



Oxfordshire Infrastructure Strategy (OxIS)

*Stage 1 (2021-2040) -
Summary Report*



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1. Stage 1 - Summary Report Introduction

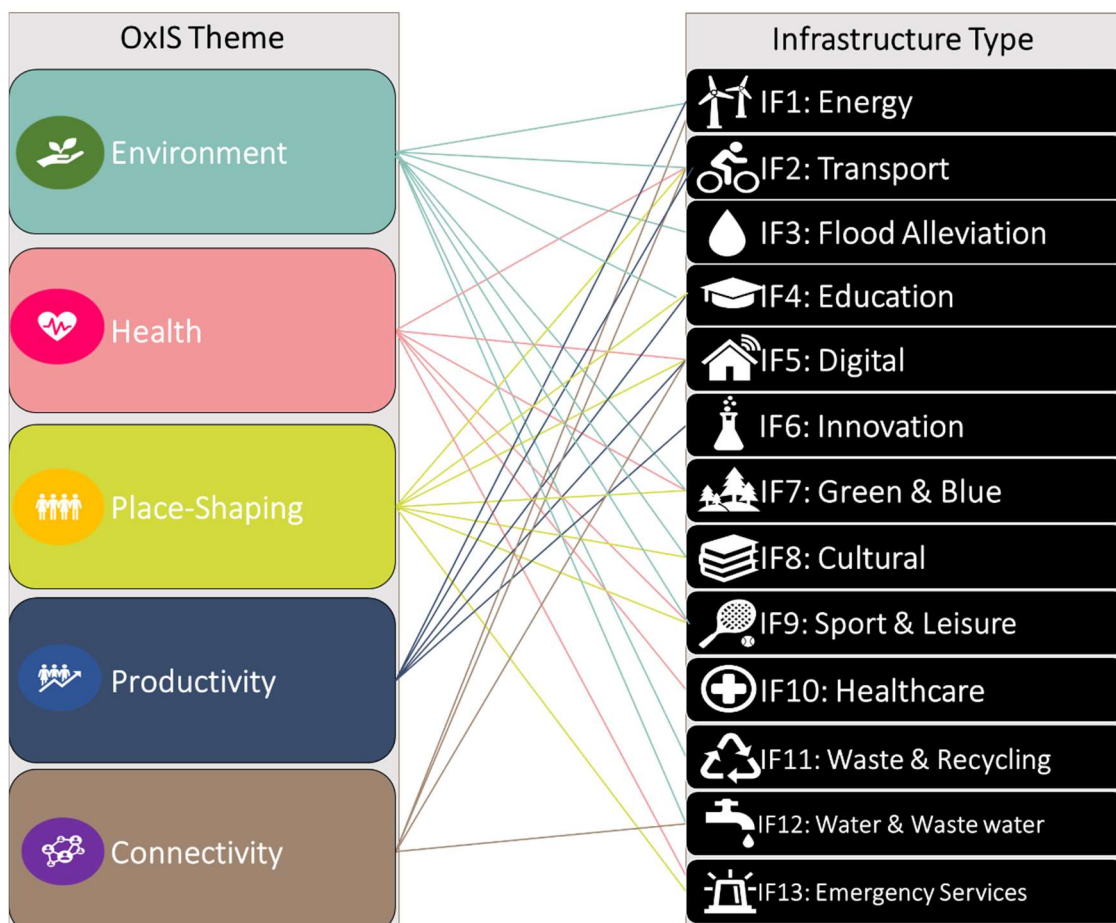
1.1. Context

This updated Oxfordshire Infrastructure Strategy (OxIS) was commissioned on behalf of the Future Oxfordshire Partnership (formerly Oxfordshire Growth Board), to provide a holistic assessment of the infrastructure needs of the county aligned to the priorities of both the Future Oxfordshire Partnership and the district and city councils and to support the emerging Oxfordshire Plan 2050. This OxIS Stage 1 Report provides a strategic framework for Oxfordshire County Council (OCC), Oxfordshire's four District and City Councils and key strategic partners to prioritise currently proposed infrastructure scheme investment aligned to the five OxIS themes as well as identify potential delivery and funding opportunities to 2040.

This report will be followed by the OxIS Stage 2 Report in 2022 that will consider new proposals for strategic infrastructure required to meet Oxfordshire's needs in the period to 2050. The OxIS Stage 2 Report will be aligned with the Oxfordshire Plan 2050, which is a forthcoming Joint Statutory Spatial Plan identifying key areas where future housing and employment could occur to 2050 in a way that maximises social and environmental benefits. The Oxfordshire Plan will provide the framework for the next iteration of Oxfordshire's District Local Plans.

OxIS aims to:

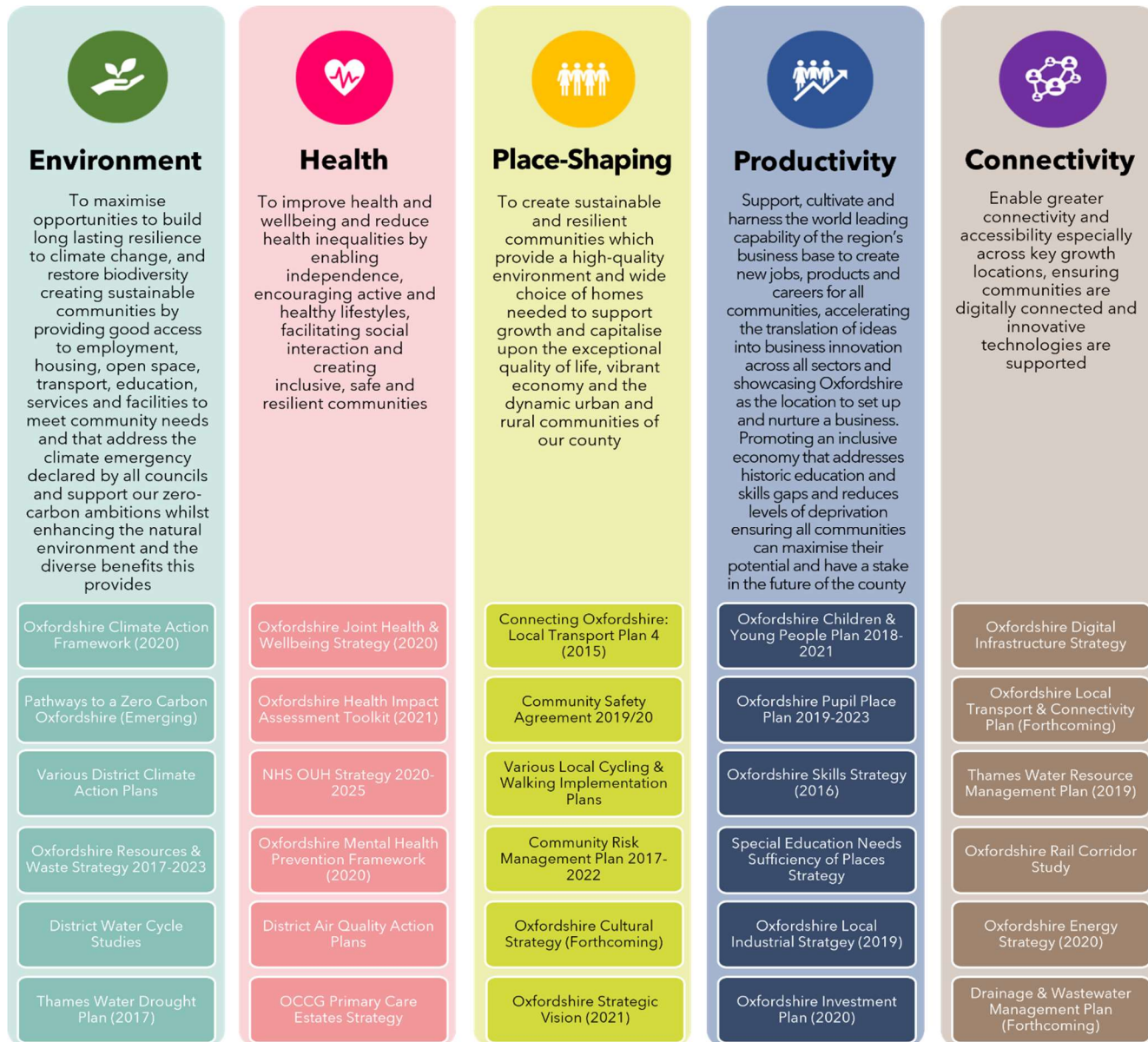
- Set out the priority strategic infrastructure investment needed to manage housing and employment development in a way that maximises social and environmental benefits to the county, as defined in the Oxfordshire Strategic Vision and the OxIS Themes
- Continue to shape and influence investment strategies at a national, sub-national and local level; maximising the efficiency and effectiveness of existing infrastructure and reducing the demand for new infrastructure, supporting Oxfordshire's role as a global innovation hub
- Plan for infrastructure over a longer-term horizon to complement and provide evidence to support the emerging Oxfordshire Plan 2050
- Provide an investment prioritisation that can be applied as relevant funding sources become available



1.2. OxIS Themes

The Future Oxfordshire Partnership, alongside key strategic partners, have agreed five OxIS Themes. These themes are consistent with established and emerging policies across Oxfordshire, including Oxfordshire's Strategic Vision for Long Term Sustainable Development (2021) and the Local Transport & Connectivity Plan.

The purpose of the five OxIS Themes is to provide a structural framework for 25 outcome led and measurable needs focused on managing economic, housing and infrastructure development in a way that is inclusive and maximises social and environmental benefits. These 25 needs form a core element of the infrastructure scheme multi-criteria appraisal process.



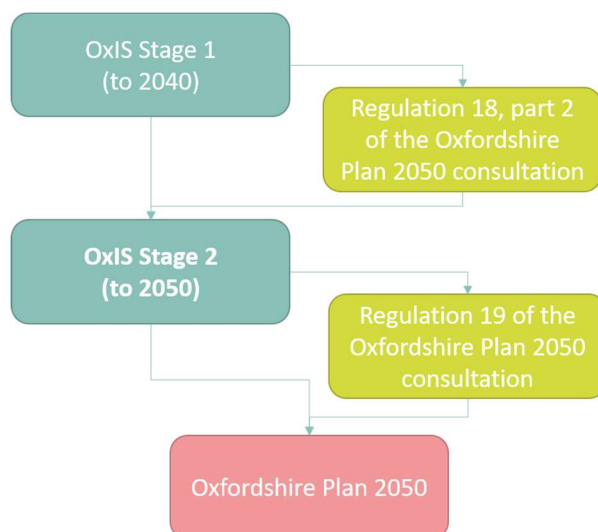
1.3. OxIS Stage 1 & Stage 2 Scope

This document constitutes the **OxIS Stage 1 Report** (aligning with Regulation 18, part 2 of the Oxfordshire Plan consultation). It is formed of a short OxIS Stage 1 Summary Report and a longer OxIS Stage 1 Technical Report. It seeks to:

- Conduct a refresh of the evidence base and a re-prioritisation of strategic infrastructure schemes to 2040
- Align with future planned housing and employment identified in Adopted District Local Plans and Neighbourhood Plans
- Embed a ‘needs-based approach’ to the multi-criteria appraisal aligned to the five OxIS Themes from the Oxfordshire Strategic Vision and 13 infrastructure types
- Considers infrastructure schemes identified within existing strategy documents such as District Local Plans and Infrastructure Delivery Plans (IDPs)
- Support, but not replicate District IDPs
- Support and champion the Oxfordshire Local Industrial Strategy and Investment Plan
- Establish a consensus, on strategic infrastructure schemes
- Support opportunities to facilitate strategic funding

This Report will be followed by an **OxIS Stage 2 Report**, which plans to:

- Consider strategic infrastructure required to meet Oxfordshire’s needs to 2050
- Form a core part of the evidence base underpinning the Oxfordshire Plan 2050
- Align with Regulation 19 of the Oxfordshire Plan 2050 consultation
- Apply a broadly similar appraisal approach adopted in the Stage 1 Report
- Identify and rank new strategic infrastructure requirements emerging from potential areas for future housing and employment identified in the Oxfordshire Plan 2050
- Reflect outcomes of the Oxfordshire Plan 2050 consultation process

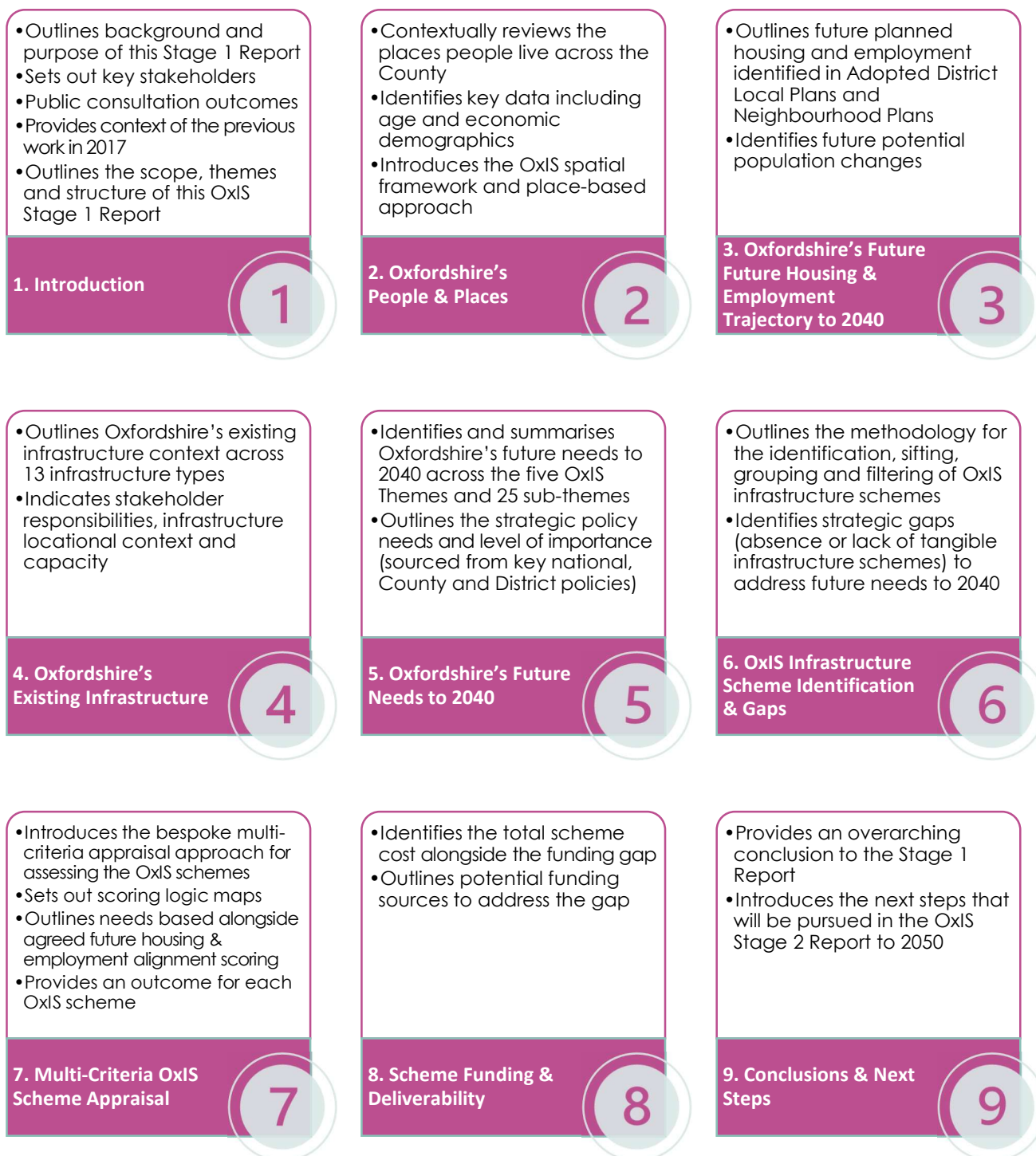


Oxfordshire Plan 2050

This is a forthcoming Joint Statutory Spatial Plan, currently in preparation. Prioritising the need to maximise social and environmental outcomes (including the need to address climate change) as a core consideration, the Plan will identify potential areas where sustainable housing and employment development could occur. It will be used as the strategic planning framework for Oxfordshire, underpinning the preparation of future District Local Plans.

1.4. OxIS Stage 1 Summary Report & Technical Report

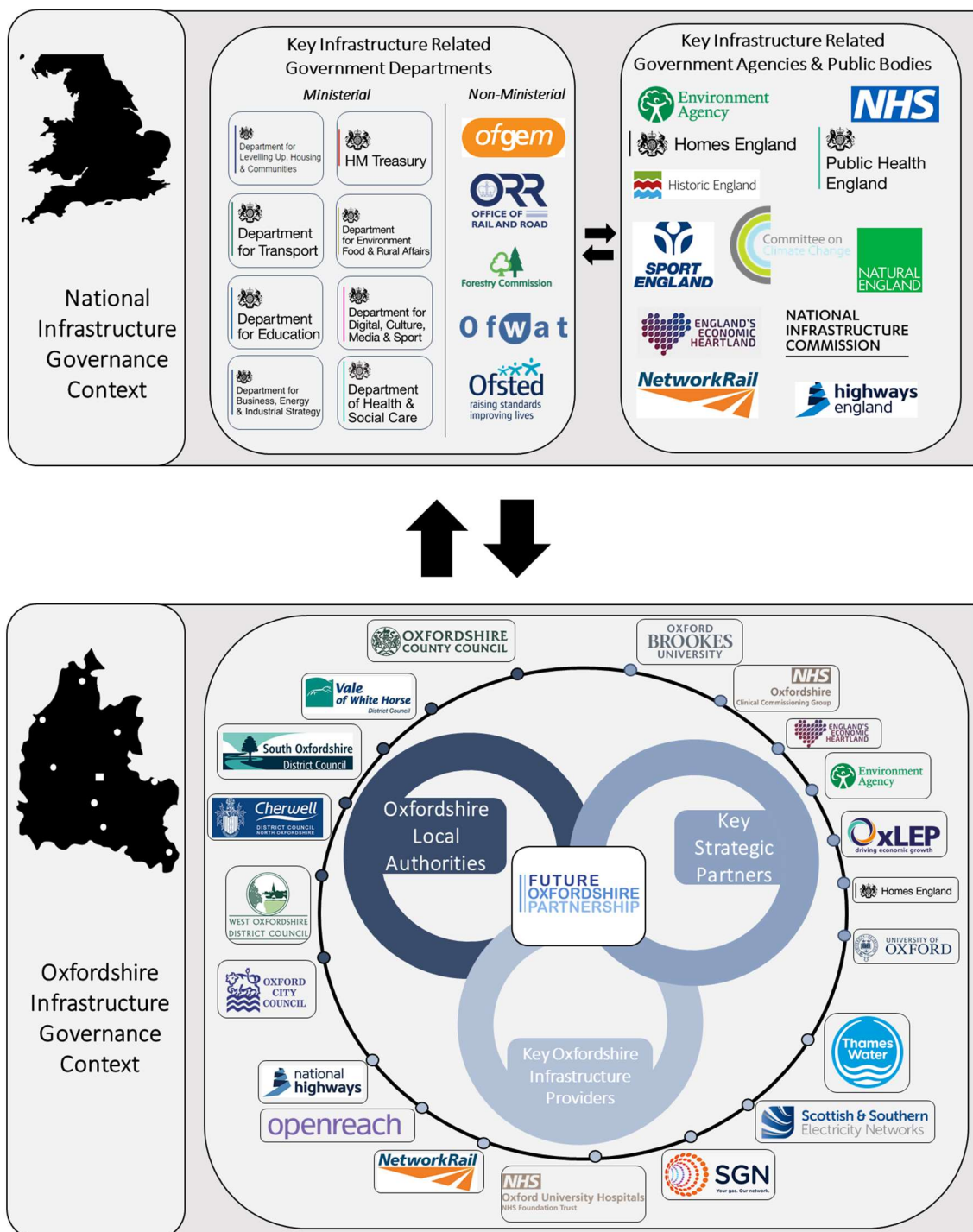
This OxIS Stage 1 Summary Report provides a high-level outline of the broader OxIS Stage 1 Technical Report. The Technical Report covers the following in detail.



1.5. Existing Oxfordshire Infrastructure Governance Context

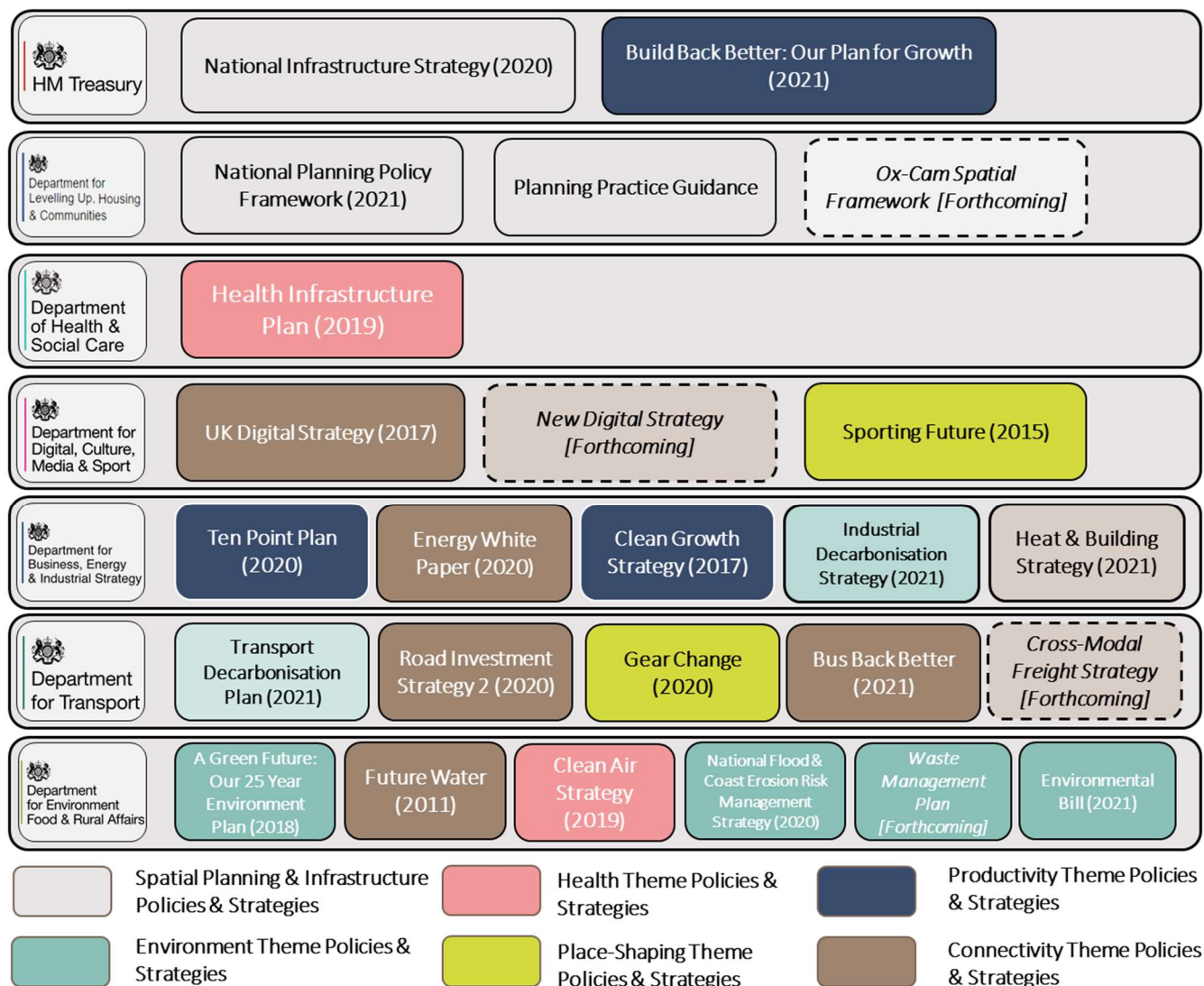
Given its importance to achieving multiple goals, responsibility for the identification of infrastructure need, planning and delivery in Oxfordshire is multi-tiered across National, County and District governments. This broad governance structure reflects the collaborative relationship within Oxfordshire, between the Future Oxfordshire Partnership and OCC, Oxfordshire's five District Councils, key infrastructure providers and key strategic partners. The Future Oxfordshire Partnership has a key co-ordination role across these stakeholders including:

- Coordinating local efforts to manage economic, housing and infrastructure development in an inclusive way that maximises local social and environmental benefits
- Supports the development of local planning policy that meets the UK Government's stated aim of net zero carbon by 2050 and contributes towards biodiversity gain
- Seeks to secure funding in the pursuit of these aims



1.6. Policy Review - Key National Policy Framework & Legislation

The below provides an overview of national policies and strategies impacting the planning of infrastructure and land use, categorised by government department and OxIS Theme. This reflects the broad national policy framework which OxIS operates within and is summarised in the OxIS Stage 1 Technical Report.



Additionally, OxIS must follow key national legislation as well as local county and district policies.

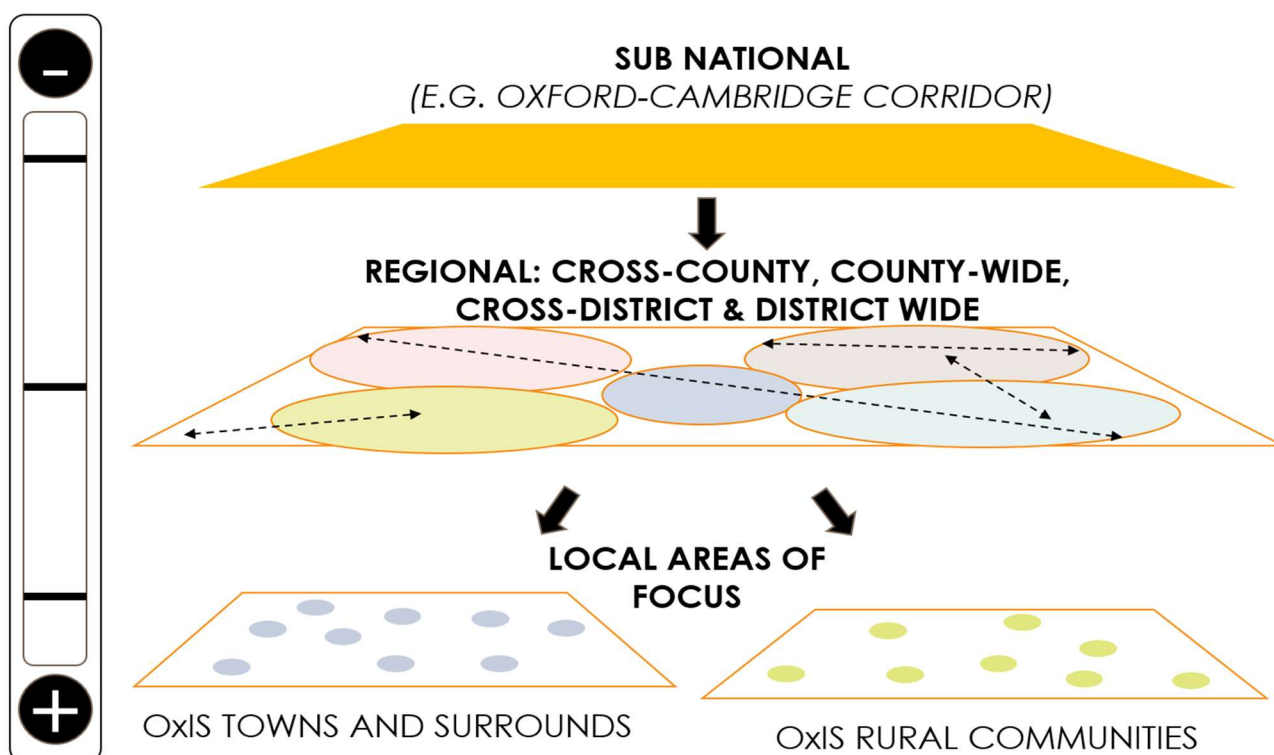
- **Planning and Compulsory Purchase Act (2004):** Obligates local planning authorities to prepare Local Plans and accompanying IDPs
- **Planning Act (2008):** Decision making framework for nationally significant infrastructure projects
- **Climate Change Act (2008):** Obligates the UK to meet net zero carbon emissions by 2050
- **Equalities Act (2010):** Obligates local authorities to provide services which eliminate discrimination
- **Environment Act (1995):** Obligates local authorities to monitor and manage air quality
- **Environmental Protection Act (1990):** Obligates local authorities to collect and treat waste appropriately
- **Care Act (2014):** Obligates local authorities to promote an effective provision of social care services
- **Education Act (1996):** Obligates local authorities to ensure that school education meets local demand
- **Road Traffic Act (1988):** Obligates highway authorities, like local authorities, to manage road safety
- **Transport Act (2000):** Obligates local transport authorities to provide suitable transport services and facilities

1.7. A Place-Based Approach to OxIS

The previous Oxfordshire Infrastructure Strategy completed in 2017 (OxIS-17) was underpinned by a spatial framework which reflected Regional, Countywide and Local Infrastructure. Local infrastructure was categorised into nine groups, with Oxford City being at the hub and the remaining eight groups forming corridor-based spokes to the edge of Oxfordshire. This approach has been reviewed as part of OxIS Stage 1 through discussions held as part of the OxIS Working Group, as well as in discussions with key stakeholders.

As with OxIS-17, it is recognised that Oxfordshire's future needs and the nature of schemes vary according to the county's various spatial levels. OxIS complements the more detailed work at a District level and as such this work is not aimed to duplicate this but to collaboratively draw together the view across Oxfordshire. The three spatial groupings have thus broadly been retained, however, the local level has been adapted away from a corridor- to a place-based approach.

The use of this spatial framework forms a coherent thread throughout OxIS in relation to the identification of existing infrastructure, future needs, scheme identification and grouping and scheme appraisal.



Spatial Level	Sub-Level	Description
Sub-National	Sub-National	<ul style="list-style-type: none"> Oxfordshire's needs and infrastructure schemes in the context of the wider area, including the South East and Oxford-Cambridge Arc.
Regional	Cross-County	<ul style="list-style-type: none"> Needs and schemes with a cross-county boundary importance or spatial impact
	County-wide	<ul style="list-style-type: none"> Needs and schemes with a county-wide importance or spatial impact
	Cross-District	<ul style="list-style-type: none"> Needs and schemes with a cross-district boundary importance or spatial impact
	District-wide	<ul style="list-style-type: none"> Needs and schemes with a district-wide importance or spatial impact
Local	OxIS Towns & Surrounds	<ul style="list-style-type: none"> Needs and schemes directly relevant to towns in Oxfordshire with notable future planned housing and / or employment to 2040 (2040 to 2050 will be covered in Stage 2)
	OxIS Rural Communities	<ul style="list-style-type: none"> Needs and schemes directly relevant to rural communities, including villages and those in the rural-urban fringe, with notable future planned housing and / or employment to 2040

1.7.1. OxIS Local Areas of Focus

Place based local areas of focus have been introduced to replace the corridor-based approach of OxIS-17. This enables a greater consideration of schemes which may be lower in cost but remain strategically important to the creation of successful places. The benefits and practicalities of this approach include:

- **Direct Relationship with Allocated Housing & Employment Sites in Local & Neighbourhood Plans:** Many of the identified OxIS schemes have a direct relationship and a clear link to supporting allocated housing and employment sites. Defining local areas of focus allows the agreed future housing and employment alignment score to be applied objectively and consistently in the Multi-Criteria Appraisal
- **Integration with District Local Plans:** The place-based approach is consistent with the spatial frameworks identified with the various District Local Plans and IDPs
- **Correlates with Place & People Approach:** It aligns with the reorientated priorities of the Future Oxfordshire Partnership to manage housing and economic development in an inclusive way and which maximises social and environmental benefits to the county
- **Relationship to Decarbonisation:** Research for the Royal Town Planning Institute identifies that place-based solutions are critical to achieving net zero carbon emissions, particularly from transport
- **Links to Potential Funding Opportunities:** Place-based schemes have a clearer link to potential funding opportunities; particularly in relation to their interaction with supporting housing and employment allocation sites
- **Community Integration by Active Travel:** The extents of the place based local areas of focus has been informed by an evidence base of cycling distance between places

The District Local Plans take a sustainable approach to allocating future housing and employment to Oxford, other market towns and larger villages across the county. Consideration of this spatial distribution has also highlighted a need to consider the different characteristics of these places given there are different requirements and priorities for infrastructure need. The OxIS place-based approach recognises this and local areas have therefore been split into:

- **OxIS Towns & Surrounds:** Established urban areas comprising Oxford City and key towns where notable future housing and employment is planned to 2040
- **OxIS Rural Communities:** Rural communities across Oxfordshire constituting both villages and urban-rural fringes where notable future housing and employment land is planned to 2040

2. Future Housing & Employment Trajectory to 2040

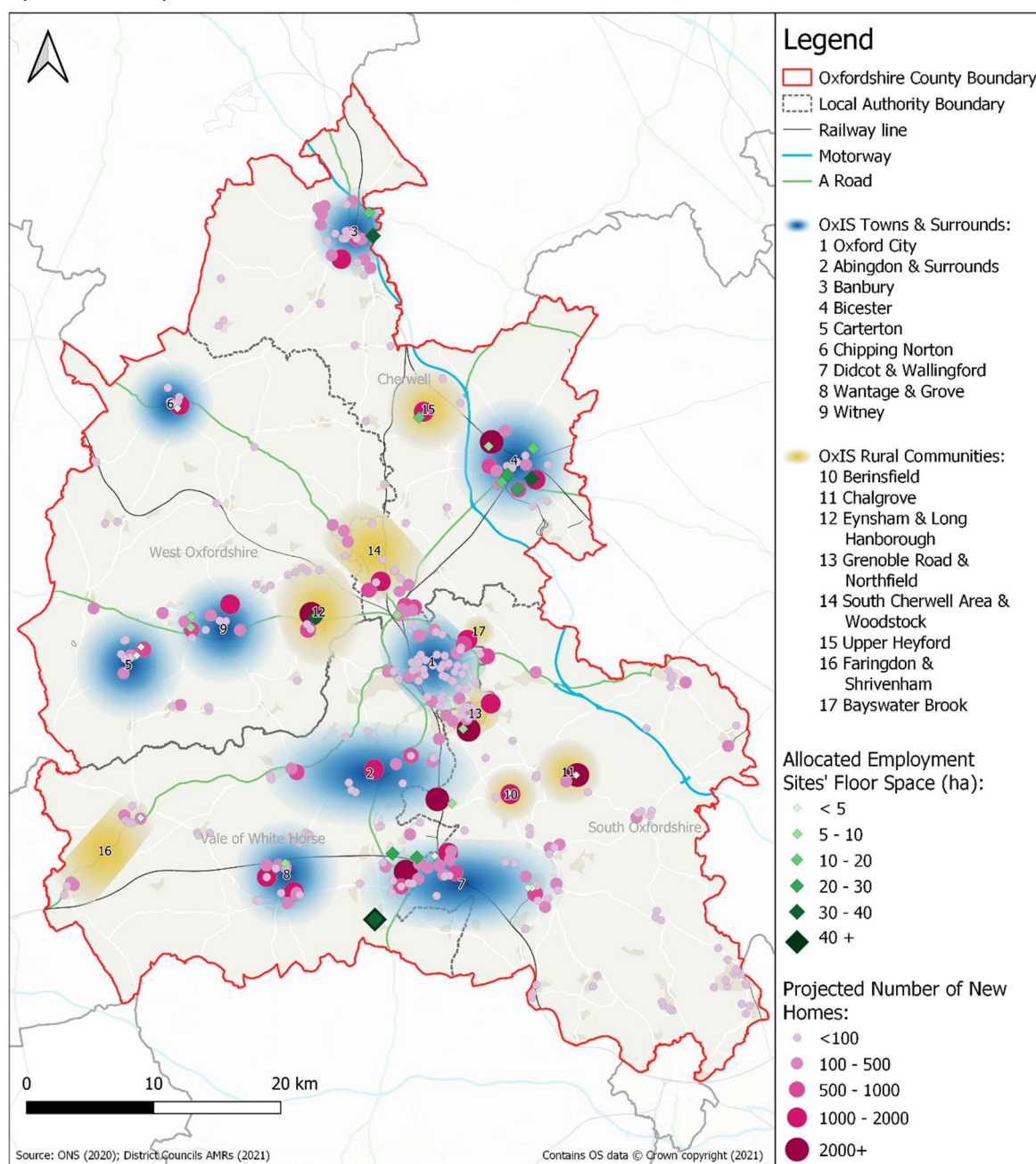
2.1. Change Trajectory to 2040 (OxIS Stage 1)

The OxIS Stage 1 Technical Report provides an indication of the key policy changes that have occurred since OxIS-17, including the adoption of District Local Plans, the emerging Oxfordshire Plan 2050, as well as the emerging Oxford-Cambridge Spatial Framework. Potential future housing and employment to 2050 will be captured in the forthcoming OxIS Stage 2 Report.

Future planned housing and employment to 2040 has been informed by Adopted District Local Plans and Neighbourhood Plans. To reflect the uncertainty of the period after the Local Plan horizons, this considers:

- **Core Local Plan Period:** 2020 – 2031 / 2035 / 2036
- **Horizon Planning Period:** 2031 / 2035 / 2036 – 2040

The population estimates to 2031 and 2040 are necessary to inform the county's future infrastructure needs both during the **Core Planning Period** and the **Horizon Planning Period** to 2040. This is applicable to infrastructure types that are predominantly demand driven such as Education, Potable Water, Waste and Health and Adult Social Care.



3. Strategic 2040 Needs

Through a robust evidence gathering process, including thorough engagement with multidisciplinary stakeholders, a review of key policies and strategies and a detailed analysis of the geospatial evidence base, these themes have been used as a framework to refine 25 outcome-led sub-themes. These sub-themes represent Oxfordshire's future needs for infrastructure investment to 2040 and underpin the needs-based appraisal component of the infrastructure scheme multi-criteria appraisal (see Chapter 7 of the OxIS Stage 1 Technical Report).



3.1. Thematic Stakeholder Workshops

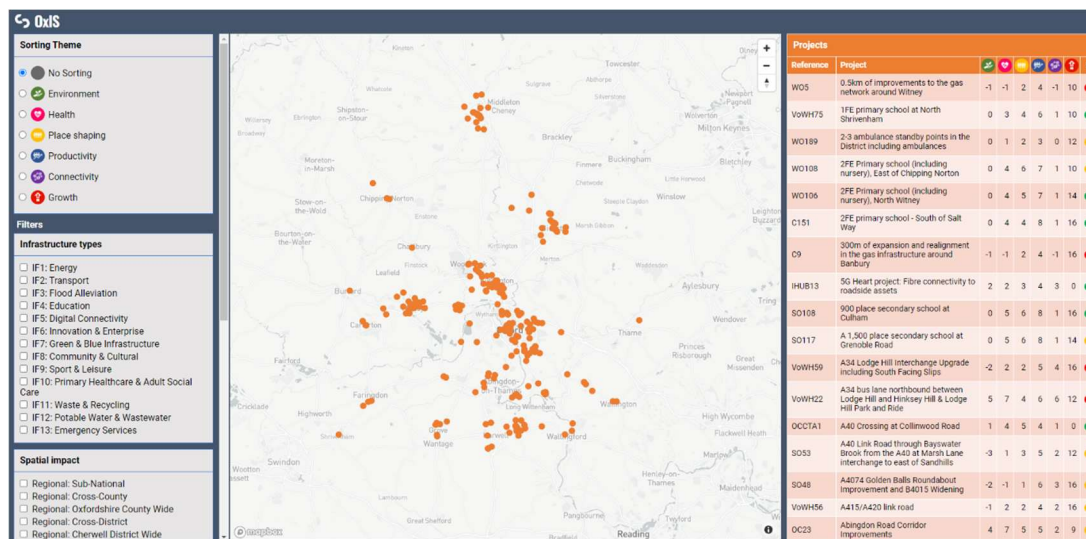
A series of thematic workshops and targeted engagement forums were held with key subject matter stakeholders and infrastructure providers to verify and refine the future needs to 2040 as well as to agree the core measurable outcomes.

OxIS Theme	Workshop Topic	Workshop Attendees	
Environment	Environment	<ul style="list-style-type: none"> Council Climate Action Teams Environment Agency 	<ul style="list-style-type: none"> Council Natural Environment Teams County Flooding Team
	Waste & Recycling	<ul style="list-style-type: none"> OCC Waste Disposal Team 	<ul style="list-style-type: none"> District Waste Collection Teams
Health	Health	<ul style="list-style-type: none"> Oxford University Hospitals NHS Foundation Trust Healthwatch Oxfordshire OCC Active Travel Team 	<ul style="list-style-type: none"> OCCG Healthy Place-Shaping Team Sport England Active Oxfordshire
Place-Shaping	Place-Shaping	<ul style="list-style-type: none"> OCC Cultural & Community Team Communities First Oxfordshire OCC Healthy Place-Shaping Team 	<ul style="list-style-type: none"> OCC Community Safety Team OCC Road Safety Team OCC Active Travel Team
Productivity	Business Productivity	<ul style="list-style-type: none"> OxLEP 	<ul style="list-style-type: none"> OCC Economic Development Team
	School Education	<ul style="list-style-type: none"> County School Team 	
Connectivity	Digital Connectivity	<ul style="list-style-type: none"> County Digital Infrastructure & Strategy Team Openreach 	<ul style="list-style-type: none"> Virgin Media Zzoomm Airband
	Energy Connectivity	<ul style="list-style-type: none"> County Energy Team SGN 	<ul style="list-style-type: none"> SSEN WPD
	Water Connectivity	<ul style="list-style-type: none"> Thames Water 	
	Transport Connectivity	<ul style="list-style-type: none"> OCC Transport Team Stagecoach West 	<ul style="list-style-type: none"> Network Rail Oxford Bus Company Great Western Rail Chiltern Railways

3.2. Public Consultation

Following stakeholder engagement workshops on the key themes, the draft report for Stage 1 to 2040 was published on the Future Oxfordshire Partnership website (oxfordshireopenthought.org) for public consultation between 16th July and 31st August 2021.

Comments were invited from the public and wider stakeholder groups which have been used to refine the Stage 1 Report and the process for Stage 2. All technical stakeholders engaged in Stage 1 of OxIS were also requested to provide feedback on the Stage 1 Technical and Summary Reports.



The public consultation was supported by a digital, interactive tool that enabled users to explore potential infrastructure schemes in their region and the scoring for each scheme.

Consultees were invited to answer a series of questions in an online survey to collate their feedback, a direct email address was also provided for more detailed feedback. 78 online survey responses and 63 written responses were received, this included members of the public, businesses, landowners, and stakeholder interest groups. A more detailed summary of responses can be found in the OxIS Technical Report.

Key Emerging Message	Response
Multiple respondents highlighted the overwhelming importance for reducing CO ₂ emissions and questioned the importance of a 'growth score' reflecting allocations identified in Local Plans above the need to meet Net Zero targets.	<i>The Needs Based Appraisal Score is the primary focus of the scoring system which considers current policy and strategy context against each identified need (drawing on the Oxfordshire Vision). The additional scoring module is intended to assign a 'top-up' score to reflect links between infrastructure schemes and allocated housing and employment development set out in Adopted Local Plans, Neighbourhood Plans and reflected in the OxLEP Investment Plan. The naming convention of this component has therefore been altered to 'Agreed Future Housing & Employment Alignment' to reflect its functionality in the Multi-Criteria Appraisal whilst also integrating with the updated Future Oxfordshire Partnership strategic aims.</i>
Respondents noted the potential impact of changing ways in working post COVID-19 and the possible impact on infrastructure requirements as a result.	<i>Remote working places additional pressures on infrastructure such as digital connectivity, these needs have been assessed as part of the report and are included in the thematic indicators for scoring.</i>
A clearer link should be demonstrated between Neighbourhood Plans and Local Plans for identifying infrastructure schemes.	<i>Neighbourhood plans focus on specific areas of a district, such as a parish or town. As a result, the infrastructure schemes tend to be of a less strategic nature, however, where strategic infrastructure schemes have been identified from Neighbourhood plans, they have been assessed and incorporated into OxIS.</i>

Any specific comments regarding technical points have also been assessed and incorporated into the Stage 1 Report where appropriate. Improvements on the process and information pertaining to schemes running to 2050 have been recorded for assessment in Stage 2 of OxIS

3.3. Environment Needs to 2040

The Environment theme responds to the climate emergency declared by OCC and the five District Councils, as well as the net zero carbon targets identified in the various Climate Action Frameworks and by the Future Oxfordshire Partnership. Through building resilience to the long-term effects of climate change, it also considers wider needs such as nature recovery alongside defending against flooding and ensuring sufficient waste disposal to support the creation of sustainable communities. Needs to 2050 will be covered in the forthcoming OxIS Stage 2 Report.

E1: Net Zero Carbon Emissions	<p>There is a strategic need to fulfil national legal obligations and the County-wide Climate Action Framework to achieve net zero carbon emissions in Oxfordshire by 2050, and the more recent Future Oxfordshire Partnership target identified within Oxfordshire's Strategic Vision for net zero by 2040. There is also a need to achieve the carbon neutral target years, ranging from 2030 to 2050, identified in the five Oxfordshire District Council climate action strategies. The carbon emission inventory indicates a need to reduce emissions particularly reducing road transport tailpipe emissions (46% of total emission) and Oxfordshire's energy network emissions to 2040.</p> <p>This includes urgently reducing carbon emissions within Cherwell and South Oxfordshire to enable their ambitions to achieve net zero carbon emissions by 2030. Primarily due to the presence of the M40, emissions originating in these Districts comprise the largest proportion (30% and 20% respectively) of total County emissions.</p>
E2: Resilience to Climate Change	<p>The Met Office forecasts that the impacts of climate change will result in warmer temperatures and drier periods in summer and an increase in the frequency of extreme weather events including heavy periods of rainfall in winter by 2040. A series of national strategies, including the Climate Change Risk Assessment and the Environment Agency's National Framework for Water Resources identify this as a strategic need to plan resilient infrastructure which can cope with these additional pressures. This includes ensuring infrastructure can reduce flooding risk to communities and managing the impact of warmer drier periods on the public water supply and people's health.</p> <p>From various Strategic Flood Risk Assessments and Water Cycle Studies produced by Oxfordshire's Local Authorities, the greatest need to improve resilience to flooding events is within Oxford, where around 16.5% of properties are situated within Flood Zone 2 or 3. Both the Vale of White Horse and South Oxfordshire also have a higher fluvial flooding risk than the rest of the county due to the presence of the River Thames.</p>
E3: Enhance Natural Environment & Biodiversity	<p>The UK Government's 25 Year Environment Plan (2018) identifies a need for a Nature Recovery Network rich in wildlife and biodiversity through the creation or restoration of 500,000 additional hectares of wildlife-rich habitat outside of protected sites by 2042. This sets the tone for the emerging Environment Bill (2020) which proposes to establish a mandatory requirement for biodiversity net gain and to embed connected Nature Recovery Networks.</p> <p>Oxfordshire's Nature Recovery Network has recently been drafted by a partnership of local environmental stakeholders led by Wild Oxfordshire with local authority input, under the direction of the Biodiversity Advisory Group, although is yet to be agreed. The work establishes three recovery zones, with the overarching aim to create connected habitats and fulfil the wider aspiration for doubling the area of land well-managed for nature in the county by 2050. There is a further need to protect Oxfordshire's established areas of rich landscape quality, including its three Areas of Outstanding Natural Beauty.</p>
E4: Efficient Waste & Recycling	<p>Oxfordshire's local authorities have a primary legal obligation to ensure continued safe and efficient waste collection and disposal services in accordance with the waste hierarchy. As identified in the Oxfordshire Resources and Waste Strategy, this is supported by fulfilling the strategic need to reduce household waste generation, increase the proportion which is recycled and embed more of a circular economy approach in the county, including a focus on reusing, repairing, and upcycling material and goods. This has shared benefits such as reducing carbon emissions.</p> <p>In recent years, whilst waste sent to landfill/energy recovery has reduced despite population increases (attributed to the country-leading recycling rate), future planned housing to 2040 necessitates further infrastructure investment such as increased Waste Transfer capacity and a review of Household Waste Recycling Centre provision.</p>
E5: Reduce Water & Noise Pollution	<p>Water: The UK Government's 25 Year Environment Plan (2018) identifies the key national strategic need for 'clean and plentiful' water by 2042. This includes exceeding water quality objectives identified in the Thames River Basin Management Plan (DEFRA, 2015). This strategic need is also reflected in the Water Cycle Studies and Local Plans produced by Oxfordshire's Local Authorities. As identified in the Thames Water Pollution Incident Reduction Plan (2020), a key need is to reduce sewage outfall incidents in Oxfordshire by 30% by 2025. There is also a need to improve water quality and to reduce water pollution incidents.</p> <p>Noise: The strategic need, identified in the Noise Policy Statement for England (DEFRA, 2010) and NPPF (MHCLG, 2019) focuses on limiting the impact of additional noise generated through new development sites and improving people's health and quality of life. The strategic need to reduce and manage noise levels through the local planning process in Oxfordshire is established in the Adopted Oxfordshire Minerals & Waste Core Strategy (OCC, 2017) and reflected in the Districts' Local Plans. There is a need to reduce noise in Oxford City given it has been designated by DEFRA as a noise agglomeration area whilst there is also a need to reduce environmental noise levels on key transport corridors.</p>

3.4. Health Needs to 2040

The Health theme is associated with reducing Oxfordshire's health inequalities and supporting people to lead more active and healthier lifestyles. Needs to 2050 will be covered in the forthcoming OxIS Stage 2 Report.

H1: Reduce Health Inequalities	<p>Alongside a legal obligation, the strategic need to reduce health inequalities within Oxfordshire is set out within OCC's Joint Health and Wellbeing Strategy 2018 – 2023. This identifies a future need to shift the focus towards a more preventative approach to physical and mental health by addressing issues such as inequalities in opportunity or outcomes alongside inequalities in relation to health service access. This strategic need is also reflected within the Oxfordshire's Strategic Vision, Local Plans as well as the five District Council's Corporate Plans.</p> <p>There is a need to address inequalities within specific urban areas, where healthy life expectancy can be less than 60 years of age. Many of these same places also rank in the 10% of the most health-deprived areas in the UK according to the Index of Multiple Deprivation. Most of the health-deprived places with Oxfordshire lie adjacent to areas identified for future housing which provides an opportunity for infrastructure investment to address.</p>
H2: Access to Spaces for Physical Activity	<p>The need to improve physical activity rates is identified in a suite of national policies which identify physical inactivity as detrimental to physical and mental health. In an Oxfordshire context, the strategic need for improved access to spaces for physical activity is reflected within the Local Transport Plan (LTP4) (OCC, 2015), the Joint Health & Wellbeing Strategy (Oxfordshire Health & Wellbeing Board, 2019) and the Rights of Way Management Plan (OCC, 2014).</p> <p>Evidence collected by Sport England's Active Lives Survey (Sport England, 2020) identifies a need to increase physical activity levels within Oxfordshire's urban areas, particularly in more deprived communities. This includes building physical activity into people's everyday routines by investing in infrastructure such as dedicated sport and leisure facilities as well as high quality walking and cycling routes.</p>
H3: Improve Health Service Access	<p>The NHS Long Term Plan (2019) and the Health Infrastructure Plan (2019) identify the long-term strategic need for an integrated approach to the NHS service model across primary, community and social care to prioritise 'out of hospital care'. The Joint Health & Wellbeing Strategy (Oxfordshire Health & Wellbeing Board, 2019) identifies the strategic need to tackle inequalities of accessing healthcare services given the underlying challenge that some people in Oxfordshire face of being unable to get to or use services. The Oxfordshire Primary Care Estates Strategy (OCCG, 2021) identifies a need to ensure resilient and accessible primary care services which reduce current pressure and can meet future demand.</p> <p>Alongside the Care Act (2014), the Market Position Statement (OCC, 2019) identifies a need to meet future demand from Oxfordshire's ageing population through additional supply in extra care housing and care homes. Housing-based population projections also indicate there may be an additional 42,000 people aged 75 and over living in Oxfordshire by 2040. This triggers a need for around 1,700 additional extra care housing units and almost 3,000 care home beds.</p> <p>There is a need to enhance the infrastructure so that primary care working with community health and social care can offer more locally integrated services and to enhance capacity and infrastructure of primary care throughout Oxfordshire.</p>
H4: Cleaner Air	<p>The strategic need for cleaner air in Oxfordshire relates to a national legal obligation which identifies legal limits for air quality. These limits relate to Nitrogen Dioxide (NO₂) and Particulate Matter (PM), comprising of both PM₁₀ and PM_{2.5}, which are the most harmful pollutants to health. The Clean Air Strategy 2019 (DEFRA, 2019) identifies the strategic need at a national level to fulfil these legal obligations rapidly, through achieving a 73% reduction in oxides of nitrogen (NO_x) emissions and a 46% reduction in PM_{2.5} by 2030.</p> <p>Despite recent improvements, there is a strategic need to revoke Oxfordshire's 13 Air Quality Management Areas as soon as possible by ensuring that NO₂ emissions, primarily caused by road transport, are reduced below legal limits. The most pressing need to invest in infrastructure, such as sustainable transport, to achieve cleaner air is within OxIS Towns and Surrounds with annual NO₂ emissions above legal limits, such as Banbury.</p>
H5: Enhance Mental Health & Wellbeing	<p>The 2011 Mental Health Strategy alongside Public Health England's Prevention Concordat for Better Mental Health (PHE, 2020) identifies the strategic need to improve people's mental health at a national level. This emphasises the need to take a prevention-focused approach, impacting on the wider determinants of mental health and well-being, and increasing the impact on reducing health inequalities.</p> <p>Oxfordshire's Strategic Vision (Future Oxfordshire Partnership, 2021) identifies the need for happier, healthier and inclusive communities with a focus on prevention and healthy place-making for all. This is underpinned by a range of strategies including the Oxfordshire Mental Health Prevention Framework 2020 – 2023 (Mental Health Prevention Concordat Partnership Group, 2020) which identifies a need to address wider social determinants of mental health and the differences in opportunities for people. The evidence indicates that there is a need to reduce levels of depression across Oxfordshire, with data identifying that around 12% of people over 18 have been diagnosed with depression in 2019/2020, which is marginally higher than the national average. Prevalence rates are also higher for GP surgeries in some OxIS Towns & Surrounds alongside the rural communities of Kidlington and Berinsfield.</p>

3.5. Place-Shaping Needs to 2040

The Place-Shaping theme is associated with the creation of sustainable and resilient communities which provide a high-quality environment, reflecting the urban and rural dynamics of Oxfordshire. Needs to 2050 will be covered in the forthcoming OxIS Stage 2 Report.

PS1: Local & Liveable Communities	<p>The need to create local and liveable communities is set out in both local and national planning policy to ensure communities are safe and healthy. The need for easy access to social, recreational and cultural facilities is also highlighted and encouraging reduced travel or a shift to travel by sustainable transport through providing key services and facilities within local reach of residents.</p> <p>In Oxfordshire, large rural parts of the county, particularly across Vale of White Horse and South Oxfordshire, are defined by Indices of Multiple Deprivation as being in the top 10% deprived Lower-layer Super Output Areas associated with barriers to housing and services. With new development coming forward, careful planning and place-shaping is required to adhere to policy by creating liveable, local communities with access to local amenities and sustainable transport.</p>
PS2: Safe & Secure Communities	<p>Although the perception of crime given the context nationally is diminished, crime has been rising in Oxfordshire and with future planned housing, measures need to be put in place now to minimise the risk to people's safety. Measures set out by Safer Oxfordshire Partnership, highlights the importance for infrastructure and the healthy place-shaping of communities to prevent crime. Theft and violence represent 80% of crimes in Oxfordshire and urban areas have proportionally higher levels of crime than the county's rural areas. This is further supported by Indices of Multiple Deprivation data, showing that Oxfordshire is home to a number of top 10% deprived areas (e.g. parts of Oxford, Banbury and Bicester) in England and Wales associated with crime, identifying a stronger need.</p> <p>Analysis of road safety, identifies a need to address the number of road collision casualties county-wide in Oxfordshire, particularly around urban areas with evidence suggesting walking and cycling issues are present.</p>
PS3: Resilient Heritage & Culture	<p>Heritage: As identified in the Historic England Corporate Plan (Historic England, 2020), Oxfordshire's Strategic Vision, (Future Oxfordshire Partnership, 2021), NPPF (MHCLG, 2019) and the Oxfordshire Districts' Local Plans, there is a strategic need to protect and conserve the county's rich and varied heritage assets both from future planned development as well as the threats of climate change. Evidence from the Heritage at Risk Register (Historic England, 2020) indicates that there are 30 heritage sites in Oxfordshire at risk.</p> <p>Culture: The Arts Council Ten 2020 – 2030 Strategy (Arts Council England, 2020) identifies the strategic need from a national perspective to improve community access to high-quality cultural experiences. This is complemented locally by Oxfordshire's Strategic Vision (Future Oxfordshire Partnership, 2021) and Arts & Culture Strategic Framework (OxLEP, 2019) which identify a strategic need for enhanced and more inclusive arts and cultural spaces across Oxfordshire. The emerging Strategic Framework for OCC Libraries & Heritage Services (OCC, 2021) emphasises the need for such services to address increased demand from planned future housing, while Active Lives Survey (Arts Council England, 2018) and the Taking Part Survey (DCMS, 2020) indicate a need to improve use of public library services in specific parts of Oxfordshire. Data at a national level also suggests there may be a need to enhance cultural participation rates amongst lower socio-economic groups, those with disabilities and amongst the Black, Asian and Minority Ethnic community.</p>
PS4: Socially Integrated Places	<p>The need to maintain social interaction between people in communities helps fight loneliness and provides support networks, especially for people at vulnerable points. This is reflected in national Government policy which focuses on healthy place-shaping and connecting people through transport and digital infrastructure. With new developments planned, it is even more important that considerations are made to improve social cohesion through preventative measures in the county.</p> <p>Loneliness is a well-established health risk and is associated with poor health and well-being. In Oxfordshire, pockets throughout the county (e.g. parts of Oxford City and around Banbury) demonstrate high risks of loneliness, which has increased as a result of the COVID-19. There is an immediate need to address this, particularly in Vale of White Horse, Cherwell and Oxford City, where rates are highest. There is a need for investment in green space as this is proven to encourage social interaction and bring people together.</p>
PS5: Inclusive & Integrated Active Travel	<p>National policy ambitions demonstrate the strong need to reduce private vehicle journeys and replace these with walking and cycling journeys, to support several initiatives including reducing carbon emissions, tackling congestion and enhancing people's mental health and wellbeing. This is followed up by local policy at both a County and District level as, although active modal share in Oxfordshire, notably in Oxford, is good compared to the national picture, national and local targets are ambitious and require a step-change in behaviour.</p> <p>There is good potential for further cycling take-up in Oxford, South Cherwell, Abingdon, Carterton, Bicester and Wallingford with delivery of the right cycling infrastructure whilst investment in the Rights of Way Network can support greater active travel in more rural areas. The needs link to previous sections as active travel relies on local & liveable and safe & secure communities to encourage and support walking and cycling journeys.</p>

3.6. Productivity Needs to 2040

The Productivity theme is associated with supporting increased economic productivity within Oxfordshire, considering the needs of both citizens and business. Needs to 2050 will be covered in the forthcoming OxIS Stage 2 Report.

P1: World Class Inclusive Education & Skills Development	<p>There is a statutory future need for Local Authorities, like OCC, to ensure every school-age child and young person can access suitable education, as well as sufficient early-years education and childcare provision for all children of four years and under. Oxfordshire's Pupil Place Plan 2019 – 2023 (OCC, 2019), which assesses the suitability of provision to meet future demand, identifies a strategic need for OCC to continue to offer a high percentage of parents a place at their first choice school. Future population projections indicate there is likely to be around an additional 12,000 primary school places and 10,500 secondary school places required by 2040.</p> <p>The Special Educational Needs & Disabilities Sufficiency of Places Strategy (OCC, 2018), identifies a strategic need to address the deficit of OCC school places and to reduce the reliance on 'out of county' provision and reliance on Independent providers. Future population projections indicate there may be a need for additional capacity for around 450 children with Special Educational Needs & Disabilities by 2040.</p> <p>Build Back Better (HM Treasury, 2021) alongside the White Paper 'Skills for Jobs' identifies a strategic need to upskill people to ensure employers' needs are met in the future and to guarantee a strong COVID-19 recovery. Oxfordshire's strategy, including the emerging OxLEP Local Skills Report and Plan (2021) as well as Oxfordshire's Economic Recovery Plan (OxLEP, 2021), identifies a productivity need to ensure provision of post-16 training and education.</p>
P2: Reduce Oxfordshire's Socio-Economic Inequalities	<p>Although most metrics indicate Oxfordshire has a high-performing economy, it is not delivering for everybody – as evidenced by a geographic disparity in Indices of Multiple Deprivation. The pockets of high deprivation occur in every district, but the most pressing need is in parts of south Oxford City, Banbury, and Bicester.</p> <p>There is need for highly targeted interventions to maximise impact for these communities. Forecasts of future inequality are difficult to make because the COVID-19 pandemic has disrupted pre-existing economic trends. Prior to the pandemic, housing affordability problems within the county were a key indicator of socio-economic inequality. However, in the short-term, the pandemic has only exacerbated this and also driven up youth unemployment – reducing this is another key need.</p> <p>The aim to reduce socio-economic inequality is included in policies at both the County and District level within Oxfordshire, and is considered across multiple themes (e.g. climate action and industrial strategy). This interconnectedness to other aims, and across branches of government, gives rise to the need for a coordinated approach in order to maximise effectiveness. It should be noted that whilst the national Levelling Up Fund (HM Treasury, 2021) is currently available for regenerative infrastructure projects, all District Councils within Oxfordshire have been given the lowest priority to receive funds.</p>
P3: Attract & Retain Talent in Oxfordshire	<p>The Oxfordshire Local Industrial Strategy (OxLEP, 2019) has identified the scarcity of affordable housing as a key barrier to attracting and retaining talent. This is to the detriment of productivity targets and contributes to socio-economic inequalities within the county. As such, there is a pressing need to provide a greater quantity of affordable housing.</p> <p>Based on a review of evidence, the price of houses relative to earnings is greater in all districts of Oxfordshire than the English average – indicating poor housing affordability. This need in part, can be delivered by the future new homes allocated in Adopted Local Plans and Neighbourhood Plans across Oxfordshire.</p>
P4: Build A Global Business Innovation Ecosystem	<p>Oxfordshire's Local Industrial Strategy (OxLEP, 2019) plans to build upon the world-leading science and technology clusters within the county and position it as one of the top three global innovation ecosystems by 2040. There is a strong business case for the 2040 target, with forecasts estimating the return as an additional £23bn in Gross Value Added to the economy and 108,000 new jobs.</p> <p>Critical to success will be ensuring that Oxfordshire provides citizens with a sustainable and affordable high quality of life. This will support the attraction and retention of the necessary world-class talent, and the skills development of existing citizens in order to fulfil the business needs. There is also a need to nurture key industries by providing the infrastructure they need to thrive, including transportation, business accommodation, and support services.</p>
P5: Drive Economic Prosperity & Productive Employment	<p>Economic prosperity and greater productive employment can raise the living standards of Oxfordshire's people, and is intertwined with many of the other themes within OxIS. For greatest overall success, there is a need for prosperity to support and be supported by other strategic goals. For example, the need to reduce socio-economic inequality or move towards a 'green economy'. Fortunately, this is recognised in national policy and Oxfordshire's Local Industrial Strategy (OxLEP, 2019) - which plans develop the county's economy as a knowledge-based innovation ecosystem by 2040.</p> <p>Some forecasts predict that Oxfordshire's economy might increase output by £20bn by 2040, despite the COVID-19 pandemic (Cambridge Econometrics, 2021). However, to realise the potential, it will be critical for County and District Council investments to target promoting greater productive employment.</p>

3.7. Connectivity Needs to 2040

The Connectivity theme is associated with ensuring that communities, particularly locations identified for future housing and employment, across Oxfordshire are connected both digitally and from a transport perspective as well as with wider utilities including clean and secure energy and water supply. Needs to 2050 will be covered in the OxIS Stage 2 Report.

C1: A Digitally Connected Oxfordshire	<p>There is national focus on full-fibre connectivity and 5G mobile data and policy sets out the need to provide full coverage of full-fibre by 2033 to support prosperity, social connectivity and rural communities, alongside providing 4G to 95% of the country. These ambitions are mirrored in the Oxfordshire Digital Infrastructure Strategy (OCC, 2020), aligning with the need to facilitate increased economic productivity and employment as well as supporting the delivery of more efficient cultural and health and social care and services and playing its part in replacing road journeys.</p> <p>Oxfordshire currently has 16.5% of the county covered by full-fibre broadband, behind national averages although marginally higher than comparable neighbouring counties (thinkbroadband, 2021). Alongside addressing these coverage gaps, particularly in urban areas like Oxford City, there is a further need to increase the roll-out of full fibre to keep pace with future planned housing of approximately 74,000 homes by 2033. There is a particular need to address coverage gaps in Bicester, Wantage & Grove, Grenoble Road, Northfield, Abingdon, Berinsfield and Upper Heyford.</p>
C2: Clean Energy Supply Grid Capacity & Connectivity	<p>The Government's Ten Point Plan for a Green Industrial Revolution sets the ambition for the UK's net zero carbon target for 2050 by minimising energy demand and moving away from fossil fuels. The Oxfordshire Energy Strategy (OxLEP, 2019) further establishes a need for a clean, modern and smart energy system as well as a need for flexibility in infrastructure planning to better align demand and local renewable supply.</p> <p>Energy consumption analysis by District shows relatively consistent levels as well as consistent fuel type proportions over the past ten years, with bioenergy and wastes only partially replacing other traditional fuel sources. Oxfordshire's reliance on petroleum products and gas must reduce at a fast rate to meet national 2030 targets and clean energy goals. This need is exacerbated by the population increase expected in the county. Electricity consumption has, however, shown a reduction between 2008 and 2019 in all Districts showing efficiency gains. However, alongside future population increases, other factors will result in a need to address electricity consumption (e.g. transition to electric vehicles and decarbonisation of heat). Targets for electric vehicle use raise specific concerns over the requirements for large scale investment in the electrical grid and network infrastructure.</p>
C3: Secure Water Supply & Wastewater	<p>Along with the unpredictability of water supply due to climate change, Oxfordshire's planned future housing and employment and environment concerns around the pressure being placed on rivers and groundwater, there is an ever-increasing need to predict and manage the demand and supply of potable water. This is why Thames Water has forecast a supply demand deficit in the Swindon & Oxfordshire Water Resource Zone by 2023. This need to reduce the deficit can be addressed through targeted infrastructure to support water efficiency, smart meters, reusing treated wastewater and carrying out water transfers.</p> <p>In terms of wastewater, there is a need for targeted infrastructure investment, such as in the proximity of Carterton, to address current sewage outflow events to improve local water quality and support biodiversity restoration (see E2 and E5). Future planned housing will further impact the efficiency of wastewater infrastructure with key housing sites (e.g. Banbury, Bicester and Oxford) requiring wastewater treatment plant sites to be upgraded.</p>
C4: Improve Sustainable Transport Connectivity Across Oxfordshire	<p>The Government's priorities for transport are underpinned by the need to achieve net zero carbon emissions by 2050, reflected in a myriad of emerging national and county strategies. They are directly relevant to Oxfordshire and these needs are met in county- and district-wide policy, identifying measures such as space reallocation, better, integrated, high-quality public transport and managing demand.</p> <p>Although the rise in electric vehicles will tackle transport carbon emissions, it will not tackle the county's congestion or wider health & place-shaping needs. For most Oxfordshire residents, the car is the first choice; particularly in rural areas. With Oxfordshire's planned future housing and employment, transport connectivity plays a vital role. For these needs to be met, whilst contributing to decarbonisation efforts, sustainable transport has a significant role to play. To deliver the need of improved sustainable transport connectivity across Oxfordshire requires a significant enhancement in public transport service reliability and connectivity between OxIS Towns & Surrounds.</p>
C5: Strategic Transport Connectivity into & out of Oxfordshire	<p>England's Economic Heartland's Transport Strategy identifies the ambition for people and businesses to be connected through the region and with international gateways, to support economic prosperity, harness the globally renowned centres of innovation and improve the quality of life of its residents. Together with LTP4 (OCC, 2015), they identify the need to improve Oxfordshire's public transport access with key destinations (e.g. London), transport interchanges (e.g. Heathrow) and key settlements (e.g. Birmingham and Reading). Currently many public transport journeys suffer from long travel times, delays from traffic congestion and multiple connections, further contributing to the use of private car for strategic journeys. There is a specific need to improve rail and road freight travel; demand is forecast to increase and Oxfordshire is key as it hosts a number of significant freight routes such as from the Port of Southampton to the Midlands.</p>

4. Strategic Infrastructure Schemes

A robust four-stage identification, sifting, grouping and filtering process has been applied, to capture those schemes which are ‘strategic’ infrastructure. With no existing national or local definition of ‘strategic’ infrastructure, a broad definition has been applied to select not only schemes with a significant spatial impact but also smaller scale schemes which remain strategically critical to the creation of successful places.

Context of Scheme Identification & Sources

It should be noted that this process considers infrastructure schemes that are already proposed in established sources by key stakeholders across the county, rather than the devisal of new proposals. As a result, some of the schemes included within this Stage 1 Report predate significant policy shifts that have since occurred across the county (e.g. in relation to net zero carbon targets & Oxfordshire’s Strategic Vision).

4.1. Identification of Strategic Infrastructure Schemes

The objective identification of schemes has considered a wide breadth of sources reflecting the Future Oxfordshire Partnership’s strategic ambitions: to manage planned housing and economic development in an inclusive way that maximises environmental and social benefits for the county (aligned to the five OxIS Themes).

A broad definition has been applied for OxIS which:

- Recognises key stakeholder’s views and captures schemes with a significant geographical coverage, scale or capital cost
- Captures smaller scale schemes which remain strategically critical to success of places
- Accounts for the longer-term horizon of OxIS
- Excludes non-capital schemes, as well as those fully funded, currently in delivery or advanced delivery stage
- All identified schemes have been subject to a robust three-stage sifting, grouping and filtering process to assesses their strategic context.



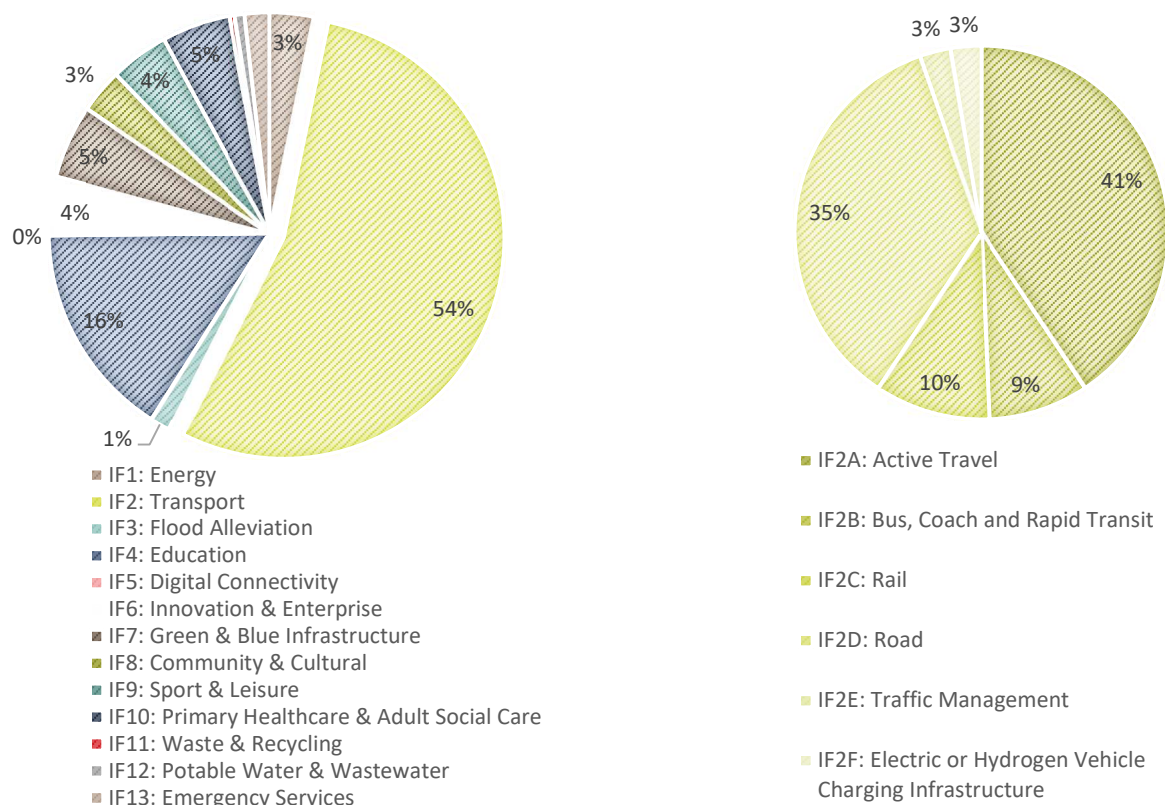
Key scheme sources include:

- District Infrastructure Delivery Plans & Infrastructure Funding Statements
- District Local Plans
- Oxfordshire Local Transport Plan 4 (Area & Corridor Strategies)
- Oxfordshire Bus Service Improvement Plan
- Oxford Local Cycling & Walking Infrastructure Plan
- Oxfordshire Rail Corridor Study
- Thames Water Resource Management Plan
- Oxfordshire Investment Plan
- Oxfordshire Clinical Commissioning Group (OCCG) Primary Care Estates Strategy

1,204 Schemes	
Step A: Initial Sift	
Schemes Sifted Out	Schemes Progressing to Stage B
879	325
Step B: Grouping	
Schemes Grouped for Stage C	Schemes Not Grouped for Stage C
31	269
Step C: Filtering	
Schemes Filtered Out	Schemes Filtered as OxIS Scheme for Appraisal
29	271

4.2. OxIS Strategic Infrastructure Schemes

The outcome of the sifting and filtering process resulted in the identification of 271 OxIS strategic infrastructure schemes qualifying to appraisal. Over half these schemes fall into the transport infrastructure type. Schemes across the remaining twelve categories are generally evenly distributed; except for Digital (IF5) where no schemes have been identified; due to the commercial nature in which digital infrastructure is delivered.



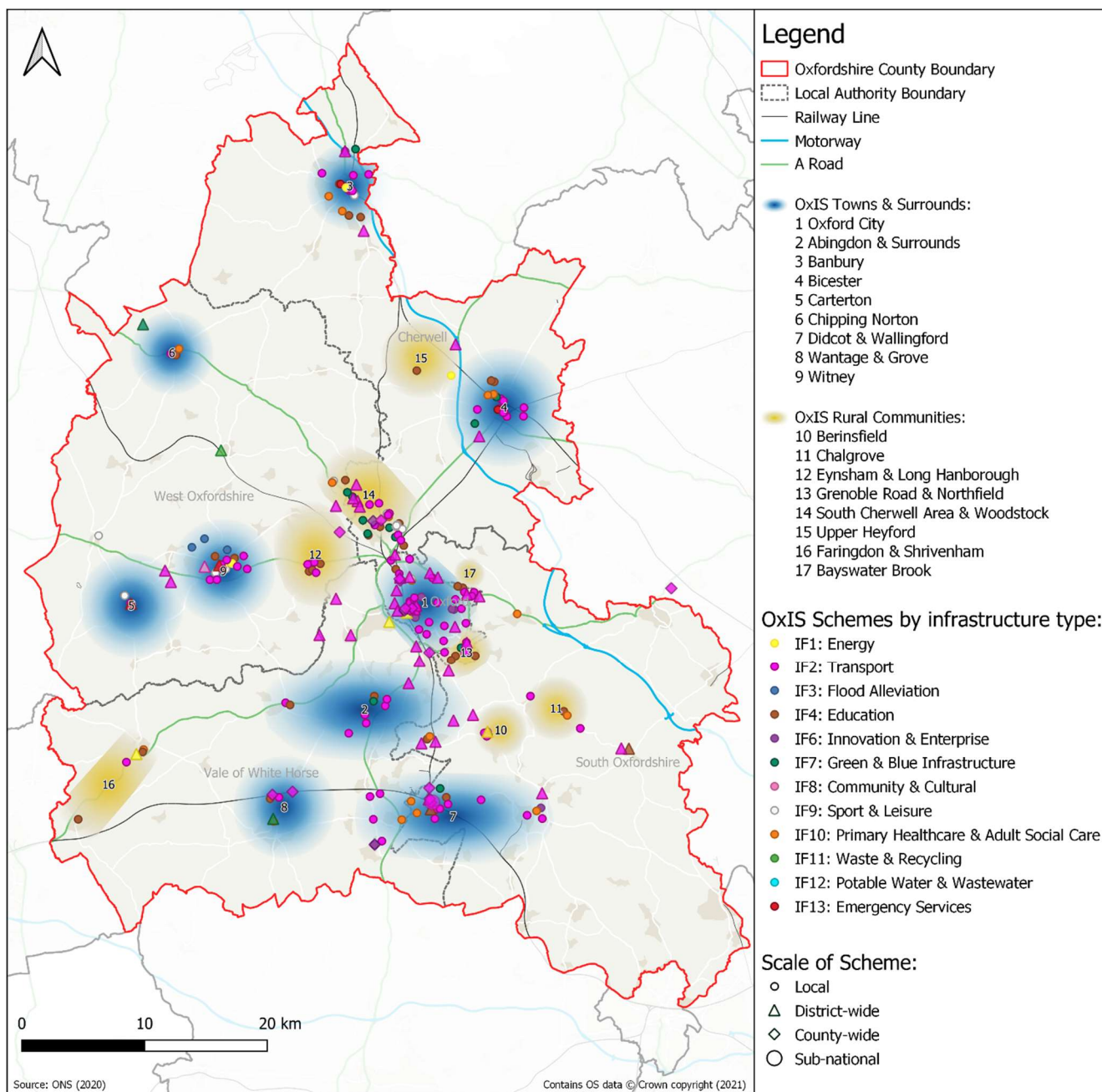
Around 30% of OxIS Stage 1 schemes have a regional spatial impact; varying from cross-county, county-wide, cross-district and district-wide schemes. The remaining schemes have a local spatial impact, split across the OxIS Towns & Surrounds (51%) and the OxIS Rural Communities (21%). The location of schemes is shown overleaf.

Emerging Schemes Excluded from the Stage 1 Appraisal

The robust appraisal methodology is reliant on schemes having a minimum level of known detail to provide a level of consistency. There are several schemes where this level of detail is not yet known and remain subject to an ongoing optioneering process which means appraisal has not been possible:

- **OAIDP1:** Third Thames Crossing north of Reading
- **C307:** Reconfiguration of primary care services in Bicester Central around the Horton Hospital
- **SO42:** Western Rail Link to Heathrow Airport
- **SO43:** Great Western Railway Modernisation
- **SO85:** Abingdon Southern Bypass
- **SO86:** Southern Didcot Road
- **OC10:** A40 – A40 Strategic Link Road
- **OC55:** GP Surgery to serve Oxford West End and Osney Mead
- **WO90:** East Chipping Norton Link Road
- **EEH1:** Varsity Cycleway (Oxford-Cambridge)
- **SO87:** A4130 Road Corridor Capacity Improvements
- **EA1:** Abingdon Flood Alleviation Scheme
- **EA2:** Thames Valley Flood Alleviation Scheme
- **TWB1:** South East Strategic Reservoir
- **TWB2:** Oxford Canal Raw Water Transfer
- **STW1:** Severn to Thames Water Transfer
- **VoWH205:** Wantage Western Relief Road
- **VoWH210:** A417 (Reading Road) Improvement Scheme including Ardlington Junction upgrade

Future progression of these schemes have the potential to address some of the strategic gaps subsequently identified in Section 6.6. There is an opportunity through future updates of OxIS to consider these schemes further as more information becomes available



Scale	Spatial Impact	Number of Schemes	Percentage of Schemes
Regional	Sub-National	1	0%
	Cross-County	1	0%
	County-Wide	19	7%
	Cross-District	21	8%
	District-Wide	31	12%
Local	OxIS Towns & Surround	132	51%
	OxIS Rural Community	54	21%
TOTAL		259	100%

5. Outcome of OxIS Stage 1: Infrastructure Schemes

5.1. OxIS Scheme Gaps – Infrastructure Providers

The OxIS Stage 1 scheme list has some outstanding gaps associated with infrastructure that is the responsibility of key external infrastructure providers and utility providers including commercial digital infrastructure companies as well as the Environment Agency, Thames Water and SSEN. Extensive engagement with these stakeholders has been undertaken through the Stage 1 process, however, limited information has been provided on schemes that remain reliant on funding; some of which is a result of commercial sensitivities. This means that there is presently a lack of some of these related schemes considered within OxIS Stage 1

5.2. OxIS Scheme Gaps – Unmet Needs

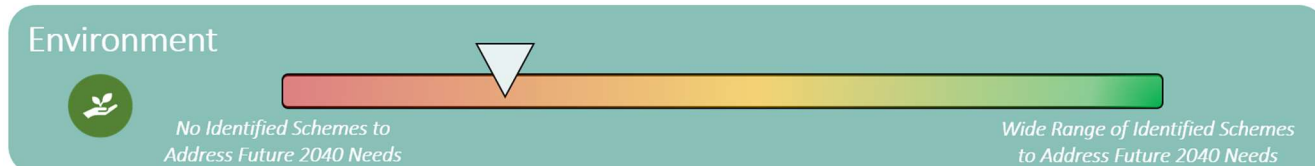
A key finding of this work is that the identified OxIS schemes do not fully address Oxfordshire's needs to 2040 (see Chapter 5 of the OxIS Stage 1 Technical Report). These gaps are amplified by the challenge in engagement with infrastructure providers as well as policy and societal changes since District IDPs were prepared. Additional infrastructure planning will be needed to help deliver the Oxfordshire Strategic Vision and planned future housing and employment that maximises social and environmental benefits.

The below outlines unmet needs for each theme alongside recommended schemes that should be brought forward by key stakeholders to ensure these are met (see Section 6.5 of the OxIS Stage 1 Technical Report for further detail). Scheme gaps to address needs to 2050 will be covered in the forthcoming OxIS Stage 2 Report.

5.2.1. Environment Related Scheme Gaps

Many of Oxfordshire's plans and wider policy and strategy documents pre-date the declaration of a climate emergency in 2019 and the subsequent county-wide and district Climate Action Frameworks produced in 2020 and 2021. This recent shift in priorities means there is a substantial absence of schemes currently identified which specifically aim to reduce carbon emissions across the county, further highlighting the need for this updated and needs-based OxIS.

The National Infrastructure Commission Annual Report (2020) identifies a critical need for future infrastructure schemes to reduce carbon emissions both from energy and transport sources (approximately 82% of Oxfordshire's carbon emissions).



Recommended Additional Future Schemes to Address Environment Needs to 2040

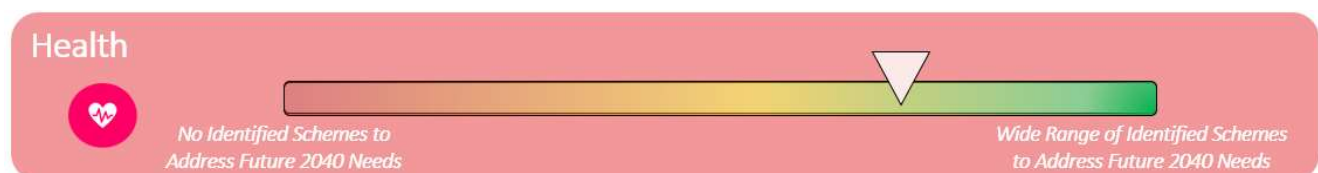
- **Home Energy Efficiency Retrofitting Schemes:** Domestic energy is responsible for 26% of Oxfordshire's carbon emissions. Aside from local authority funding through the Better Homes, Better Health support service and some ongoing schemes to retrofit Oxford City council housing stock, there are no other identified similar domestic retrofitting schemes. Schemes should differentiate between those who are fuel poor and need grant support and those need market / structural incentive.
- **Zero Carbon Heat Network Schemes:** Gas networks currently heat over 240,000 of Oxfordshire's buildings whilst approximately 20% of buildings in Oxfordshire are off grid. It is critical to rapidly switch to zero carbon sources by retrofitting buildings, including the installation of heat pumps, or exploring alternative fuels. New gas connections should be phased out in accordance with the UK Government's upcoming strategy.
- **Electric Vehicle Charging Schemes:** Emissions from road transport are responsible for 46% of Oxfordshire's total emission. The upcoming Transport Decarbonisation Plan and Oxfordshire Electric Vehicle Charging Infrastructure Strategy indicate the scale of charging infrastructure required, however, intervention is likely to be needed to ensure universal coverage across the county, particularly in rural areas.
- **Zero Emission Zones:** There is an opportunity to utilise Oxford's emerging zero emission zone as a platform for wider scheme implementation across Oxfordshire's wider towns to promote modal shift and accelerate the transition to the use of electric vehicles.
- **Freight Decarbonisation Hubs:** There is a need to identify schemes which support the rapid

recharging of electric or hydrogen freight vehicles to ensure zero carbon goods deliveries.

- **Zero Carbon Public Transport Schemes:** There is a need for future infrastructure schemes to enable zero carbon emissions from public transport (e.g. through bus recharging facilities, use of solar power and rail electrification schemes). It is proposed that Oxford will be one of the first zero-emission bus areas in the UK, and once in place should be able to offer opportunities and lessons learnt for other towns in the country.
- **Strategic Flood Alleviation Schemes:** Strategic schemes (beyond the Oxford Flood Alleviation Scheme) which combat the impact of climate change to protect existing and future planned homes from flooding.
- **Habitat & Biodiversity Restoration Schemes:** There are limited identified strategic schemes to fulfil Oxfordshire's need to achieve biodiversity net gain across the county. There is an opportunity through the emerging Oxfordshire Nature Recovery Strategy to identify schemes in the Nature Recovery Zone to enhance habitat restoration and to integrate this with wider infrastructure types such as flood alleviation and transport.
- **Renewable Energy Schemes:** The electrical and gas networks account for 36% of all County carbon emissions. Analysis of the potential for renewable energy sources, is needed to set out a strategy to support zero carbon production and consumption as well as understanding the need for carbon offsetting and managing residual gaps.
- **Waste Disposal Infrastructure:** There is a need for further waste disposal schemes to be identified such as Household Waste and Recycling Centres to fulfil future demands as a result of planned future housing identified in Adopted Local Plans and Neighbourhood Plans.

5.2.2. Health Related Scheme Gaps

The identified schemes do not fully address Oxfordshire's needs for a more preventative approach to enhancing people's physical and mental health. In particular, the COVID-19 crisis has raised the profile of the role that access to green space and space for physical activity plays in addressing health inequalities and enhancing people's mental health and wellbeing.



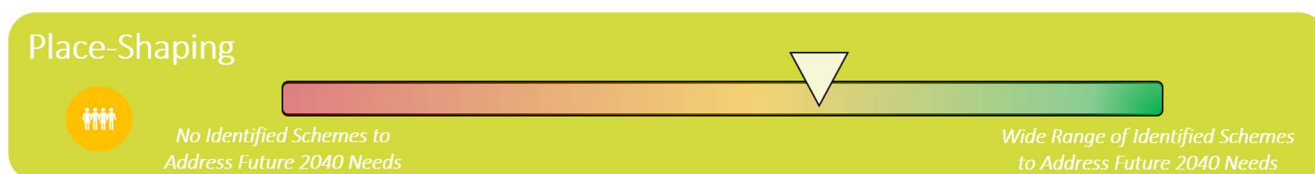
Recommended Additional Future Schemes to Address Health Needs to 2040

- **Outdoor Green Space Schemes:** In some districts, there is a lack of identified strategic outdoor green space schemes within some Districts, such as parks, to address Oxfordshire's future need to improve people's physical activity levels, mental health and social integration. Preventative measures like this, which are now embedded in health policy and strategies, allow the opportunity to encourage healthy lifestyles and reduce health inequalities across Oxfordshire.
- **Indoor and Outdoor Sport Schemes:** Some District Councils do not identify specific strategic indoor and outdoor sport and leisure schemes, such as swimming pools, sports halls and playing pitches, to address the future need to improve people's physical activity levels, and mental health. There is an opportunity for District Councils to identify strategic schemes as part of upcoming reviews
- **GP & Health Centres:** The funding limitations of the OCCG mean there is a lack of tangible GP and health centre schemes to address Oxfordshire's future need to ensure sufficient primary care access in locations, particularly to serve allocations that have only recently been designated in Local Plans (e.g. South Oxfordshire Local Plan). This includes sites such as south of Grenoble Road, Northfield, land north of Bayswater Brook, Wallingford, Kingston Bagpuize and within Oxford. There is an opportunity for greater partnership working and additional capital contributions to ensure that schemes are developed in line with trajectories of future site delivery.
- **Social Care Schemes:** There is an absence of adult social care schemes currently identified to address Oxfordshire's future needs to accommodate for the ageing population.

See also Zero Emission Zone Scheme Gap in Environment

5.2.3. Place-Shaping Related Scheme Gaps

Whilst there are several identified schemes, such as active travel improvements, which address many of the place-shaping needs, there is lack of schemes intended to address Oxfordshire's needs to improve social cohesion and perception of crime occurring.



Recommended Additional Future Schemes to Address Place-Shaping Needs to 2040

- **Community Safety Schemes:** There is a lack of schemes, such as public realm or area-wide lighting improvements, which are specifically intended to address the need to improve community safety.
- **Strategic Cycling Schemes:** Whilst there are several schemes associated with the emerging Local Cycling & Walking Implementation Plans to enhance active connectivity within the confines of some of Oxfordshire's towns and villages, there is a lack of identified schemes to strategically connect these communities together, particularly rural villages. Through partnership working between the Oxfordshire Local Authorities, there is an opportunity to develop an Oxfordshire-wide cycling network to ensure a more integrated approach.
- **Cycle Infrastructure in OxIS Rural Communities:** There are some established and future Local Cycling and Walking Infrastructure Plans in towns across the county, however, these should be completed for all OxIS Towns and Surrounds and OxIS Rural Communities, particularly in South Oxfordshire, to ensure suitable cycle infrastructure supporting future planned housing and employment is provided.
- **Library & Arts Centre Schemes:** In anticipation of the upcoming OCC Cultural Strategy, there is currently a lack of identified cultural schemes, such as libraries and arts centres, to address Oxfordshire's future needs.
- **Rural Community Hubs and Places to Meet:** The COVID-19 crisis has increased Oxfordshire's need to enhance social integration to reduce rising rates of loneliness. There is an opportunity to develop schemes, such as community hubs or public squares, which are specifically intended to improve social cohesion as well as provide alternative ways of providing key local services.

5.2.4. Productivity Related Scheme Gaps

Gaps to address the productivity needs are primarily associated with education schemes, concerning Special Educational Needs alongside adult education schemes. There is also an absence of schemes, such as community hubs or transport schemes, which are specifically intended to address Oxfordshire's socio-economic inequalities.

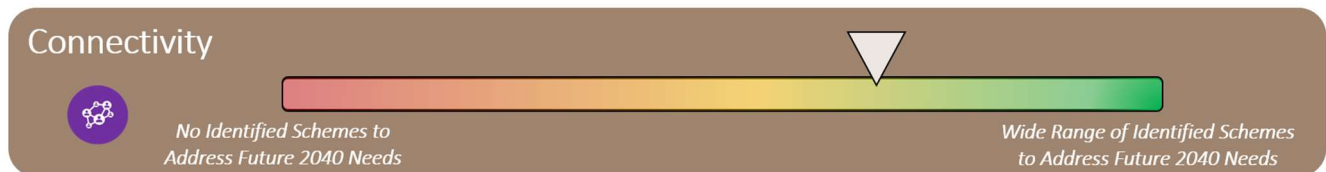


Recommended Additional Future Schemes to Address Productivity Needs to 2040

- **Special Educational Needs Schemes:** There is a need for the development of schemes to alleviate the shortage of special school places by increasing capacity across the county.
- **Adult Education Schemes:** The economic impacts of COVID-19 combined with the need to build a global innovation ecosystem, means there is a requirement for additional adult education schemes across Oxfordshire to upskill and retrain adults to align with the future workforce requirements.
- **Schemes Specifically Targeting Socio-Economic Inequalities:** There is a need for intervention schemes which address the need to reduce socio-economic inequalities (e.g. Blackbird Leys in Oxford, Ruscote in Banbury).
- **Affordable Housing Schemes:** The delivery of approximately 70,000 new homes during the Core Local Plan Period will address the historic housing shortfall in Oxfordshire, however, it is essential that a considerable proportion of these homes are truly affordable to fulfil the need to attract and retain talent in the county.
- **Rural Business Hubs:** Supporting greater self-containment and liveability of rural communities through provision of hubs with the ability to support small businesses flourish.

5.2.5. Connectivity Scheme Gaps

There are significant shortcomings in the existing digital infrastructure, particularly in urban areas. This has been amplified by the recent spike in home working and shopping, as well as significant global uptake in digital technology. Other needs are highlighted by the recent National Bus Strategy, which requires the development of a Bus Service Improvement Plan to set out the county's plan for improving bus services for passengers.



Recommended Additional Future Schemes to Address Connectivity Needs to 2040

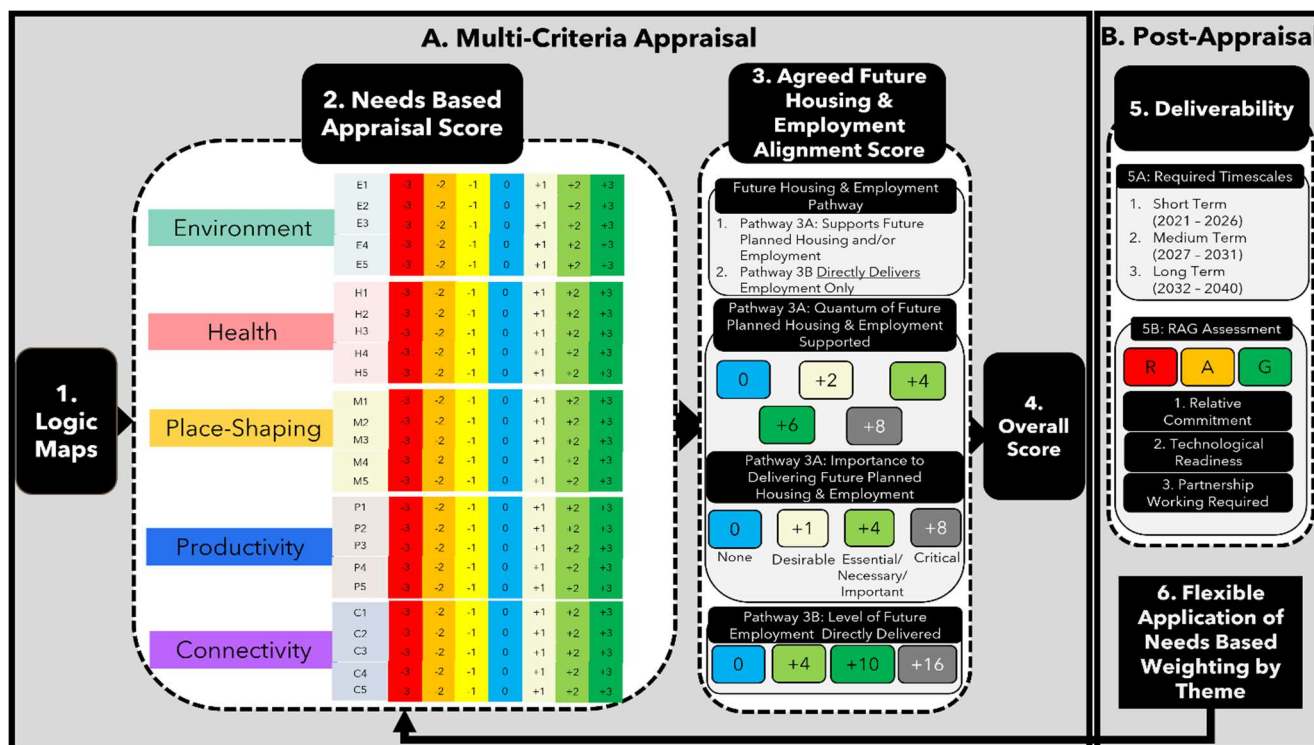
- **Non-Commercial Full Fibre Broadband Schemes:** Oxfordshire has 16.5% of the county covered by full-fibre broadband which is behind the national average, although marginally higher than comparable neighbouring counties. There is a future need for subsidised localised schemes through established national schemes such as Project Gigabit, Voucher Schemes alongside funding from OCC to bridge this connectivity gap, where roll-out is commercially unviable.
- **Digital Upgrade of Public Assets:** The onset of 5G and the Internet of Things means there is an opportunity for further schemes to be identified (e.g. digitalisation of street furniture)
- **Electricity Supply Grid Capacity Schemes:** There is currently an absence of tangible strategic schemes identified by Oxfordshire's Distribution Network Operators (DNOs) to address the combined challenge of additional grid demand placed by future planned housing in the county alongside increasing electric vehicle charging infrastructure.
- **Wastewater Schemes:** There is a lack of strategic schemes currently identified to ensure that the need for sufficient wastewater processing and receipt capacity across Oxfordshire continues to be met in the context of future planned housing identified in District Local Plans. Partnership working with Thames Water is required to identify any forthcoming schemes. Wastewater schemes that are fully funded by Thames Water are excluded from scheme appraisal.
- **Rapid Transit Schemes:** Similar to bus priority, rapid transit schemes in the form of quality bus, tram or rail services are internationally recognised to provide multiple benefits to address key OxIS needs.

6. Outcome of OxIS Stage 1: Multi-Criteria Scheme Appraisal

OxIS Stage 1 includes a updated multi-criteria appraisal methodology to reflect a needs-based approach which is underpinned by the Future Oxfordshire Partnership's reorientated priorities to maximise the social and environmental benefits in an inclusive way from planned future housing and employment.

An agreed future housing and employment alignment score has been added to recognise the importance of schemes (e.g. utilities infrastructure) which may score less well within the needs-based appraisal, yet remain critical to enabling future allocation sites included within Adopted District Local Plans and Neighbourhood Plans.

The multi-criteria appraisal follows an objective and logical process (see Section 7.1.3). It is made up of a core Needs-Based Appraisal alongside an agreed future housing and employment alignment score which are both combined to calculate an overall scheme score.



Factors impacting the scheme's relative deliverability, incorporating a consideration of the delivery timescales, technical complexity and level of required partnership working, has been considered post-appraisal as part of a Red Amber Green (RAG) assessment. This is intended to provide context only to the scheme's future prioritisation rather than form an intrinsic part of the overall score assigned.

This is for the following reasons:

- **Delivery & Funding Channel Uncertainty:** It is likely that there will be significant future changes in national policy (e.g. Planning White Paper), delivery mechanisms (e.g. Spatial Framework for the Oxford-Cambridge Arc) and funding opportunities which is likely to materially change the relative deliverability of schemes in the short term
- **Fluidity of Technology:** There may be schemes which are critical to fulfilling Oxfordshire's future needs yet may be technically challenging to deliver at the present time (e.g. hydrogen). These barriers are likely to erode over time to 2040, as new technology is developed
- **Established Partnerships:** The strong partnership working established through the Future Oxfordshire Partnership means that collaborative working with key stakeholders is not necessarily a barrier to delivery of a scheme

A consideration of scheme deliverability post appraisal also considers the required timescales for scheme delivery based upon the information established in the original source documents and verified in discussions with Oxfordshire's District Councils and key strategic infrastructure providers.

All schemes included in OxIS will be subject to the appropriate planning process. Inclusion in OxIS does not represent endorsement of schemes.

6.1. Scheme Appraisal: Regional Schemes

The following sections incorporate the outcomes of the multi-criteria and deliverability appraisal for regional scale schemes. The detailed components of the scoring assigned across each of the 25 needs is available in Appendix B.

6.1.1. Sub-National Schemes

Type	OxIS Sub-National Scheme	Needs Based Appraisal					Agreed Future Housing & Employment Alignment	Overall Score
		Environment	Health	Place Shaping	Productivity	Connectivity	Total Needs	
IF2	ORC6: Grade Separation of Didcot East Rail Junction	4	4	3	8	6	24	36

6.1.2. Cross-County Schemes

Type	Scheme	Needs Based Appraisal					Agreed Future Housing & Employment Alignment	Overall Score
		Environment	Health	Place Shaping	Productivity	Connectivity	Total Needs	
IF2	SO30: Thame to Haddenham cycle route	3	7	7	5	2	24	33
IF7	VoWH106: Restoration of the Wilts and Berks Canal from Melksham to Swindon, Wantage/Grove and Abingdon	8	6	4	4	1	23	32

6.1.3. Oxfordshire County-Wide Schemes

Type	Scheme	Needs Based Appraisal					Agreed Future Housing & Employment Alignment	Overall Score
		Environment	Health	Place Shaping	Productivity	Connectivity	Total Needs	
IF2	BSIP1: County-wide traffic signals upgrade to enable bus priority	4	4	3	5	5	21	30
IF2	IHUB9: MaaSCAV: Smart Traffic lights	0	3	1	1	4	9	18
IF2	IHUB10: DRIVEN Project: Updating of ATC to live blackcats.	0	1	1	1	2	5	14
IF2	IHUB12: Endeavour Project: Parking bay sensors	0	1	0	2	2	5	14
IF2	IHUB13: 5G Heart project: Fibre connectivity to roadside assets	2	2	3	4	3	14	23
IF2	ORC1: Oxford Station Additional Through Platform & Line Upgrades	3	3	2	6	4	18	30
IF2	ORC2: Cowley Branch Line Improvements including two new stations at Oxford Science Park & Oxford Business Park	3	5	4	9	5	26	38
IF2	ORC7: Didcot Parkway station – additional platform	3	4	2	5	3	17	29
IF2	ORC8: Didcot Goods Line upgrade & line extension to Milton Junction	3	4	2	6	3	18	30
IF2	ORC9: Wolvercote Rail Junction Capacity Upgrades	2	3	2	5	4	16	28
IF2	ORC11: Hanborough Station additional platform including Cotswolds line capacity upgrades	2	3	2	4	4	15	27
IF2	ORC13: New Rail station at Grove	2	3	4	5	5	19	31
IF2	ORC14: Grove – rail line loop extension and additional crossovers	2	3	4	5	5	19	31
IF2	ORC15: Oxford North Rail Junction – additional line bypassing junction	3	4	3	4	4	18	30
IF2	ORC16: Oxford Canal Rail Junction – crossover between Up and Down Bletchley Lines	2	2	3	4	4	15	27
IF2	ORC17: New rail station at Begbroke	4	4	4	5	5	22	31
IF2	ORC18: Didcot North Junction – third rail line north of junction	2	2	3	4	4	15	24
IF6	OIP6: Space AI and Autonomy Lab, Harwell	-1	3	2	9	0	13	17
IF6	OIP8: Locate Oxford Global Innovation Campus	-3	2	3	12	0	14	30
IF6	OIP20: West End Global Innovation District	-2	2	4	11	0	15	31

6.1.4. Cross-District Schemes

Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
		Environment	Health	Place Shaping	Productivity	Connectivity	Total Needs		
IF1	OC2: Yarnton Bulk Supply Point Reinforcement	2	2	2	8	5	19	16	35
IF2	BSIP3: A34 Bus Priority Scheme Phase 1 - Hinksey Hill A34 Northbound Exit	5	6	3	6	5	25	9	34
IF2	BSIP4: Bus priority improvements at Pear Tree Park & Ride junction	4	4	2	5	4	19	9	28
IF2	C83: P&R at London Oxford Airport (approx. 1,100 Spaces)	2	5	2	4	2	15	12	27
IF2	C86: Junction improvements facilitating cross-corridor bus movements A44 to / from A4260	4	5	4	7	3	23	16	39
IF2	C87: Bus priority on the A44 between Langford Lane and Bladon Roundabout	4	5	4	8	3	24	16	40
IF2	OC23: Abingdon Road Corridor Improvements	4	7	5	5	2	23	9	32
IF2	OC25: Banbury Road & Oxford Road Corridor Improvements	3	8	7	5	2	25	9	34
IF2	OCCP&R1: Park & Ride at Cumnor (1,200 Spaces)	3	5	3	4	2	17	9	26
IF2	OLCWIP1: Canal Path Walking and Cycling Improvements	3	7	3	3	1	17	9	26
IF2	OLCWIP3: Woodstock Road Active Travel Improvements	3	8	6	4	2	23	12	35
IF2	OLCWIP13: Barracks Lane and Horspath Active Travel	2	4	4	5	1	16	9	25
IF2	OLCWIP21: South Oxford Path Walking and Cycling Improvements	3	6	2	4	1	16	9	25
IF2	OLCWIP25: Botley Road Walking and Cycling Improvements	3	6	4	4	2	19	9	28
IF2	SO21: Science Vale Active Travel Network	5	10	8	7	2	32	12	44
IF2	SO23: Cycle Connection Culham / Berinsfield to Oxford via the Roman Road and / or the A4074	3	8	8	7	2	28	12	40
IF2	SO40: Strategic Rapid Transit Park and Ride & Bus Priority Improvements on A4074 corridor	4	7	4	10	5	30	12	42
IF2	SO53: A40 Link Road through Bayswater Brook from the A40 at Marsh Lane interchange to east of Sandhills	-2	1	3	5	2	9	12	21
IF2	SO69: New and upgraded cycling connections between Chalgrove and Oxford, Berinsfield & Watlington via B480 and Burcot Lane / Dorchester Road / Stadhampton Road	3	8	8	6	2	27	12	39
IF2	SO74: B480 Gateway Scheme including cycle lanes and bus priority measures	3	7	5	10	3	28	12	40
IF2	SO75: Pedestrian and Cycle Bridge over A40 Northern Bypass	1	6	5	4	1	17	12	29
IF2	VoWH22: A34 Bus Priority Phase 2 - bus lane between Lodge Hill-Hinksey Hill & Lodge Hill Park and Ride	4	7	4	6	6	27	12	39
IF2	WO55: Cycle Route from Eynsham - Oxford on B4044	3	8	9	6	2	29	9	37
IF4	OCCE1: New SEN School serving southern Oxfordshire	0	7	4	9	0	20	16	36

6.1.5. District-Wide Schemes

District	Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
			Environment	Health	Place Shaping	Productivity	Connectivity	Total Needs		
Cherwell	IF2	C69: Improvements to A41 gateway corridor to Bicester including bus priority measures	3	7	4	6	5	26	12	37
	IF2	C125: M40 Junction 10 capacity improvements	-3	-3	2	7	5	8	16	24
	IF2	C131: Access to Banbury North (New M40 Slips)	-3	-2	1	4	5	5	9	14

District	Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
			Environment	Health	Place Shaping	Productivity	Connectivity	Total Needs		
Oxford City	IF1	OC1: Uprating of a section of the 132kV cable at Osney Lane Bulk Supply Point	2	2	2	8	5	19	16	35
	IF2	OC3: Cycle Hire Stations	1	8	5	6	2	22	12	34
	IF2	OC6: Emergency Active Travel Schemes	2	8	7	6	2	25	12	37
	IF2	OC39: Zero Emission Zone (Phase II)	6	9	7	6	4	32	12	44
	IF2	OC40: Controlled Parking Zones (city-wide)	1	5	4	4	3	17	12	29
	IF2	OCCP&R2: Park & Ride Extension at Thornhill (465 Spaces)	2	4	2	4	1	13	9	22
	IF2	OLCWIP28: Oxford Ring Road Active Travel Improvements	2	5	2	5	1	15	9	24
	IF2	OLCWIP31: Low Traffic Neighbourhoods	3	6	4	2	1	16	9	25
	IF2	OLCWIP32: Signing and parking Active Travel Improvements	1	3	1	2	1	8	9	17
South Oxfordshire	IF1	SO20: Retrofitting to install Air Source Heat Pumps and Solar PV cells at South Oxfordshire Council Leisure Centres	2	5	2	3	3	15	9	24
	IF2	SO24: Improvements to cycle routes to rail stations	1	4	2	3	1	11	9	20
	IF2	SO26: Benson to Wallingford cycle route minor improvements	2	5	5	3	1	16	9	25
	IF2	SO45: Culham Railway Station Enhancements	1	2	2	7	2	14	12	26
	IF2	SO48: A4074 Golden Balls Roundabout Improvement and B4015 Widening	-1	0	1	6	3	9	16	25
	IF4	SO119: Expansion of secondary school capacity by 2fe, potentially at Icknield Community College	0	1	4	7	1	13	16	29
Vale of White Horse	IF1	VoWH19: Retrofitting to install Air Source Heat Pumps and Solar PV cells at Vale of White Horse Leisure Centres	2	5	2	3	3	15	9	24
	IF2	VoWH59: A34 Lodge Hill Interchange Upgrade including South Facing Slips	-1	2	2	5	5	13	16	29
West Oxfordshire	IF2	WO37: Bablock Hythe crossing of River Thames	0	5	6	2	1	14	9	23
	IF2	WO52: Witney to Carterton cycleway	3	7	7	5	2	24	12	36
	IF2	WO57: Footpath / cycleway connecting Hanborough through Bladon to Woodstock	2	5	5	3	1	16	9	25
	IF2	WO84: Improve access by road to Carterton including upgrade of B4477 and West facing slips at A40/B4477	-1	-1	3	4	4	9	12	21
	IF7	WO144: Evenlode Green Ribbon & Catchment Schemes including habitat restoration	6	6	3	3	0	18	9	27
	IF8	WO161: Enhanced Library Provision at Witney, Carterton, Chipping Norton, Eynsham and Woodstock	0	2	5	3	0	10	9	19
	IF11	WO180: New waste transfer station	4	1	0	6	0	11	16	27
	IF13	WO187: New one pump 2 bay fire station in Carterton	0	1	4	6	0	11	12	23
	IF13	WO188: Various Thames Valley Police schemes including adaptation of Witney, Carterton, and Woodstock Police Stations	0	0	2	2	0	4	9	13
	IF13	WO189: 2-3 ambulance standby points in the District including ambulances	0	1	2	3	0	6	12	18

6.2. Scheme Appraisal: Local Schemes – OxIS Towns & Surrounds

OxIS Towns & Surround	Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
			Environment	Health	Place-Shaping	Productivity	Connectivity	Total Needs		
1. Oxford City	IF1	OC3: New substation required to support the Diamond Place regeneration	2	2	2	8	5	19	16	35
	IF2	BSIP2: Barton Waynflete Road Link (One Way Bus Only Road)	3	5	2	6	4	20	9	29
	IF2	BSIP6: Horspath Driftway bus priority scheme	3	6	2	5	4	20	9	29
	IF2	OC8: Broad Street Part Pedestrianisation and Public Realm Improvements	2	6	6	6	2	22	12	34
	IF2	OC24: B4495 Corridor Improvements (Hollow Way/ Between Towns Road/ Donnington Bridge)	2	5	3	3	1	14	12	26
	IF2	OC27: Iffley Road Corridor Improvements	3	7	6	6	2	24	9	33
	IF2	OC28: Cowley Road/ Garsington Road/ Watlington Road Corridor Improvements	3	10	6	7	2	28	9	37
	IF2	OC31: Eastern Bypass corridor improvements / A3133 Kennington to Cowley Bus Priority Improvement Scheme	3	6	5	7	5	26	12	38
	IF2	OC32: Northern Bypass corridor improvements between Cutteslowe Roundabout to Mash Lane including bus lanes	3	5	5	5	5	23	9	32
	IF2	OC36: Traffic Filters and Supporting Measures	2	6	4	2	1	15	12	27
	IF2	OCCTA1: A40 Crossing at Collinwood Road	1	4	5	4	1	15	12	27
	IF2	OLCWIP2: Walton Street Active Travel Improvements	2	5	3	3	1	14	9	23
	IF2	OLCWIP5: North Oxford Path	2	4	2	2	1	11	9	20
	IF2	OLCWIP6: Marston Active Travel Improvements	2	4	3	3	2	14	9	23
	IF2	OLCWIP8: Northway & Barton Active Travel Improvements	2	6	2	4	1	15	9	24
	IF2	OLCWIP9: Headington Path	2	5	2	4	1	14	9	23
	IF2	OLCWIP 10: Headington Active Travel Improvements	3	7	6	4	2	22	9	31
	IF2	OLCWIP12 Old Road Active Travel Improvements	3	7	6	4	2	22	9	31
	IF2	OLCWIP15 Blackbird Leys Active Travel Improvements	3	10	4	7	2	26	9	35
	IF2	OLCWIP16 Littlemore Active Travel Improvements	2	6	3	6	1	18	9	27
	IF2	OLCWIP18 Rose Hill Active Travel Improvements	2	5	2	6	1	16	9	25
	IF2	OLCWIP29: City Centre Active Travel Improvements	2	7	5	7	1	22	9	31
	IF2	OLCWIP30: Jackdaw River Bridge	2	4	2	4	1	13	9	22
	IF2	OXG1: Oxford Smaller Scale Active Travel Schemes	2	8	4	4	2	20	9	29
	IF4	OC44: Extensions to primary schools equivalent to 0.5FE, to cater for Oxford North and cumulative sites	0	3	3	6	1	13	12	25
	IF4	OC55: 0.5FE Expansion to Barton Park Primary School	0	3	4	6	1	14	16	30
	IF6	OIP1: The Energy Systems Accelerator	1	2	2	9	1	15	16	31
	IF6	OIP2: Clinical Biomanufacturing Facility	-1	3	2	6	0	10	4	14
	IF6	OIP3: BioEscalator 2 (Global Health & Life Sciences Cluster)	-1	2	2	8	0	11	4	15
	IF6	OIP7: Oxford – Singapore AI and Human-Machine Collaboration Institute	-1	2	2	7	0	10	4	14
	IF6	OIP21: Creative and Cultural Industries Hub	-1	2	4	7	0	12	4	16
	IF8	OC49: Blackbird Leys Regeneration New Community Hub	0	6	6	6	0	18	9	27
	IF9	OC56: Refurbishment and extension of Ferry Leisure Centre	-1	5	5	4	0	13	9	22
	IF10	OC51: New Health Centre in Diamond Place, Summertown	0	6	2	4	0	12	16	28
2. Abingdon	IF2	VoWH50: Marcham Bypass and Frilford Junction	-3	3	4	3	3	10	16	26
	IF2	VOWH52: Shippon & Abingdon Pedestrian and Cycle Bridge	2	6	3	4	1	16	12	28
	IF2	VOWH53: Barrow Road / unamed road (to Gozzards Ford) junction upgrade	0	1	2	4	1	8	16	24
	IF2	VOWH54: Unnamed road (to Gozzards Ford)/A415 junction upgrade	0	1	1	4	1	7	16	23
	IF2	VOWH55: Long Tow/Wootton Road junction upgrade	0	1	1	4	1	7	16	23
	IF2	VOWH56: A415/A420 link road	-1	2	2	4	2	9	16	25
	IF4	VoWH70: Two form-entry primary school at Dalton Barracks	0	4	6	7	1	18	12	30

OxIS Towns & Surround	Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
			Environment	Health	Place-Shaping	Productivity	Connectivity	Total Needs		
	IF4	VoWH71: One form entry primary school, East of Kingston Bagpuize	0	4	6	6	1	17	12	29
	IF4	SO107: Two Two Form Entry primary schools at Culham (including early years)	-1	4	6	8	1	18	16	34
	IF4	SO108: 900 place secondary school at Culham	-1	5	6	8	1	19	16	35
	IF7	VoWH83: Dalton Barracks Parkland	6	7	5	5	0	23	12	35
	IF10	VoWH186: New GP Surgery in Abingdon	0	6	4	5	0	15	12	27
	IF10	SO210: New GP surgery provision at Culham	0	5	4	5	0	14	16	30
3. Banbury	IF1	C9: 300m of expansion and realignment in the gas infrastructure around Banbury	-2	-1	2	4	-1	2	16	18
	IF2	C72: Rejuvenating or Reloading Banbury Bus Station to provide enhanced capacity	1	6	4	5	2	18	12	30
	IF2	C96: Re-designing Banbury Station forecourt to improve multi-modal interchange	2	6	5	5	3	21	9	30
	IF2	C114: Improving capacity & bus priority of Cherwell Street/ A4620 Windsor Street corridor	0	-1	3	5	3	10	16	26
	IF2	C117: East-west strategic movements: Hennef Way corridor A422 Improvements	-1	-1	3	5	3	9	16	25
	IF2	C118: East-west strategic movements: Warwick Road Corridor Improvements	-1	-3	1	4	3	4	12	16
	IF2	C120: Review of Banbury Town Centre traffic circulation	0	-3	2	3	1	3	12	15
	IF2	C132: Banbury South East Link Road east of M40 J11	-2	-2	1	4	3	4	12	16
	IF2	C112: Car parking routeing and guidance system	1	3	2	2	1	9	12	21
	IF4	C151: 2FE primary school - South of Salt Way	0	4	4	8	1	17	16	33
	IF4	C152: Expansion of Longford Park Primary School from 1.5FE to 2FE	0	3	4	7	1	15	16	31
	IF4	C168: New secondary school provision in Banbury	-1	5	4	7	1	16	16	32
	IF7	C182: Banbury Country Park Improvements	6	7	2	4	0	19	9	28
	IF9	C282: Relocation of Banbury United Football Club	0	2	3	7	1	13	12	25
	IF10	C305: Additional GP provision in North Banbury	0	5	3	6	0	14	12	26
	IF10	C306: Additional GP provision in South Banbury	0	7	3	6	0	16	16	32
	IF13	C339: Relocation of Banbury Fire Station	-1	1	3	4	0	7	12	19
4. Bicester	IF1	C1: CHP and use of heat from Ardley Energy Recovery Facility to cover Bicester	1	2	2	7	3	15	9	24
	IF2	C16: Market Square walking and cycling improvements	1	6	5	4	1	17	12	29
	IF2	C17: Banbury Road walking and cycling improvements	1	6	6	5	1	19	12	31
	IF2	C18: Buckingham Road walking and cycling improvements	1	6	6	5	1	19	12	31
	IF2	C100: London Road level crossing - solution for closure	0	2	5	5	2	14	12	26
	IF2	C102: Bicester Eastern Corridor highway capacity improvements	-2	-3	0	6	3	4	16	20
	IF2	C103: Additional highway capacity on Charlbridge Lane including new bridge to Gavray Drive	-3	-3	0	6	3	3	16	19
	IF2	C104: Bicester south east perimeter road	-3	-2	2	6	4	7	16	23
	IF2	C109: Bicester A4905 Realignment Scheme	-1	-3	0	5	3	4	16	20
	IF2	C126: Central corridor: Kings End and Queens Avenue through to Field Street	1	5	5	5	1	17	12	29
	IF2	CG1: Bicester Active Travel Package	2	5	5	5	1	18	12	30
	IF4	C144: Primary School 2 FE (NW Eco Town)	0	3	5	8	1	17	16	33
	IF4	C145: Primary School 2 FE (NW Eco Town)	0	3	5	8	1	17	16	33
	IF4	C146: Primary School 2FE (NW Eco Town)	0	3	5	8	1	17	16	33
	IF4	C147: Gagle Brook Primary School Phase 2 (1 FE)	0	3	5	8	1	17	16	33
	IF4	C166: New secondary school provision in North West Bicester including shared use cultural facilities	0	5	6	8	1	20	16	36
	IF7	C178: Community Woodland (43ha) – Chesterton (Burnehyll Community Woodland)	5	7	4	4	0	20	9	29

OxIS Towns & Surround	Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
			Environment	Health	Place-Shaping	Productivity	Connectivity	Total Needs		
	IF7	C218: Improving blue and green infrastructure in multiple green spaces in Bicester including Bure Park, Langford Brook Park	5	7	2	3	0	17	9	26
	IF10	C304: New GP Surgery to serve South Bicester	0	6	4	5	0	15	16	31
	IF10	C347: New GP premises to serve North West Bicester	0	6	4	5	0	15	16	31
	IF13	C338: Relocation of Bicester Fire Station	-1	1	3	4	0	7	12	19
5. Carterton	IF2	WOG2: Carterton Active Travel Improvement Scheme Package	1	4	3	3	1	12	8	20
	IF4	WO118: Expansion of Carterton Community College	0	3	4	6	1	14	8	22
	IF9	WO169: Provision of ATP plus potential additional changing facilities, Burford	0	5	4	3	0	12	8	20
	IF9	WO172: Additional outdoor playing pitch provision and changing facilities, Carterton	0	5	5	4	0	14	5	19
	IF9	WO175: Enhanced community use, changing and reception areas at Carterton Community College Sports Hall and ATP	0	5	4	3	0	12	5	17
6. Chipping Norton	IF2	WO85: Remove Primary Route Status from A44 and implement weight restrictions in town centre	1	3	2	1	1	8	3	11
	IF2	WO108: 2FE Primary school (including nursery), East of Chipping Norton	0	4	6	7	1	18	10	28
	IF10	WO191: Expansion of Chipping Norton Health Centre	0	5	3	4	0	12	6	18
7. Didcot & Wallingford	IF2	VoWH26: Access improvements to the A4185 at Harwell Campus	-1	-1	1	5	2	6	12	18
	IF2	VOWH51: Milton Heights Pedestrian and Cycle Bridge	1	4	3	5	1	14	12	26
	IF2	VoWH57: Steventon Signalised Junction and A4130 Widening (West of Milton Interchange)	0	2	2	3	3	10	12	22
	IF2	VoWH58: Rowstock Roundabout Improvement	0	3	4	6	3	16	16	32
	IF2	SO27: Didcot Town Cycle Improvements	2	6	5	6	1	20	9	29
	IF2	SO28: Garden Line Cycle Improvements	3	6	2	5	1	17	9	26
	IF2	SO29: Premium cycle route between Didcot, Crowmarsh Gifford and Wallingford	4	9	6	7	2	28	9	37
	IF2	SO31: Didcot Parkway interchange cycling improvements	1	4	1	3	1	10	9	19
	IF2	SO76: Central Didcot Corridor improvement Scheme	3	7	8	7	2	27	12	39
	IF2	SO83: Didcot Northern Perimeter Road Phase 3	-2	0	3	6	3	10	16	26
	IF2	SO88: Town-wide Controlled Parking Zone in Didcot	1	4	3	3	1	12	9	21
	IF2	BSIP5: Benson Lane, Crowmarsh junction bus priority scheme	3	4	2	5	4	18	9	27
	IF4	SO120: One new 8 Form Entry secondary school in Didcot North East	-1	5	5	8	1	18	16	34
	IF6	OIP4: Gateway to the UK Space Sector, Harwell	-1	3	2	9	0	13	10	23
	IF6	OIP5: Disruptive Innovation in Space Centre, Harwell	-1	3	2	8	0	12	4	16
	IF6	OIP22: Facility for Industrial Scale-Up Support, Harwell	-1	3	2	8	0	12	4	16
	IF6	OIP31: Howbery Park Centre of Excellence in Climate Change	2	3	2	7	0	14	4	18
	IF7	SO140: Didcot North East Nature park and Green Infrastructure Corridor	5	7	5	4	0	21	12	33
	IF10	VoWH192: New GP surgery at Great Western Park in Didcot	0	7	4	5	0	16	16	32
	IF10	SO216: New or expanded GP premises to serve Wallingford	0	6	3	4	0	13	12	25
	IF10	SO217: Expansion of Woodlands Medical Centre	0	6	2	4	0	12	9	21
	IF10	VoWH195: New GP Surgery at Valley Park	0	7	3	5	0	15	16	31
8. Wantage & Grove	IF2	VoWH41: Grove Northern Link Road Missing Link	-1	1	4	5	2	11	14	25
	IF4	VoWH72: New Primary School serving NW Grove Development	0	3	5	7	1	16	10	26
	IF10	VoWH190: New GP Surgery at Mably Way in Wantage	0	6	4	5	0	15	10	25
9. Witney	IF1	WO5: 0.5km of improvements to the gas network around Witney	-2	-1	2	4	-1	2	10	12
	IF1	WO6: Gas network reinforcement equivalent to 450M x 250mm in Witney	-2	-1	2	5	-1	3	10	13

OxIS Towns & Surround	Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
			Environment	Health	Place-Shaping	Productivity	Connectivity	Total Needs		
	IF2	WO16: Pedestrian Cycle improvements from Curbridge Road along Thorney Leys to Station Lane employment	1	4	2	3	0	10	10	20
	IF2	WO58: East Witney Active Travel Package	1	4	3	3	0	11	10	21
	IF2	WO78: Shores Green Slip Roads on A40	-1	2	2	5	4	12	14	26
	IF2	WO79: Improvements to Bridge Street & Staple Hall junctions including public realm and traffic management	1	5	4	4	0	14	10	24
	IF2	WO80: Improvements to Oxford Hill/Cogges Hill Road/Jubilee Way junction	0	0	1	4	1	6	14	20
	IF2	WO81: Re-designating the A4095 via Jubilee Way, Oxford Hill, A40 at Shores Green to Ducklington Lane and Thorney Leys.	0	3	1	3	0	7	10	17
	IF2	WO86: Provision of additional off street public car parking spaces	-1	-1	0	2	1	1	10	11
	IF2	WOG1: Witney Walking and Cycling Package of Improvements	2	6	4	5	2	19	10	29
	IF3	WO98: West End Link Road flood storage area on the flood plain of the River Windrush	5	2	1	6	2	16	7	23
	IF3	WO99: Flood storage upstream of Hailey Road in Witney	5	2	1	4	2	14	10	24
	IF3	WO94: Flood storage upstream and downstream of Crawley	4	2	1	4	2	13	10	23
	IF4	WO106: 2FE Primary school, North Witney	0	4	5	7	1	17	14	31
	IF4	WO110: Improvements and capacity increases to existing primary school provision by approximately 1 form entry in Witney and surrounding area.	0	3	3	7	1	14	14	28
	IF4	WO114: Secondary school additional provision (Either Expansion of Woodgreen School and/or Henry Box School)	0	5	5	7	1	18	14	32
	IF4	WO119: New adult learning centre	0	1	4	9	0	14	10	24
	IF8	WO157: Witney Arts Centre	0	2	7	5	0	14	7	21
	IF9	WO171: Additional outdoor playing pitch provision and changing facilities in Witney	0	5	4	5	0	14	10	24
	IF9	WO173: Replacement of Windrush Leisure Centre	-1	7	5	4	0	15	10	25

6.3. Scheme Appraisal: Local Schemes – OxIS Rural Communities

OxIS Rural Community	Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
			Environment	Health	Place Shaping	Productivity	Connectivity	Total Needs		
10. Berinsfield	IF2	SO62: New access on to A4074 from Berinsfield allocation	-2	0	3	5	3	9	12	21
	IF2	SO64: Berinsfield Roundabout (A4074 / A415) Junction Upgrade	-1	1	2	4	3	9	12	21
	IF4	SO102: Primary School capacity Increases including at least one new school	0	3	4	8	1	16	12	28
	IF8	SO168: Upgrade of Abbey Sports Centre & Library to accommodate new community facilities in a 'community hub'	0	6	7	6	0	19	8	27
	IF10	SO208: GP Provision at Berinsfield	0	6	3	5	0	14	12	26
11. Chalgrove	IF2	SO65: Stadhampton & Chiselhampton Bypass: Associated with Chalgrove connecting with the B480	-3	1	4	4	3	9	12	21
	IF2	SO66: Cuxham Bypass connecting with the B480	-2	1	4	4	2	9	12	21
	IF4	SO106: Two x 2 Form Entry primary schools at Chalgrove	-1	4	5	8	1	17	12	29
	IF4	SO116: One new consolidated 1,500 place secondary school	-1	3	5	8	1	16	12	28
	IF10	SO209: New GP surgery in the Chalgrove area	1	6	5	5	1	18	12	30
12. Eynsham & Long Hanborough	IF2	WO59: Cycle Route between Eynsham and Hanborough Station and other bridleway upgrades	1	6	6	5	1	19	9	28
	IF2	WO60: Saltcross Garden Village crossings over A40	1	3	4	5	0	13	12	25
	IF2	WOG3: Eynsham Active Travel Improvement Package	1	3	2	4	1	11	12	23
	IF4	WO105: New 1.5FE Primary School, West Eynsham	0	4	6	7	1	18	16	34
	IF4	WO107: Up to 2 x 2FE Primary schools (including nursery), to serve Saltcross Garden Village	-1	4	6	8	1	18	16	34
	IF4	WO116: New secondary school or split-site expansion of Bartholomew School	-1	3	6	8	1	17	16	33
13. Grenoble Road & Northfield	IF4	S109: One new 3-form-entry primary school at Grenoble Road	-1	5	6	8	1	19	14	33
	IF4	SO112: Three Form Entry Primary School at Northfield (including early years)	-1	4	6	8	1	18	14	32
	IF4	SO117: A 1,500 place secondary school at Grenoble Road	-1	5	6	8	1	19	14	33
14. South Cherwell area & Woodstock	IF2	C41: Pedestrianisation of part of Kidlington High Street	2	5	5	5	1	18	12	30
	IF2	C47: Public realm improvements on the A4260 between Benmead Road & Yarnton Road	1	4	4	4	1	14	12	26
	IF2	C50: Sandy Lane – pedestrian and cycle new link over railway	1	4	5	5	1	16	16	32
	IF2	C58: Upgrade existing footbridge over the railway linking to Northern Gateway	1	4	2	4	1	12	16	28
	IF2	C62: Cycle and pedestrian improvements along Langford Lane	1	4	4	5	1	15	16	31
	IF2	C84: Bus priority and bus stop improvements along the A4260 / A4165	4	5	4	7	4	24	16	40
	IF2	C89: Expansion of Oxford Parkway P&R (approx. 1,000 spaces)	1	5	2	5	2	15	12	27
	IF4	WO113: Capacity increases at existing primary schools in Woodstock, Eynsham, Enstone and Stanton Harcourt / Sutton	0	3	3	7	1	14	16	30
	IF4	WO117: Extensions to Marlborough School, Woodstock	0	3	5	6	1	15	12	27
	IF4	C160: Primary School 2FE at Land East of Oxford Road	0	3	4	7	1	15	16	31
	IF4	C161: Additional permanent accommodation at Edward Field Primary School	0	3	3	7	1	14	16	30
	IF4	C162: Primary School 3FE at Land East of the A44	-1	3	4	7	1	14	16	30
	IF4	C163: Primary School 2FE at Land East of the A44	0	3	4	7	1	15	16	31
	IF4	C164: Enhancements to William Fletcher Primary School including additional playing field land and expansion by 0.5 FE	0	5	3	7	1	16	16	32
	IF4	C165: Secondary school (1100- place) at Land East of the A44	-1	5	5	8	1	18	16	34

OxIS Rural Community	Type	Scheme	Needs Based Appraisal						Agreed Future Housing & Employment Alignment	Overall Score
			Environment	Health	Place Shaping	Productivity	Connectivity	Total Needs		
	IF7	C231: Nature conservation area incorporating community orchard and with potential to link to and extend Stratfield Brake DWS	5	6	4	3	0	18	9	27
	IF7	C234: Nature conservation area on land to the east of the railway line and north of Sandy Lane	5	6	4	4	0	19	12	31
	IF7	C236: New community woodland to the east of Dolton Lane	5	6	4	4	0	19	12	31
	IF7	C250: Local Nature Reserve based on Rowel Brook at Land East of the A44	5	6	4	4	0	19	12	31
	IF7	C216: Measures for the protection and enhancement of the Oxford Canal corridor and towpath including habitat restoration	4	5	3	4	1	17	12	29
	IF7	C235: Local Nature Reserve at Land West of Yarnton	4	4	2	4	0	14	12	26
	IF7	C251: Local Nature Reserve on Frogwelldown Lane	4	4	2	4	0	14	12	26
	IF9	WO167: Outdoor floodlit training area and/or ATP, Woodstock	0	6	4	3	0	13	9	22
	IF9	C275: Development of Kidlington Leisure Centre, including focus on additional learner pool provision	0	6	4	3	0	13	9	22
	IF9	C292: Formal sport pitches provision at Land South East of Kidlington	0	5	4	4	0	13	12	25
	IF9	C293: Sports hall at new Secondary School for shared community use	0	5	4	4	0	13	12	25
	IF9	C294: Additional swimming pool space by replacement pool of 25m x 6 lane pool plus teaching pool at Kidlington and Gosford Leisure Centre	0	6	4	4	0	14	12	26
	IF9	C291: Converting existing Hockey AGP at Kidlington and Gosford Leisure Centre to 3G	0	5	4	4	0	13	12	25
	IF10	WO176: Relocation of GP practices in Woodstock	0	5	2	4	0	11	12	23
	IF10	C311: New or expanded GP premises in Kidlington area	0	5	2	5	0	12	16	28
15. Upper Heyford	IF4	C159: Expansion of Heyford Park School plus equivalent of a new 1 - 1.5 FE primary school	0	3	5	7	1	16	12	28
16. Faringdon & Shrivenham	IF2	VoWH25: Signalised Junction Improvements at the A420 / Cowell Road Junction	0	1	1	4	2	8	10	18
	IF4	VoWH74: New Primary School facilities on Land south of Park Road, Faringdon	0	3	4	8	1	16	10	26
	IF4	VoWH75: 1FE primary school at North Shrivenham	0	3	4	6	1	14	10	24
	IF10	VoWH187: Expansion of Faringdon GP Surgery	0	5	2	4	0	11	6	17
17. Bayswater Brook	IF4	SO111: New 1.5 FE Primary School at Bayswater Brook site (including early years)	0	4	6	8	1	19	10	29
	IF10	SO214: Expansion / reconfiguration of Morland House Surgery	0	5	2	4	0	11	10	21

7. OxIS Stage 1 Scheme Funding & Deliverability

Based on our collation of Strategic Infrastructure Schemes, to date, there is set to be a considerable funding gap, in OxIS Stage 1 to 2040. However, Identifying and prioritising strategic infrastructure requirements is just part of the challenge, with the securing of adequate funding often providing the greatest risk to its delivery.

This section will cover some of the traditional routes to funding, an update on the funding opportunities identified in OxIS-17 and highlight emerging and new funding opportunities available for OxIS Stage 1. COVID-19 has significantly restricted the revenue streams available within the public sector, and within this report alternative opportunities available to the public sector have been identified to generate revenues that could contribute to the capital funding requirement.

This section covers the current, known and emerging funding opportunities, however in the period to 2040 it must be acknowledged that both the resulting impact of COVID-19 and the increased political pressure to reach Net Zero by 2050 are known factors that will impact funding opportunities. Further to this, the requirement for resilience and diversity of funding opportunities continues to be of value to reduce risk.

7.1. The Funding Gap

The total cost of the infrastructure schemes included within OxIS Stage 1 for appraisal to 2040 is £10.1 billion. Known funding for these projects currently stands at £77 million, with a further £2.9bn anticipated to be met by the private sector, resulting in a funding requirement of £6.4 billion.

It is recognised that the strategic infrastructure schemes included within OxIS are reflective of the infrastructure types that are the responsibility of the key stakeholders and providers for Oxfordshire, and as such the funding requirement does not reflect the significant private sector funding that will be made in some sectors such as for energy and digital infrastructure. Even within the sectors that the county will provide infrastructure, the source of funding for some of these infrastructure projects will come from the private sector where there is a commercial opportunity.

It should also be noted that the funding requirements and gaps identified in this report are reflective of the infrastructure schemes that have been available to be assessed for OxIS Stage 1, and that where further infrastructure schemes are developed to meet needs gaps, additional funding will be required.

Known funding figures have only been included in the summary where they are certain, and as such, there are potential, unallocated, funding pots that could also contribute to these infrastructure projects that have not been included due to their current uncertainty, such as Section 106 funds or competitive bidding funds. For example, of the schemes assessed in OxIS Stage 1 to 2040, 44% of the infrastructure schemes have noted an expectation to be funded, or part-funded through Section 106 or Community Infrastructure Levy funds.

Further to this, funding policy and opportunities have been constantly transforming over the last year as the country adapts to COVID-19 and reacting to the wider impact on society and business, looking to strengthen the economy through a focus on sustainable infrastructure that will increase resilience.

7.1.1. Since 2017

A key positive is that, since the publication of the previous OxIS-17, there has been the release of the UK Government's National Infrastructure Strategy (November 2020) which outlines an increase in the level of central Government funding with a particular focus on economic infrastructure, levelling up the UK and decarbonising the economy. It is hoped that this commitment will alleviate some previous funding gaps.

One of the key learnings from OxIS-17 was the ability for a well-defined infrastructure strategy and needs identification to support closing the funding gap. The OxIS Stage 1 report has aimed to address this through a demonstratable needs case for each infrastructure project as documented by the multi-criteria assessment which will support future funding applications. Funding Responsibility & Streams by Infrastructure Type

The responsibility for constructing and maintaining Oxfordshire's infrastructure falls upon a diverse group of public and private bodies, supported by a diverse array of funding streams.

Infrastructure Type	Sub-Category	Responsible for Building	Current Funding Streams
IF1: Energy	IF1A: District Heating Network	OCC, Councils, private energy/heat providers	Heat Network Delivery Unit, Private operator investment
	IF1B: Energy Transmission Network	National Grid, SSEN	Private energy provider investment
	IF1C: Gas Distribution Network	National Grid, SGN	Private energy provider investment
IF2: Transport	IF2A: Active Travel	OCC, Councils	Local authority, DfT, OxLEP
	IF2B: Bus, Coach & Rapid Transit	Bus companies	Customer fares
	IF2C: Rail	Network Rail	Allocated funding under Control P6
	IF2D: Road	National Highways, OCC	National Highways, local authority, DfT
	IF2E: Traffic Management	OCC, Councils	Local authority
	IF2F: Electric or Hydrogen Vehicle Charging Infrastructure	OCC, Private Companies, Social Enterprises	Local authority, private investment
	IF2G: Aviation	Private companies	Private investment.
IF3: Flood Alleviation	IF3A: Flood Alleviation	OCC, Environment Agency, District Councils	UK Government , Thames Water
	IF3B: Sustainable Drainage	OCC, Environment Agency, Thames Water	UK Government, Thames Water
IF4: Education	IF4A: Early Years Education Facilities	OCC, private providers	DfE/ESFA, private investment
	IF4B: Primary Schools	OCC, private schools	
	IF4C: Secondary Schools	OCC, private schools	
	IF4D: Higher Education Facilities	OCC, colleges, private schools	
	IF4E: Special Education Needs Schools	OCC, private schools	
IF5: Digital Connectivity	IF5A: Superfast Broadband Network	OCC, Councils, private operators	UK Government, private investment
	IF5B: Cellular Towers & Networks	Private operators	
IF6: Innovation	IF6A: Innovation Hubs / Labs	Private & social enterprises, universities	Local authority, private investment
IF7: Green & Blue Infrastructure	IF7A: Green Infrastructure	OCC, Councils, Environment Agency, Private Landowners, other LAs, Water Utilities, NGO's.	Local authority, Environment Agency, Water Utilities, Private Investment, Competitive/Grant Funding
	IF7B: Blue Infrastructure		
IF8: Community & Cultural	IF8A: Museums, Tourist Attractions & Public Art	OCC, Councils, private companies	Local authority, private investment
	IF8B: Cemeteries & Crematoriums	OCC, Councils, Religious organisations	Local authority, religious organisations
	IF8C: Points of Interest	OCC, Councils, private companies	Local authority, private investment
	IF8D: Large Community Hubs	OCC, Councils	Local authority
IF9: Sport & Leisure	IF9A: Indoor Sport Facilities	OCC, Councils, private companies	Local authority, private investment
	IF9B: Outdoor Sport Facilities		
IF10: Primary Healthcare & Adult Social Care	IF10A: Health Centres	OCCG, NHS Hospital Trusts, NHS England, NHS Property Services, Community Health Partnerships	NHS England, competitive funds
	IF10B: Community Hospitals	OCC, private providers	
IF11: Waste & Recycling	IF11A: Waste Processing Facilities	OCC, District Councils	Local authority, private investment
IF12: Water Supply	IF12A: Wastewater Treatment Plants	Thames Water	OFWAT (Customer charges)
	IF12B: Potable Water Supply		
IF13: Emergency Services	IF13A: Fire Stations	Oxfordshire Fire & Rescue Services	Central Government, council tax allocation
	IF13B: Police Stations	Thames Valley Police	
	IF13C: Ambulance Depots	South Central Ambulance Service NHS Trust	NHS England

7.2. New & Emerging Funding Streams

The below fifteen funding sources (see Section 8.4 of the OxIS Stage 1 Technical Report) provide a breadth (community, productivity, land, homes, environmental, transport & innovation) of additional opportunities to fund new infrastructure.

UK Infrastructure Bank	The Community Ownership Fund	Future High Streets Fund	Getting Building Fund	Green Recovery Challenge Fund
National Home Building Fund	The Levelling Up Fund	Brownfield Land Release Fund	National Home Building Fund	Zero Emission Bus Regional Areas Scheme
Bus Back Better	Other Innovation Funding	UK Shared Propensity Fund	Green Homes Grant	Home Upgrade Grant

Borrowing opportunities are also outlined in the OxIS Stage 1 Technical Report including Bonds, Public Works Loan Board, tax increment financing and business rate retention schemes.

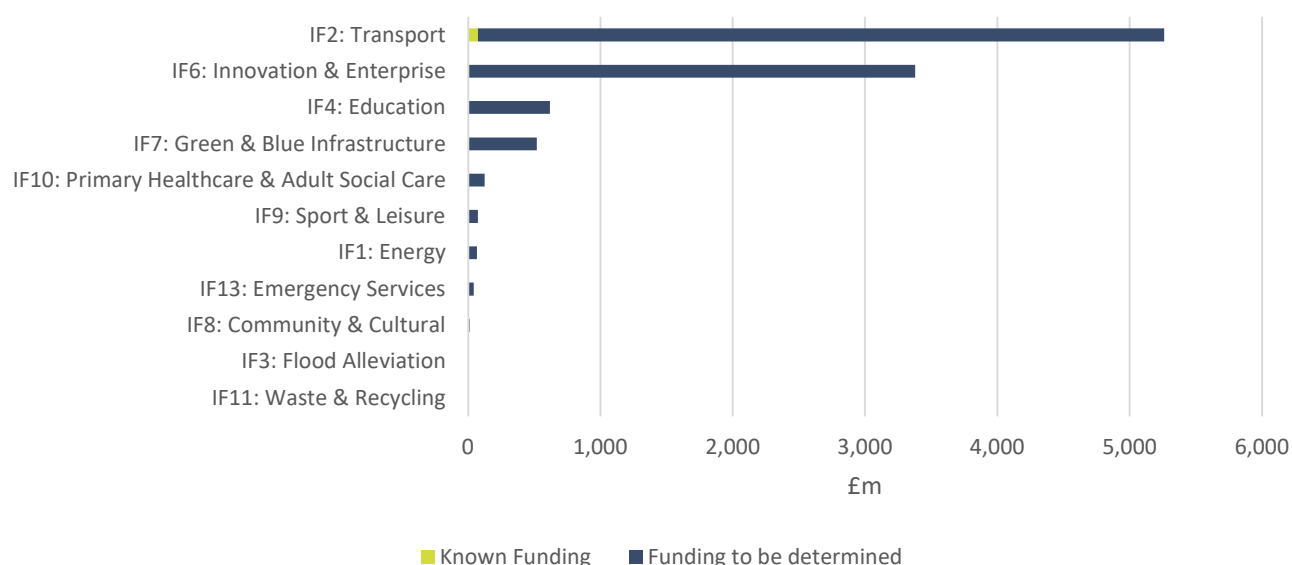
7.3. Current Scheme Funding

The funding gap has been broken down by infrastructure type outlining the significant funding gap in relation to Transport, Innovation & Enterprise and Education.

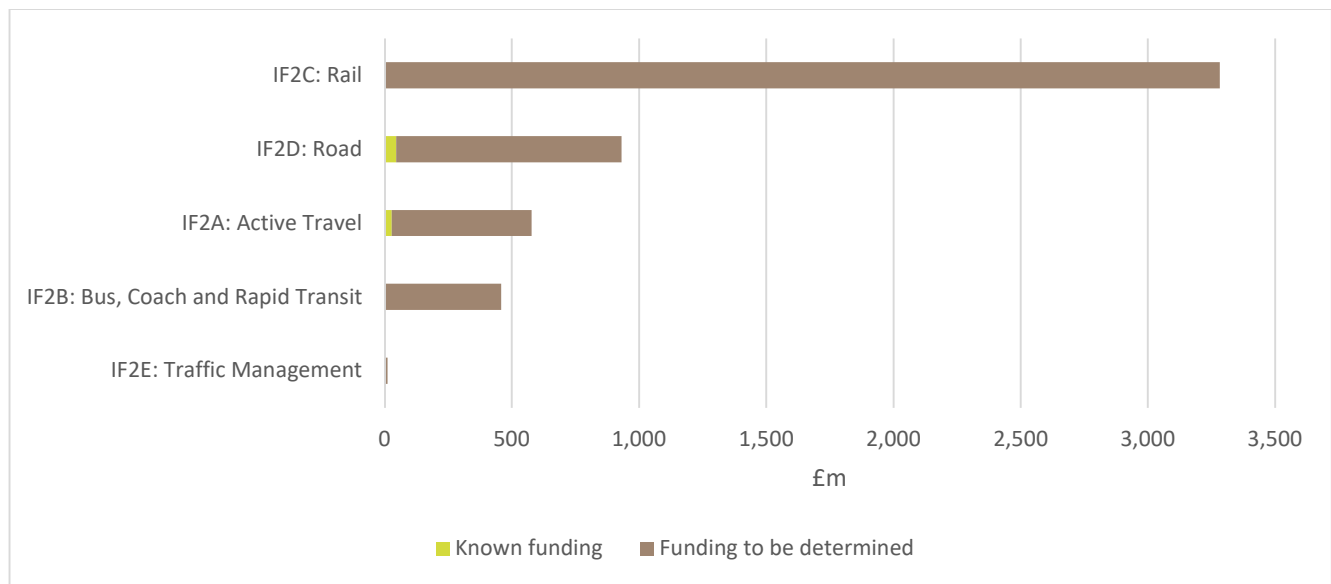
In some areas of infrastructure, such as Energy and Digital, the development of schemes is fully managed by the private sector. Where this is the case, it can obscure the visibility of both the funding need and the funding commitment. The result of this is that, in some cases funding for specific infrastructure will appear low if considered without the wider context. A good example of this is Digital – there is an expectation that full fibre in urban areas will be fully funded commercially by the private sector.

Innovation & Enterprise shows a public sector funding gap of just 14% (£475m), the remaining funding requirement has been designated as private sector funding. The security of the private sector contributions has not been assessed and it therefore not yet guaranteed. This level of private sector and commercial investment is not reflected in other infrastructure types due to commercial sensitivities.

Commercial sensitivities also limit the degree to which schemes have been listed. The below therefore shows no funding need for IF5 and no funding committed. This is clearly not the case.



As shown below, rail represents the largest funding requirement for transport infrastructure schemes, hence rail representing half of the 10 largest schemes. Transport funding will primarily be sourced from Central Government and the DfT. DfT Capital expenditure for the South East (incorporating Oxfordshire) has averaged £2.1bn per annum over 2015-2019. In the year 2019/20 this expenditure increased by 31% to £3bn.



The 10 largest schemes appraised in OxlS make up 63% of the funding requirement. These schemes are Transport (mostly rail) and Innovation & Enterprise.

Scheme	Infrastructure Type	Total Cost Estimate	Private Sector Estimate	Public Sector Estimate
OIP20: West's End Global Innovation District	IF6A: Innovation Hubs / Labs	£1.53bn	£1.48bn	£46m
ORC6: Grade Separation of Didcot East Rail Junction	IF2C: Rail	£1.3bn		£1.6bn
OIP8: Locate Oxford Global Innovation Campus	IF6A: Innovation Hubs / Labs	£1.3bn	£1.2bn	£90m
ORC1: Oxford Station Additional Through Platform & Associated Line Capacity Upgrades	IF2C: Rail	£675m		£675m
VoWH106: Restoration of the Wilts and Berks Canal from Melksham to Swindon, Wantage/Grove and Abingdon	IF7A: Green Infrastructure	£500m		£500m
ORC14: Grove – rail line loop extension and additional crossovers	IF2C: Rail	£304m		£304m
OIP1: The Energy Systems Accelerator	IF6A: Innovation Hubs / Labs	£172m	£76m	£96m
OC31: Eastern Bypass A423 / A3133 Kennington to Cowley Bus Priority Improvement Scheme	IF2D: Road	£158m		£158m
ORC15: Oxford North Rail Junction – additional line bypassing junction on Up side	IF2C: Rail	£142m		£142m
ORC8: Didcot Goods Line upgrade & line extension to Milton Junction	IF2C: Rail	£140m		£140m

Of the schemes assessed, 44% of the schemes expect to derive some, or all, of their funding from developer contributions (Either Section 106 or Community Infrastructure Levy, see Section 8.3 of the Technical Report). However, in real terms, this represents just 15% of the funding requirement with the total cost of these

schemes totalling £1.5bn. As at 31/03/2020, Oxfordshire released a Section 106 Infrastructure Funding Statement identifying secured funding totalling £257m (OCC, 2020). Community Infrastructure Levy charges remain with the district councils, as at 31/03/2020 only three of the five district councils had formally adopted Community Infrastructure Levy policies, and the summary of their funds is provided in the OxIS Stage 1 Technical Report.

7.4. Funding Summary

Whilst this analysis highlights the funding gaps for known infrastructure schemes, the below looks to provide an indication of funding availability where there are scheme deficits across the core OxIS Infrastructure Types.

An example of this will be for Environmental Schemes, where there have been insufficient schemes proposed to meet the needs of Oxfordshire to 2040, but where specific funding is available to meet that criteria have been identified, for many infrastructure types. Using this knowledge, schemes can be built and proposed that can target the funding opportunity whilst addressing the needs of the county.

	IF1: Energy	IF2: Transport	IF3: Flood Alleviation	IF4: Education	IF5: Digital	IF6: Innovation	IF7: Green & Blue	IF8: Cultural	IF9: Sport and Leisure	IF10: Healthcare	IF11: Waste and recycling	IF12: Water and Wastewater	IF13: Emergency Services
Basic Need Central Government Grant Scheme				✓									
Priority School Building Programme				✓									
Section 106 agreements		✓		✓				✓	✓	✓			
Community Infrastructure Levy		✓		✓				✓	✓	✓			
Health Infrastructure Plan 3										✓			
UK Infrastructure bank	✓	✓					✓						
Innovation funding	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
The Community Ownership Fund						✓		✓	✓				
Future High Streets Fund		✓				✓		✓					
Getting Building Fund	✓				✓	✓		✓					
Green Recovery Challenge							✓	✓					
The Levelling Up Fund		✓			✓	✓		✓					
Brownfield Land Release Fund						✓							
Home Building Fund						✓							
UK Shared Prosperity Fund		✓		✓	✓	✓	✓	✓	✓				
Zero Emission Bus Regional Areas Scheme		✓											
Landscape Recovery							✓						
National Lottery Community Fund	✓	✓	✓	✓		✓	✓	✓	✓	✓			
DfT Rail Network Enhancements		✓											
Bonds	✓			✓	✓	✓		✓	✓	✓			✓
Public Works Loans Board	✓			✓	✓	✓		✓	✓	✓			✓
Tax Increment Financing	✓			✓	✓	✓		✓	✓	✓			✓
Business Rate Retention	✓			✓	✓	✓		✓	✓	✓			✓
Propensity for Private Sector Funding	✓				✓	✓		✓	✓		✓	✓	

8. Conclusions

As outlined throughout this OxIS Stage 1 Report, Oxfordshire has many needs to be addressed by strategic infrastructure, over the period to 2040. Although there are many schemes identified from a variety of sources (e.g. District IDPs & Funding Statements, District Local Plans, Oxfordshire Local Transport Plan 4 (Area & Corridor Strategies), Oxford Local Cycling & Walking Infrastructure Plan, Oxfordshire Rail Corridor Study, Thames Water Resource Management Plan, Oxfordshire Investment Plan, OCCG Primary Care Estates Strategy), there are many needs not addressed.

This is particularly relevant for the Environment Need, where many of the IDPs (for example) were developed prior to each Councils' declaration of a Climate Emergency.

Although similar to OxIS-17, there remains a funding gap, as outlined within Section 8 of the OxIS Stage 1 Technical Report, there are a number of avenues to address this. The gap is not as stark as in 2017.

Additionally, the OxIS needs have been specifically aligned with central government policy to ensure access to key funding opportunities. This is notwithstanding of the private sectors role in supporting delivery of strategic infrastructure in some sectors (e.g. Energy and Digital).

8.1. Next Steps on OxIS Stage 2 to 2050

This Report will be followed by an **OxIS Stage 2 Report**, which plans to:

- Consider strategic infrastructure required to meet Oxfordshire's needs to 2050
- Form a core part of the evidence base underpinning the Oxfordshire Plan 2050
- Align with Regulation 19 of the Oxfordshire Plan 2050 consultation
- Apply a broadly similar appraisal approach adopted in the Stage 1 Report
- Identify and rank new strategic infrastructure requirements emerging from potential areas for future housing and employment identified in the Oxfordshire Plan 2050
- Reflect outcomes of the Oxfordshire Plan 2050 consultation process