassment (hate-crimes) for religious people who wear and/or hold a marked religious identity; this can result in reduced feelings of safety when using public transport, walking or cycling, particularly at night-time or on quiet streets. The LTP4 seeks to work with operators to share operational and real time data to improve transport services and maintenance.

	• Whilst a well-maintained transport network is beneficial to all, construction and maintenance works can impact the way in which people travel. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact on this group in the short-term, but a positive impact in the longer term: o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets.
Enable sustainable development	
NEUTRAL	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic transport corridors. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
NEUTRAL	• Due to its high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Improve access to green space, especially across Lower Earley Way and to the River Loddon. o Deliver on-street E-scooter hire schemes to improve door-to-door transport options. o Deliver high-quality infrastructure under the Reading Strategic cycle network and along Barkham Road, A329 and A321 Finchampstead Road. o Improve pedestrian environments and space for businesses in town centres. o Increasing the range of services and engagement. o Increase cycle parking provision at local destinations.
Safer streets for all, 50% reduction in KSIs	
POSITIVE	• The LTP4 aims to develop safety initiatives, including improving safety for cycling and pedestrians in Twyford Town Centre, support a trial and delivery of School Streets and safer routes to school across the borough, targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349), introducing targeted interventions where appropriate to improve road safety, and enhancing pedestrian safety in local service centres.
Thriving villages in town centres	
POSITIVE	• There is the potential of a heightened risk of discrimination and/or harassment (hate crimes) for religious people who wear and/or hold a marked religious identity; this can result in reduced feelings of safety when using public transport, walking or cycling, particularly at night-time or on quiet streets. The LTP4 seeks to enhance pedestrian access and safety in local service centres. • Due to its high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Identify local priorities for improving walking, cycling and horse riding and trial changes to increase network of low traffic rural/green lanesTrial temporary highway closures for local events to support vitality of rural villages. o Deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations.

Equality Group: Sex

Travel patterns significantly vary for females and males according to different travel purposes. The proportion of people in Wokingham Borough identifying as female or male is broadly in line with regional and national figures, meaning that any impact(s) are not likely to affect these sub-groups to a lesser nor greater extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
NEUTRAL	• Due to their high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Reduce total traffic movements on Wokingham Borough Council roads. o Collaborate with supporting partners and innovators in developing new solutions for decarbonising transport. o Energy generation at Park and Ride sites. o Promote peer-to-peer electric charging networks. o Provide suitable EV charging infrastructure to support carbon neutral development. o Explore expanding the Electric Vehicle network (car club).
Clean air, removal of all air quality exceedances	
NEUTRAL	• Due to their high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Reduce traffic to remove air quality exceedances in Wokingham Town Centre. o Improve air quality in Twyford Town Centre. o Seek prioritisation of zero emission buses on routes through Wokingham Town Centre and Twyford Crossroads. o Wokingham Town Centre Freight Strategy.
High quality sustainable travel corridors	
POSITIVE	• Journeys taken by males tend to be in the peak hours, direct between work and home, and along key commuter corridors. The LTP4 seeks to deliver the following corridor-based measures, and as such, these specific LTP4 aims are deemed to potentially have a positive impact on this particular group: o Increase bus frequency and journey times along priority bus corridors (A4/A321, A33, A329 and A327), and between Wokingham Town-Arborfield and Finchampstead. o Delivery of a high-quality sustainable transport corridor along the A329 connecting Reading-Winnersh-Wokingham and Coppid Beach Roundabout. o Increasing rail service frequency to 20 minutes along the North Downs Line. o Increasing bus service frequency between Wokingham Town to Arborfield and Finchampstead, initially to a half hourly with aspiration to develop into 15-minutes. o Upgrade active travel facilities along the B3349 Barkham Road to create an active travel corridor connecting Arborfield and Wokingham Town Centre.
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• Whilst a well-maintained transport network is beneficial to all, construction and maintenance works can impact the way in which people travel. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact on this group in the short-term, but a positive impact in the longer term: o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets.
Enable sustainable development	

POSITIVE	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area. Specifically, improvements to safety under this policy will be beneficial for women and girls who are disproportionately exposed to issues of gender-based violence on the streets.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic transport corridors. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
LOW NEGATIVE	• Women and girls may be less likely to cycle due to a lack of perceived safety and fear of gender-based discrimination. The LTP4 aims to increase the proportion of people cycling through the delivery of high-quality cycle facilities. This policy is only likely to bring about positive effects, however, if cycle facilities are implemented with safety measures such as CCTV and lighting. • Women and girls are less likely to utilise open green space for active travel purposes due to a lack of perceived safety and fear of gender-based discrimination. Under this policy access to greenspace is improved. This policy will only be beneficial to this group if implemented with safety measures such as CCTV and lighting.
Safer streets for all, 50% reduction in KSIs	
NEUTRAL	• Due to its high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349). o Revise speed limits across the borough with targeted interventions. o Increase the network of quiet rural roads and residential streets. o Support a trial and delivery of School Streets and safer routes to school across the borough.
Thriving villages in town centres	
NEUTRAL	• Due to its high-level and indirect impact on all transport users, the following LTP4 aim is deemed to potentially have a neutral impact on this particular group: o Trial temporary highway closures for local events to support vitality of rural villages. o Deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations.

Equality Group: Sexual Orientation

A person's ability to access and use Wokingham Borough's transport network may differ dependent on their sexual orientation. The proportion of people in Wokingham Borough identifying as Lesbian, Gay, Bisexual or Other (LGBTQ+) is broadly in line with regional and national figures, meaning that any impact(s) are not likely to affect this group to a lesser nor greater extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
LOW NEGATIVE	• The potential implementation of a network of shared electric vehicles (car clubs) under this policy may have adverse impacts for those identifying as Lesbian, Gay, Bisexual or Other (LGBTQ+) as the low level of regulation and causal nature of this proposed scheme may lead to people experiencing identity-based discrimination in this space. The policing of such car clubs would be necessary to ensure such negative effects are not felt by this group.
Clean air, removal of all air quality exceedances	
NEUTRAL	• Due to its high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group. o Wokingham Town Centre Freight Strategy. o Reduce traffic to remove air quality exceedances in Wokingham Town Centre. o Improve air quality in Twyford Town Centre. o Seek prioritisation of zero emission buses on routes through Wokingham Town Centre and Twyford Crossroads.
High quality sustainable travel corridors	
NEUTRAL	• Due to their high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Increase bus frequency and journey times along priority bus corridors (A4/A321, A33, A329 and A327), and between Wokingham Town-Arborfield and Finchampstead. o Delivery of a high-quality sustainable transport corridor along the A329 connecting Reading-Winnersh-Wokingham and Coppid Beach Roundabout. o Increasing rail service frequency to 20 minutes along the North Downs Line. o Increasing bus service frequency between Wokingham Town to Arborfield and Finchampstead, initially to a half hourly with aspiration to develop into 15 minutes. o Upgrade active travel facilities along the B3349 Barkham Road to create an active travel corridor connecting Arborfield and Wokingham Town Centre.
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• People that identify as LGBTQ+ can experience sexual orientation-based discrimination; typically resulting in reduced feelings of safety when using public transport, walking or cycling. The LTP4 looks to with operators to share operational and real time data to improve transport services and maintenance. • Whilst a well-maintained transport network is beneficial to all, construction and maintenance works can impact the way in which people travel. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact on this group in the short-term, but a positive impact in the longer term: o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets.

Enable sustainable development	
POSITIVE	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area. Specifically, improvements to safety under this policy will be beneficial for members of the LGBTQ+ community who are disproportionately exposed to issues of identity-based violence on the streets.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic connectivity. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
NEUTRAL	• Due to its high-level and indirect impact on transport users, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Increase services across a range of modes. o Deliver on-street E-scooter hire schemes to improve door-to-door transport options. o Increase cycle parking provision at local destinations. o Improve access to green space, especially across Lower Earley Way and to the River Loddon.
Safer streets for all, 50% reduction in KSIs	
POSITIVE	• People that identify as LGBTQ+ can experience sexual orientation-based discrimination; typically resulting in reduced feelings of safety when using public transport, walking or cycling. The LTP4 seeks to introduce targeted interventions to improve safety, and enhance pedestrian accessibility.
Thriving villages in town centres	
POSITIVE	• People that identify as LGBTQ+ often consider transport an unsafe space and are more likely to be a victim of harassment or acts of discrimination; this results in reduced feelings of safety when using public transport, walking or cycling, particularly at night-time or on quiet streets. The LTP4 seeks to enhance pedestrian access and safety in local service centres.

Equality Group: Socio-economic Disadvantage

A person's ability to access and use Wokingham Borough's transport network may differ dependent on their socio-economic circumstances, which encompass a range of different factors, including education, income and occupation.

The Department for Levelling Up, Housing & Communities' Index of Multiple Deprivation (IMD) is a relative measure of deprivation. The IMD provides a weighted average score of seven domains: 1) income deprivation; 2) employment deprivation; 3) health deprivation and disability; 4) education skills and training deprivation; 5) barriers to housing and services; 6) living environment deprivation; and 7) crime. In 2019, Wokingham Borough had an IMD score of 5.8, making it the second least deprived local authority district in England (ranked 316 out of 316 authorities). In 2021, 61.5% of households in the Borough were not deprived in any of the seven dimensions. Despite this, the Borough had four Lower Super Output Areas (LSOA) (a geographical area comprising between 400-1,200 households, typically with a resident population between 1,000-3,000) in the second most deprived quintile in England. These areas were to the south-east of Wokingham town centre (Wixenford, Gardeners Green and Holme Green); part of the Norreys Estate (near Wokingham town centre); part of Finchampstead; and a small part of Woodley. Based on 2019 mid-year population estimates these four LSOAs accounted for only 4% of the population of the Borough. Due to the relative affluence of the Borough in which the LTP4 covers, it is not envisioned that its population would be negatively impacted socio-economically by the LTP4.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
POSITIVE	• Typically, urban areas tend to experience higher levels of both deprivation and congestion. LTP4's aim to reduce total traffic movements on Wokingham Borough Council roads would help to improve quality of life through a reduction in transport emissions in areas where it is most needed. • A lack of affordable private options for travel may mean that access to services (education, employment, healthcare, etc.) is restricted for people on lower incomes. The LTP4 seeks to explore expanding the Electric Vehicle network (car club).
Clean air, removal of all air quality exceedances	
POSITIVE	• Typically, people that are socio-economically disadvantaged live in areas that suffer with high-levels of congestion. The LTP4 aims to reduce traffic to remove air quality exceedances in Wokingham Town Centre, improve air quality in Twyford Town Centre, and seek prioritisation of zero emission buses on routes through Wokingham Town Centre and Twyford Crossroads. • Due to its high-level and indirect impact on transport users, the Wokingham Town Centre Freight Strategy is deemed to potentially have a neutral impact on this particular group.
High quality sustainable travel corridors	
NEUTRAL	• The upfront and associated costs of owning a private vehicle may be unobtainable for people that are socio-economically disadvantaged; whilst cycling does incur a cost, it is a significantly cheaper alternative. The LTP4 looks to deliver high quality cycle facilities as part of the identified Reading Strategic Cycle Routes, and upgrade active travel facilities along the B3349 Barkham Road (connecting Arborfield-Wokingham Town centre). • Due to their high-level and indirect impact on transport users that are socio-economically disadvantaged, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Increase bus frequency along priority bus corridors (A4/A321, A33, A329 and A327) and between Wokingham Town-Arborfield-Finchampstead. o Deliver a high-quality sustainable travel corridor between Reading and Coppid Beach Roundabout, via Winnersh and Wokingham. o Deliver improved interchange and access facilities at Earley rail station. o Improve access to stations along the North Downs Line. o Improve the forecourt, interchange facilities and car parking at Twyford Station.
Grow the Economy	
Well-maintained transport network	

NEUTRAL	• Whilst a well-maintained transport network is beneficial to all, construction and maintenance works can impact the way in which people travel. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact on this group in the short-term, but a positive impact in the longer term: o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets. o Work with operators to share operational and real time data to improve transport services and maintenance.
Enable sustainable development	
NEUTRAL	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic connectivity. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
NEUTRAL	• The large cost associated with cycling in relation to the bike, its maintenance and additional safety measures like bike locks is likely to inhibit the uptake of cycling among economically disadvantaged groups. The LTP4 would seek to deliver secure cycle parking at local destinations. This would alleviate fear of bike theft and money loss for this group. • For people living in less affluent areas, transport services can be seen as a constraint rather than an enabler due to factors like cost acting as a barrier. The cost of travel can extend journeys and/or the number of modes used by people, impacting upon journey quality. • Due to its high-level and indirect impact on transport users who are less affluent, the following LTP4 aim is deemed to potentially have a neutral impact on this particular group: o Improve access to green space, especially across Lower Earley Way and to the River Loddon. o Improve pedestrian environments and space for businesses in town centres. o Increase the range of services and engagement.
Safer streets for all, 50% reduction in KSIs	
POSITIVE	• People residing in less affluent neighborhoods are more likely to be killed or injured on roads than people living in more affluent areas[10]. The LTP4 seeks to introduce targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349), revising speed limits across the borough with targeted interventions, where appropriate, to improve road safety, and increase the network of quiet rural roads and residential streets, and support a trial and delivery of School Streets and safer routes to school across the borough, helping to improve actual and perceptions of safety.
Thriving villages in town centres	
POSITIVE	• Due to its high-level and indirect impact on less affluent transport users, the following LTP4 aim is deemed to potentially have a neutral impact on this particular group: o Trial temporary highway closures for local events to support vitality of rural villages. o Deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations. o Enhance pedestrian access in local service centres. o The LTP4 identifies local priorities for improving walking, cycling and horse riding and trial changes to increase network of low traffic rural/green lanes.

[10] The Kings Fund (2022) https://www.kingsfund.org.uk/publications/what-are-health-inequalities [Accessed: 21/09/2023)

Equality Group: Armed Forces Communities

The Armed Forces Community includes the British Army, Royal Air Force, and Royal Navy. The term 'Service People applies to current members (serving personnel), former members (veterans), as well as relevant family members. A person's ability to access and use Wokingham Borough's transport network may differ dependent on whether they have previously served in the UK regular and/or reserve armed forces.

The proportion of Service Members by type for Wokingham Borough was broadly in line with that for the south east and for England. Overall, 1,737,781 people (3.8% of the total population of England) have served in any UK armed forces, of which 317,082 (18.2%) reside in the South East. This may be due to proximity of Armed Forces sites within the region, examples of which include, but not limited to: Aldershot Garrison (Hampshire); Army Training Centre (ATC) Pirbright (Surrey); North Atlantic Treaty Organization (NATO) Allied Maritime Command (MARCOM) (north west London); Royal Air Force (RAF) Benson (south Oxfordshire); RAF High Wycombe (Buckinghamshire); RAF Kenley (south London); RAF Odiham (Hampshire); RAF Northolt (west London); and, Royal Military Academy (RMA) Sandhurst (Surrey). Wokingham Borough has a lower proportion of people who have previously served in either the regular or reserve UK armed forces, or both, compared to regionally and nationally, meaning that any impact(s) may affect this particular sub-group to a lesser extent.

Impact score	**Impact and supporting data**
Reduce Environmental Impacts	
Net zero carbon emissions	
POSITIVE	• Service People (those who have served / serve in the armed forces) who are Disabled or have a military-related injuries may struggle to access and/or use Electric Vehicle charging infrastructure due to inaccessible parking or the presence of heavy charging cables. Within the centre of Wokingham, there are circa four charging points that are both publicly accessible and have no access restrictions, limiting the charging options available. The LTP4 seeks to promote peer-to-peer electric charging networks to meet growing demand for EV charging and providing suitable EV charging infrastructure to support carbon neutral development. • The use of new digital innovations can act as a blocker to transport for Service People who may not have access and/or the knowledge to use these emerging technologies. The LTP4 looks to support improved digital accessibility for local residents. • Inadequate infrastructure can inhibit the use of transport services for Service People who are Disabled or have a military-related injuries, leading to a reliance on motor vehicles. For people who are not able to cycle, walk and/or wheel, nor access public transport, the LTP4's aim to reduce total traffic movements on Wokingham Borough Council roads would help to improve journey times for people reliant on a private vehicle(s).
Clean air, removal of all air quality exceedances	
NEUTRAL	• Due to their high-level and indirect impact on Service People, the following LTP4 aims are deemed to potentially have a neutral impact on this particular group: o Wokingham Town Centre Freight Strategy. o Reduce traffic to remove air quality exceedances in Wokingham Town Centre. o Improve air quality in Twyford Town Centre. o Seek prioritisation of zero emission buses on routes through Wokingham Town Centre and Twyford Crossroads.
High quality sustainable travel corridors	
POSITIVE	• A lack of suitable infrastructure for Service People who are Disabled or have a military-related injuries can be a barrier to travel. The LTP4 aims to deliver high quality cycle facilities as part of the identified Reading Strategic Cycle Routes, and upgrade active travel facilities along the B3349 Barkham Road (connecting Arborfield-Wokingham Town centre, deliver improved interchange and access facilities at Earley rail station, improved access to stations along the North Downs Line, and to improve the forecourt, interchange facilities and car parking at Twyford Station, helping to increase access and journey quality.

	• In Wokingham Borough, Disabled person's bus passes are free for residents who have a permanent disability or a disability that is expected to last at least one year. The LTP4 seeks to increase bus frequency along priority bus corridors (A4/A321, A33, A329 and A327) and between Wokingham Town-Arborfield-Finchampstead, as well as the delivery of a high-quality sustainable travel corridor between Reading and Coppid Beach Roundabout, via Winnersh and Wokingham. • The cost of travel can extend journeys and/or the number of modes used by Service People who are Disabled or have a military-related injuries or that do not feel comfortable/confident using particular modes, impacting upon journey quality. The LTP4 aims to work with partners to develop a lower fares structure through Enhanced Bus Partnership. • Some Service People who are Disabled or have a military-related injuries may have greater difficulty cycling, walking and/or wheeling long distances; the LTP4 indicates that community Dial-a-Ride services, which can be used by Disabled Service People, will continue to be funded.
Grow the Economy	
Well-maintained transport network	
NEUTRAL	• Whilst a well-maintained transport network is beneficial to all, construction and maintenance works can impact the way in which people travel. As such, these specific LTP4 aims noted under the LTP4 are deemed to potentially have a low negative impact on this group in the short-term, but a positive impact in the longer term: o Test and trial measures that reduce maintenance needs whilst contributing to the borough's active travel, air quality and road safety targets. o Work with operators to share operational and real time data to improve transport services and maintenance.
Enable sustainable development	
POSITIVE	• All people benefit from the enablement of sustainable development. The LTP4 aims to provide streets that are attractive to and permeable for pedestrians and cyclists which will bring about improvements to the public realm and overall contribute positively to the wellbeing of residents in the area. A lack of suitable parking infrastructure for Service People who are Disabled or have a military-related injuries can be a barrier to travel. The LTP4 aims to increase disabled vehicle and adapted cycle parking provision across the borough.
Protect and enhance strategic connectivity and freight	
NEUTRAL	• All people benefit from use of strategic connectivity. The LTP4 looks to support upgrades to the A329 (M) and deliver service enhancements on the Reading to Waterloo rail line Continue working with neighbouring authorities through the informal freight partnership to effectively manage freight on the SRN and across the region.
Create Healthy and Safe Places	
50% Active travel in towns	
NEUTRAL	• Due to its high-level and indirect impact on Service People, the following LTP4 aim is deemed to potentially have a neutral impact on this particular group: o Improve access to green space, especially across Lower Earley Way and to the River Loddon. o Deliver high-quality cycle facilities; part of the Reading Strategic cycle network and along Barkham Road, A329 and A321 Finchampstead Road. o Improve pedestrian environments and space for businesses in town centres. o Increase the range of services and engagement. o Increase cycle parking provision at local destinations.
Safer streets for all, 50% reduction in KSIs	
NEUTRAL	• Due to its high-level and indirect impact on Service People, the following LTP4 aim is deemed to potentially have a neutral impact on this particular group: o Targeted infrastructure changes to reduce collisions at identified cluster sites (Wokingham Town Centre, A4 and B3349). o Revising speed limits across the borough with targeted interventions. o Increase the network of quiet rural roads and residential streets. o Support a trial and delivery of School Streets and safer routes to school across the borough.

Thriving villages in town centres	
NEUTRAL	• Due to its high-level and indirect impact on Service People, the following LTP4 aim is deemed to potentially have a neutral impact on this particular group: o Identify local priorities for improving walking, cycling and horse riding and trial changes to increase network of low traffic rural/green lanes. o Trail temporary highway closures for local events to support vitality of rural villages. o Deliver Electric Vehicle charging improvements, secure cycle parking and motorcycle parking facilities at local destinations.

6. Conclusion and next steps.

IMPACT SUMMARY TABLE

Aim	Age	Disability	Gender Reassignment	Marriage and Civil Partnership	Pregnancy and Maternity	Race	Religion or Belief	Sex	Sexual **Orientation**	Socio-economic Disadvantage	Armed Forces **Communities**
Net Zero Carbon Emissions	Positive	Positive	Low Negative	Neutral	Positive	Neutral	Neutral	Neutral	Low Negative	Positive	Neutral
Clean Air, removal of all air quality exceedances	Positive	Positive	Neutral	Neutral	Positive	Positive	Neutral	Neutral	Neutral	Positive	Positive
High-Quality Sustainable Travel Corridors	Positive	Positive	Positive	Neutral	Positive	Neutral	Neutral	Positive	Positive	Neutral	Positive
A Well-Maintained Transport Network	Neutral	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Enable Sustainable Development	Positive	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Positive	Positive	Neutral	Positive
Protect and Enhance Strategic Road and Rail Connectivity	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
50% Active Travel in Towns by 2030	Positive	Positive	Positive	Neutral	Positive	Positive	Positive	Low Negative	Neutral	Neutral	Neutral
Safer Streets for All	Positive	Positive	Neutral	Positive	Neutral	Positive	Neutral	Neutral	Positive	Positive	Neutral
Thriving Villages and Rural Centres	Positive	Positive	Neutral	Neutral	Positive	Neutral	Neutral	Neutral	Positive	Positive	Neutral

Impact on Equality Groups	**Description**
Positive	The proposal promotes equality of opportunity by meeting needs or addressing existing barriers to participation and/or promotes good community relations
Neutral	The proposal has no impact or no disproportionate impact
Low negative	The proposal is likely to negatively impact a small number of people, be of short duration and can easily be resolved
High negative	The proposal is likely to have a significant negative impact on many people or a severe impact on a smaller number of people

This assessment has found 40 positive impacts and 56 neutral impacts across the given equality groups, with age, disability, and pregnancy and maternity experiencing the highest level of positive effect, and marriage and civil partnership, gender reassignment, sex and religion and belief experiencing the least. Three Low Negative scores were identified for gender reassignment, sex and sexual orientation. These related to the potential for identity and gender based discrimination. As all the LTP4 aims have been identified as having predominantly

neutral and positive effects, a full impact assessment is not required, as per Wokingham Borough Council policy. As such, reference to this initial assessment must be made in any associated reports after receiving formal approval from the Assistant Director responsible for the LTP4.