



Oxfordshire
Infrastructure
Strategy (OxIS)
*Stage 1 (2021-2040)-
Technical Report*



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endless possibilities

Date issued: 22/12/2021

Document status: Final

Version number: 1.1

Document history:

Author	Version	Change reference
Elliot Reid	0.1	<ul style="list-style-type: none"> • First Draft (Chapters 1-4)
Elliot Reid	0.2	<ul style="list-style-type: none"> • Working Draft (Chapters 5 – 9) • Updates to Chapter 3 • Draft (Partial) Executive Summary
Elliot Reid	0.3	<ul style="list-style-type: none"> • First Full Draft • Incorporates Client Comments • Includes Schemes
Jo Muncaster	0.4	<ul style="list-style-type: none"> • Amendments for Infrastructure Advisory Board
Elliot Reid	1.0	<ul style="list-style-type: none"> • Amendments to address stakeholder comments • Addition of bibliography • Scheme update
Elliot Reid & Jo Muncaster	1.1	<ul style="list-style-type: none"> • Amendments post public consultation

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1 Introduction

Chapter at a Glance

This chapter provides the background and purpose of this Stage 1 Report (2021 to 2040), as well as an outline of the key stakeholders and context of the previous work. It outlines the scope, themes and structure of this Report and the corresponding strategy. The OxIS Stage 2 Report will cover the remaining forecast (2040 to 2050).

1.1 Background

City Science has been commissioned on behalf of the Future Oxfordshire Partnership (formerly Oxfordshire Growth Board) to produce an updated and ‘needs-based’ Oxfordshire Infrastructure Strategy (OxIS). **This OxIS Stage 1 Report** provides a strategic framework for Oxfordshire County Council (OCC) Oxfordshire’s five City and District Councils and key strategic partners to establish infrastructure investment priorities as well as potential delivery and funding opportunities to **2040**.

Oxfordshire’s five City and District Councils are:

- Vale of White Horse District Council
- West Oxfordshire District Council
- Cherwell District Council
- Oxford City Council (Oxford City)
- South Oxfordshire District Council

Future Oxfordshire Partnership (formerly Oxfordshire Growth Board)

The Partnership is a joint committee of the OCC and Oxfordshire’s five City and District Councils, together with key strategic partners - Environment Agency, Homes England, NHS Oxfordshire Clinical Commissioning Group (OCCG), Oxford Brookes University, University of Oxford, and Oxfordshire Local Enterprise Partnership (OxLEP). The Partnership coordinates local efforts to manage growth in an inclusive way. This is alongside the aims to maximise social and environmental benefits, and support measures which meet the UK Government’s obligation to achieve net zero carbon by 2050.

This Stage 1 Report will be followed by an **OxIS Stage 2 Report** (aligning with Regulation 19 of the Oxfordshire Plan 2050 consultation) which 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 housing and employment growth could occur to 2050 and which will underpin the next iteration of Oxfordshire’s District Local Plans.

1.1.1 Purpose of OxIS

OxIS aims to:

- Set out the priority strategic infrastructure investment needed to good growth as defined in the Oxfordshire Strategic Vision and aligned to the emerging OxIS Themes (see Section 1.3)
- 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 (see Section 3.1.2.3)
- Provide an investment prioritisation that can be applied as relevant funding sources become available

Intended Audiences

As well as the Future Oxfordshire Partnership, OxIS is intended for the following audiences:

- Oxfordshire residents
- Transport infrastructure providers and operators
- Town and parish councils
- NHS OCCG and other healthcare service providers
- OxLEP, wider business groups and developers
- Education providers (including public and independent schools)
- The voluntary and community sector
- Environmental & UK Government Bodies
- Utility providers (including energy, water, and telecommunications)

1.1.2 Context - Previous OxIS (2017)

The previous OxIS was approved by the Oxfordshire Growth Board (now the Future Oxfordshire Partnership) in November 2017 and built an evidence base of the core projects and investment deemed necessary to support the known Oxfordshire housing and employment growth identified within the various Local Plans. This was used as the basis to secure funding through Housing & Infrastructure Fund applications and the Growth Deal.

The previous OxIS (Oxfordshire Growth Board, 2017) was comprised of two parts to 2040:

- **Stage 1 (April 2017):** A technical phase including the mapping of applicable baseline data and planned or required infrastructure to meet projected growth demands from 2016 to 2031, and beyond to 2040
- **Stage 2 (November 2017):** Appraisal and prioritisation of infrastructure schemes using a multi-criteria assessment tool, based on feedback obtained from a public and stakeholder engagement process

The requirement to update the previous OxIS to 2050, is primarily driven by:

- The commitments associated with the Oxfordshire Housing & Growth Deal, which brings £215 million of UK Government investment to the County for new homes and infrastructure (MHCLG, 2018). As part of this, all Oxfordshire local authorities have committed to producing a joint strategy to 2050 – known as the Oxfordshire Plan 2050. Together these realign the future growth trajectory for the County
- A re-orientation of the Future Oxfordshire Partnership’s (formerly the Growth Board’s) strategic priorities to reflect emerging local policy and ensure that growth and infrastructure is delivered in a way that addresses Oxfordshire’s future needs in a clean, healthy, sustainable, and inclusive way (‘needs-based approach’)

From here on, to avoid confusion, the previous OxIS from 2017 will be referred to as ‘OxIS-17’.

1.2 OxIS Stage 1 Scope

This deliverable constitutes the **OxIS Stage 1 Report**. It includes a refresh of the evidence base and a re-prioritisation of strategic infrastructure schemes to **2040**, which is aligned where possible with the current forecasts of District Local Plans. However, the Infrastructure Delivery Plans (IDPs) vary in detail and their timescales range from 2031 to 2036.

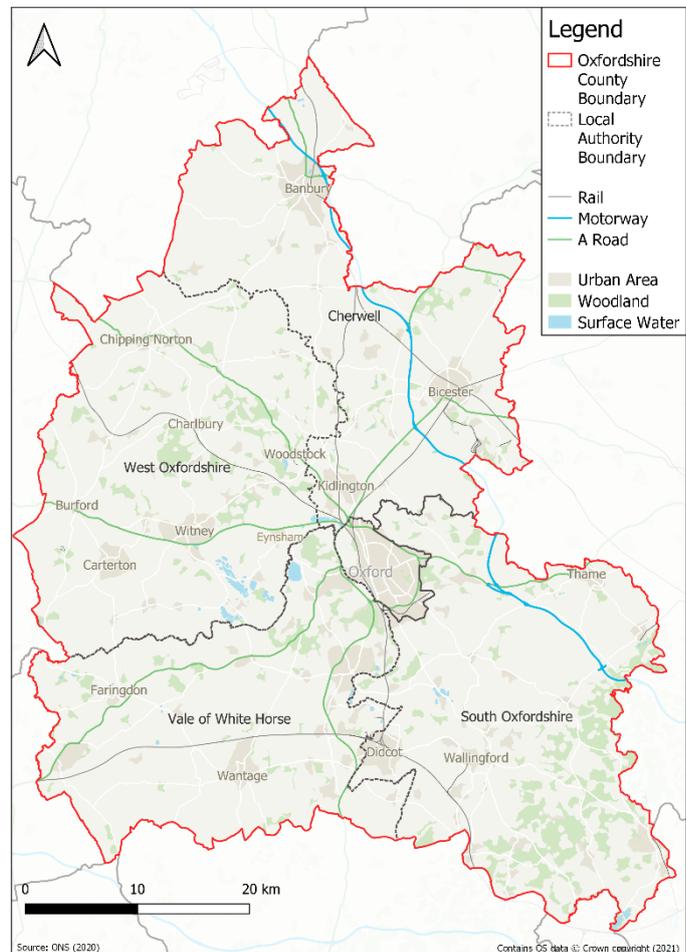
This Report also embeds a ‘needs-based approach’ to the multi-criteria appraisal aligned to the five OxIS Themes (see Section 1.3) of:

- Environment
- Health
- Place-Shaping
- Productivity
- Connectivity

This Stage 1 Report then identifies and appraises strategic infrastructure schemes identified within existing strategy documents including the Districts’ IDPs and Local Plans as well as wider sources, such as those produced by OxLEP, OCC and utility providers directly.

1.2.1 Geographical

As shown in Figure 1-1, the geographical scope of OxIS encompasses all five District Councils of Oxfordshire. Consideration is also given to the context of infrastructure and its interaction on a regional and sub-national scale, particularly in relation to transport and utilities connectivity as well as regional economic productivity.



1.2.2 Strategic Infrastructure Schemes

OxIS seeks to establish a consensus, at a County and District level, on strategic infrastructure schemes which support opportunities to facilitate strategic funding. It also seeks to support, but not replicate each District's IDP. For inclusion as a strategic infrastructure scheme within OxIS, all identified schemes have been subject to a robust three-stage sifting, grouping and filtering process to qualify infrastructure. The schemes are also divided into 13 infrastructure types (see Section 1.3.1):

- IF1: Energy
- IF2: Transport
- IF3: Flood Alleviation
- IF4: Education
- IF5: Digital
- IF6: Innovation
- IF7: Green & Blue
- IF8: Community & Cultural
- IF9: Sport & Leisure
- IF10: Health & Adult Social Care
- IF11: Waste & Recycling
- IF12: Potable Water Supply & Wastewater
- IF13: Emergency Services

It is recognised that there is no clear existing definition identified within national or local guidance over what makes infrastructure 'strategic'. Within OxIS a broad definition has been applied which recognises key stakeholder's views to capture not only schemes with a significant geographical coverage, scale or capital cost but also smaller scale schemes which remain strategically critical to the creation of successful places.

Due to the longer-term horizon of OxIS, only those strategic infrastructure schemes which are capital in nature and are not currently in delivery or at an advanced delivery stage are considered.

Chapter 7 of this report provides further detail on the three-stage sifting, grouping and filtering process and the multi-criteria assessment process to score the strategic infrastructure schemes.

1.3 OxIS Themes & Needs

The Future Oxfordshire Partnership (formerly Oxfordshire Growth Board), in partnership with the six Oxfordshire local authorities and 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 and the emerging Local Transport & Connectivity Plan.

The purpose of the five OxIS Themes (see Figure 1-2) is to provide a structural framework for the development of 25 outcome led and measurable needs to support sustainable, clean, healthy and inclusive growth in Oxfordshire. These 25 needs (see Chapter 5) form a core element of the infrastructure scheme multi-criteria appraisal process (see Chapter 7).

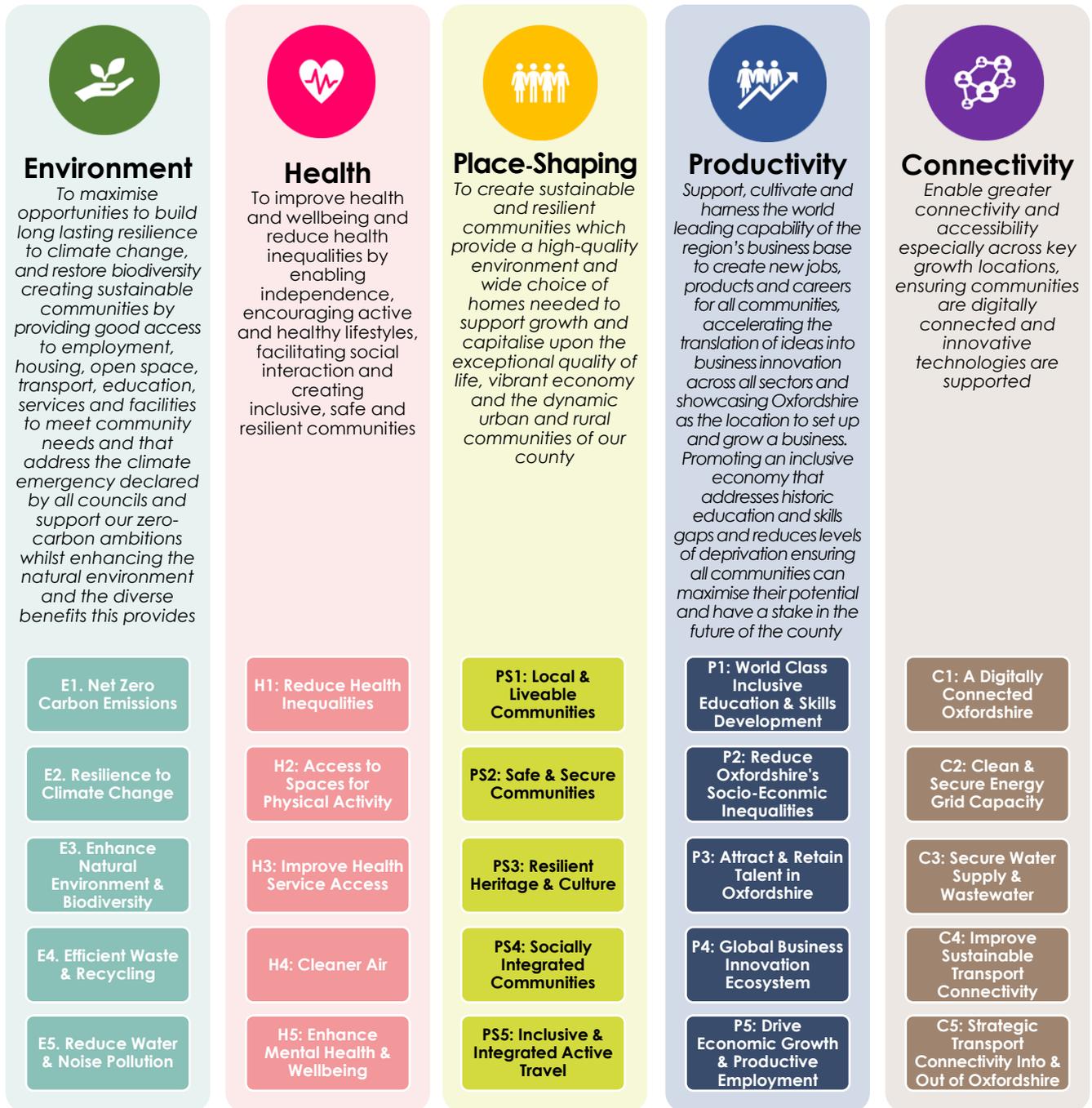


Figure 1-2: OxIS Themes & Needs

1.3.1 Infrastructure Types

Future needs to 2040 relating to the infrastructure types are considered within relevant sections of the needs-based assessment organised by OxIS Themes in Chapter 5 (see Table 1-1).

Infrastructure Type	Baseline Context	Future Needs to 2040
 IF1: Energy	Section 4.2	<ul style="list-style-type: none"> ✓ E1: Net Zero Carbon Emissions (see Section 5.2.1) ✓ C2: Clean Energy Supply Grid Capacity & Connectivity (see Section 5.6.1.4) ✓ C4: Improve Sustainable Transport Connectivity Across Oxfordshire (see Section 5.6.4)
 IF2: Transport	Section 4.3	<ul style="list-style-type: none"> ✓ E1: Net Zero Carbon Emissions (see Section 5.2.1) ✓ E5: Reduce Water & Noise Pollution (see Section 5.2.5) ✓ H1: Reduce Health Inequalities (see Section 5.3.1) ✓ H2: Access to Spaces for Physical Activity (see Section 5.3.2) ✓ H4: Cleaner Air (see Section 5.3.4) ✓ PS1: Local & Liveable Communities (see Section 5.4.1) ✓ PS2: Safer & Secure Communities (see Section 5.4.1.3) ✓ PS5: Inclusive & Integrated Active Travel (see Section 5.4.5) ✓ P5: Drive Economic Growth & Productive Employment (see Section 5.5.5) ✓ C4: Improve Sustainable Transport Connectivity Across Oxfordshire (see Section 5.6.4) ✓ C5: Strategic Transport Connectivity into & out of Oxfordshire (see Section 5.6.5)
 IF3: Flood Alleviation	Section 4.3	<ul style="list-style-type: none"> ✓ E2: Resilience to Climate Change (see Section 5.2.2)
 IF4: Education	Section 4.5	<ul style="list-style-type: none"> ✓ PS1: Local & Liveable Communities (see Section 5.4.1) ✓ P1: World Class Inclusive Education & Skills Development (see Section 5.5.1) ✓ P2: Reduce Oxfordshire’s Socio-Economic Inequalities (see Section 5.5.2)
 IF5: Digital	Section 4.6	<ul style="list-style-type: none"> ✓ C1: A Digitally Connected Oxfordshire (see Section 5.6.1)
 IF6: Innovation	Section 4.7	<ul style="list-style-type: none"> ✓ P1: World Class Inclusive Education & Skills Development (see Section 5.5.1) ✓ P3: Attract and Retain Talent in Oxfordshire (see Section 5.5.3) ✓ P4: Build a Global Business Innovation Ecosystem (see Section 5.5.4) ✓ P5: Drive Economic growth & Productive Employment (see Section 5.5.5)

Infrastructure Type	Baseline Context	Future Needs to 2040
 IF7: Green & Blue	Section 4.8	<ul style="list-style-type: none"> ✓ E1: Net Zero Carbon Emissions (see Section 5.2.1) ✓ E2: Resilience to Climate Change (see Section 5.2.2) ✓ E3: Enhance Natural Environment & Biodiversity (see Section 5.2.3) ✓ E5: Reduce Water & Noise Pollution (see Section 5.2.5) ✓ H1: Reduce Health Inequalities (see Section 5.3.1) ✓ H2: Access to Spaces for Physical Activity (see Section 5.3.2) ✓ H4: Cleaner Air (see Section 5.3.4) ✓ H5: Enhance Mental Health & Wellbeing (see Section 5.3.5) ✓ PS1: Local & Liveable Communities (see Section 5.4.1) ✓ PS4: Socially Integrated Places (see Section 5.4.4) ✓ C3: Secure Water Supply & Wastewater (see Section 5.6.3)
 IF8: Community & Cultural	Section 4.9	<ul style="list-style-type: none"> ✓ H5: Enhance Mental Health & Wellbeing (see Section 5.3.5) ✓ PS1: Local & Liveable Communities (see Section 5.4.1) ✓ PS3: Resilient Culture & Heritage (see Section 5.4.3) ✓ PS4: Socially Integrated Communities (see Section 5.4.4)
 IF9: Sport & Leisure	Section 4.10	<ul style="list-style-type: none"> ✓ H1: Reduce Health Inequalities (see Section 5.3.1) ✓ H2: Access to Spaces for Physical Activity (see Section 5.3.2) ✓ H5: Enhance Mental Health & Wellbeing (see Section 5.3.5) ✓ PS1: Local & Liveable Communities (see Section 5.4.1) ✓ PS4: Socially Integrated Communities (see Section 5.4.4)
 IF10: Health & Adult Social Care	Section 4.11	<ul style="list-style-type: none"> ✓ H1: Reduce Health Inequality (see Section 5.3.1) ✓ H3: Improve Health Service Access (see Section 5.3.3) ✓ H5: Enhance Mental Health & Wellbeing (see Section 5.3.5) ✓ PS1: Local & Liveable Communities (see Section 5.4.1) ✓ P2: Reduce Oxfordshire’s Socio-Economic Inequalities (see Section 5.5.2)
 IF11: Waste & Recycling	Section 4.12	<ul style="list-style-type: none"> ✓ E1: Net Zero Carbon Emissions (see Section 5.2.1) ✓ E4: Efficient Waste & Recycling (see Section 5.2.4)
 IF12: Potable Water Supply & Waste Water	Section 4.13	<ul style="list-style-type: none"> ✓ E2: Resilience to Climate Change (see Section 5.2.2) ✓ E5: Reduce Water & Noise Pollution (see Section 5.2.5) ✓ C3: Secure Water Supply & Wastewater (see Section 5.6.3)
 IF13: Emergency Services	Section 4.14	<ul style="list-style-type: none"> ✓ H3: Improve Health Service Access (see Section 5.3.3) ✓ PS2: Safer & Secure Communities (see Section 5.4.1.3)

Table 1-1: Infrastructure Baseline Context & 2040 Future Needs Signposting

1.4 Oxfordshire Infrastructure Planning & Delivery 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. Figure 1-3 shows this broad governance structure, including the relationship within an Oxfordshire context between the Future Oxfordshire Partnership (formerly Oxfordshire Growth Board), 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 a way that is inclusive and maximises local social and environmental benefits
- Supporting 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
- Seeking to secure funding in the pursuit of these aims

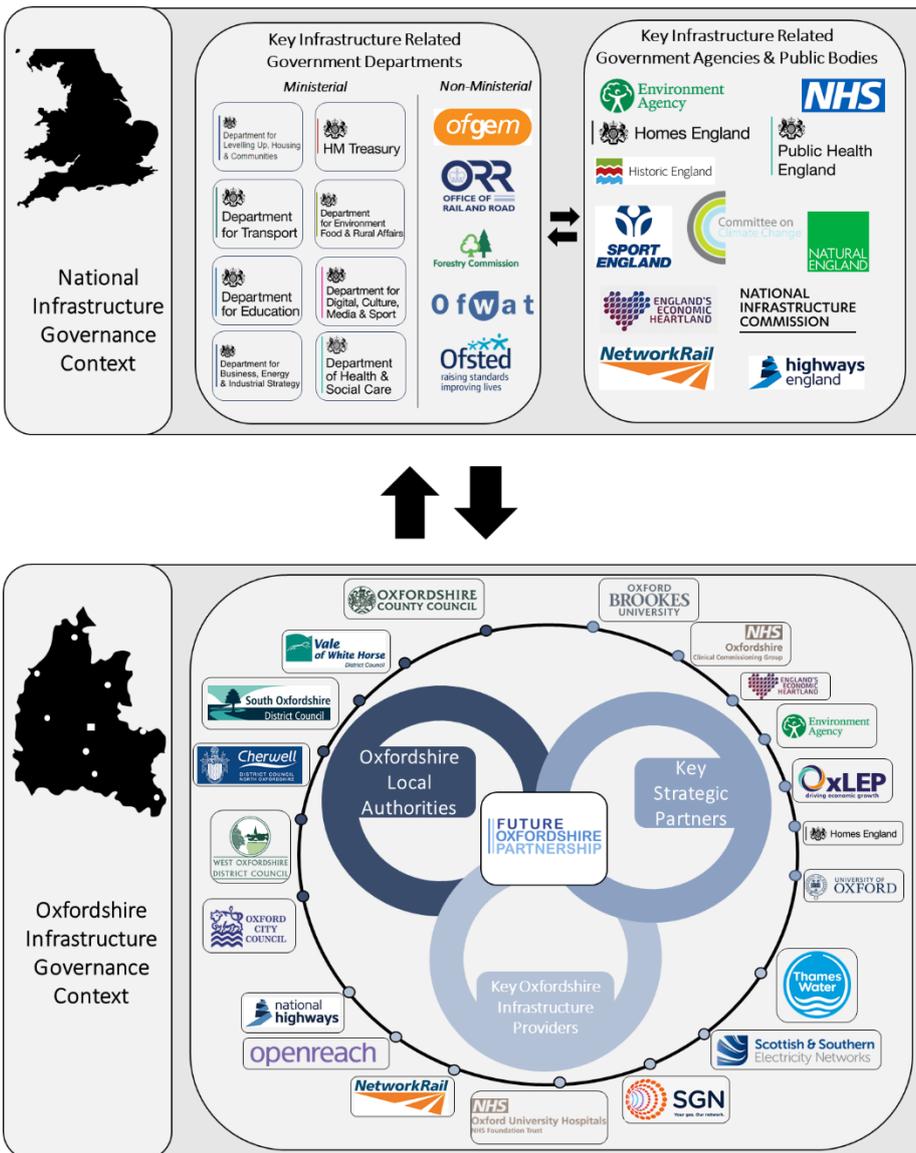


Figure 1-3: National & Oxfordshire Infrastructure Governance Context

1.4.1 Role of UK Government & Agencies

The UK Government sets out the obligatory legislative framework for infrastructure planning. This is complemented by departmental specific key national policies and strategies. National government agencies and public bodies also play a key role in the infrastructure governance, planning and delivery process. This includes bodies such as the NHS, Homes England, Network Rail, Public Health England and Forestry England.

1.4.2 Key National Policy Framework

An overview of national policies and strategies impacting the planning of infrastructure and land use, categorised by government department and OxIS Theme, are outlined in Figure 1-4.

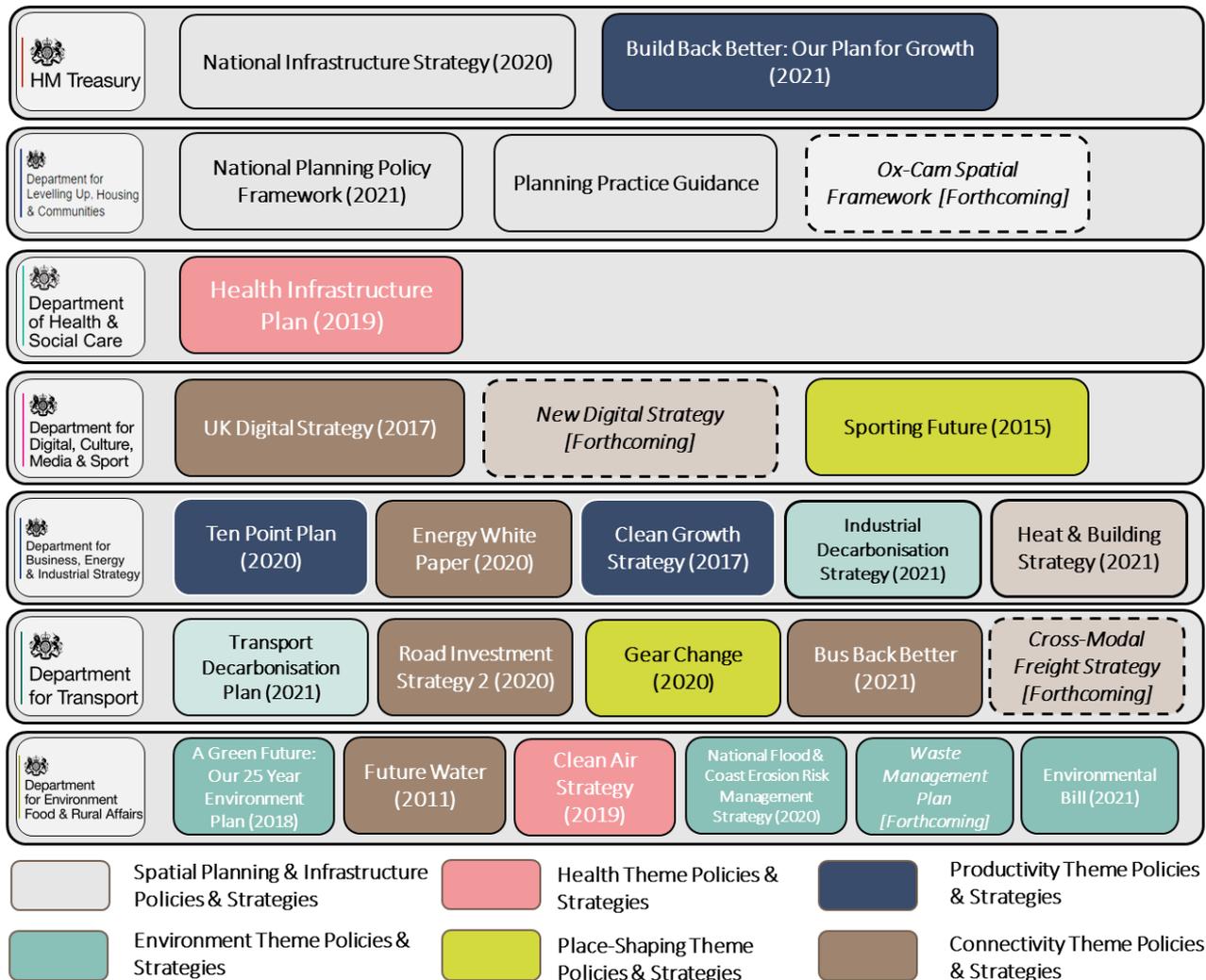


Figure 1-4: National Infrastructure Policy & Strategy Framework

1.4.3 Key National Legislation

Key legislation underpinning infrastructure planning and delivery includes:

- **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

1.4.4 Key Spatial Planning & Infrastructure Policies

1.4.4.1 *The National Infrastructure Strategy 2020:*

This provides a visionary strategy outlining the role of infrastructure in ‘levelling up’ the UK. This emphasises the need to consider infrastructure investment in a different way which considers the wider social and environmental benefits, particularly the need to achieve net zero carbon emissions by 2050, alongside the potential to stimulate economic growth.

The National Infrastructure Strategy identifies five priorities:

1. Driving recovery and rebuilding the economy
2. ‘Levelling up’ and strengthening the Union
3. Decarbonising the economy and adapting to climate change
4. Supporting private investment in infrastructure
5. Accelerating and improving delivery

These priorities are reflected within the OxIS Themes and the strategy’s ‘needs-based approach’ forms a core part of the multi-criteria appraisal methodology within OxIS.

1.4.4.2 *The National Planning Policy Framework (NPPF):*

This framework was last updated fully in July 2021. It outlines the UK Government’s planning policies and the mechanism by which they should be accounted for within Local and Strategic Land Use Plans (see Chapter 3). Paragraphs 20 to 27 of NPPF emphasise the requirement for partnership working and infrastructure providers in the preparation of infrastructure plans to ensure strategic cross-boundary matters are captured. The OxIS process has been designed to directly align with this framework and meet its requirements.

NPPF is further underpinned by a series of Planning Practice Guidance (PPG) notes which provide further multi-disciplinary technical detail on the interpretation of NPPF. Key PPG notes inform the relevant sections of Oxfordshire’s needs-based assessment (see Chapter 5).

NPPF also identifies that strategic policies should plan for a minimum of 15 years and ensure sufficient provision is made for a wide variety of infrastructure types including transport, utilities, community and green infrastructure. OxIS reflects this need for diversity of infrastructure schemes (see Chapter 6).

1.4.5 Key Health & Place-Shaping Policies & Strategies

The COVID-19 crisis has increased awareness of the role that local infrastructure, such as green space and active travel routes, can play as a preventative and proactive measure to improve people’s physical and mental health. UK Government’s overarching ambition set out within Gear Change (2020) and Clean Air Strategy (2019) encapsulates this renewed focus to increase physical activity, invest in active travel infrastructure and create healthier places.

From a health service perspective, the Health Infrastructure Plan (2019) identifies the UK Government’s infrastructure investment priorities in primary, acute, community and social healthcare provision. This includes a focus on investment in building 40 new hospitals, as well as investment in primary and community health infrastructure with the aim of reducing pressure on acute frontline acute and emergency healthcare services.

1.4.6 Key Environmental Policies & Strategies

The revision to the Climate Change Act (2008) in June 2019, to ‘ensure that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline’ (Net Zero), has catalysed the emergence of decarbonisation national policies and strategies related to infrastructure planning.

The Ten Point Plan for a Green Industrial Revolution (2020) sets the tone for many of the UK Government’s emerging strategies, through the introduction of a series of key decarbonisation measures. This includes commitments such as upscaling investment in renewable and nuclear energy infrastructure as well as banning the sale of new petrol and diesel vehicles by 2030. The key measures impacting OxIS are summarised in Table 1-2.

The forementioned emerging strategies are imminent and focused on the high-carbon emitting sectors (e.g. transport, energy and industry). This includes the recently published Transport Decarbonisation Plan, the Heat and Building Strategy and the Industrial Decarbonisation Strategy.

Ten Point Plan Core Element	Summary of Key Policy Measures Impacting OxIS
1. Advancing Offshore Wind	<ul style="list-style-type: none"> • Tripling investment in offshore wind infrastructure to produce 40GW off offshore wind by 2030
2. Driving the Growth of Low Carbon Hydrogen	<ul style="list-style-type: none"> • 5GW Hydrogen production capacity by 2030
3. Delivering New and Advanced Nuclear Power	<ul style="list-style-type: none"> • Investment in large-scale nuclear power infrastructure
4. Accelerating the Shift to Zero Emission Vehicles	<ul style="list-style-type: none"> • Ban of new petrol and diesel cars & vans sale by 2030 • Requirement for all vehicles to be zero emission by 2035
5. Green Public Transport, Cycling and Walking	<ul style="list-style-type: none"> • Doubling cycle rates by 2025 through delivery of 1,000 miles of new active travel infrastructure • Delivery of 4,000 zero emission buses • Re-opening of former rail lines
6. Jet Zero and Green Ships	<ul style="list-style-type: none"> • Contributing to design and development of zero-emission aircraft to enter service by 2030
7. Greener Buildings	<ul style="list-style-type: none"> • Implementation of future home standards so new buildings are 'zero carbon' ready • 600,000 heat pump installations by 2028 • Reduce public sector emissions by 50% by 2032 (compared to 2017 base)
8. Investing in Carbon Capture, Usage & Storage (CCUS)	<ul style="list-style-type: none"> • Establish CCUS in four industrial clusters by 2030 to capture 10 Mt of CO2 annually
9. Protecting our Natural Environment	<ul style="list-style-type: none"> • Protection of 1.5% of additional land by 2030 through new National Parks/Areas of Outstanding Natural Beauty • Delivery of 100 new nature projects by 2022 • Investment in 2,000 flood schemes by 2027
10. Green Finance and Innovation	<ul style="list-style-type: none"> • Investment in net zero innovation to unlock potential for 300,000 jobs by 2030

Table 1-2: Summary of Key Measures Impacting OxIS from Ten Point Plan for a Green Industrial Revolution (2020)

1.4.7 Key Productivity Policies & Strategies

Alongside the Ten Point Plan is the government's policy paper entitled, '*Build Back Better: our plan for growth*' (HM Treasury, 2021). This has recently replaced the UK's Industrial Strategy to reflect the Government's realigned priorities to focus on driving growth in existing, new and emerging industries.

The Build Back Better strategy focuses on three pillars of growth; namely:

- **Infrastructure:** Stimulating economic growth and productivity through investment in digital and transport infrastructure through a range of funding sources, including the newly established UK Infrastructure Bank (see Section 8.4)
- **Skills:** Aligning the development of people's skills to match the demand from employment sectors
- **Innovation:** Supporting the development of the UK's innovation business ecosystem

It identifies three key mechanisms to achieve this:

- **Levelling Up:** Regeneration of areas at the periphery of the UK economy through making funding opportunities available through the Levelling Up Fund, Transforming Cities Fund and the UK Infrastructure Bank
- **Supporting Net Zero:** Focus on growing the economy through the creation of thousands of green jobs
- **Global Britain:** Collaborate on an international scale

1.4.8 Key Connectivity Policies & Strategies

As outlined below, connectivity covers a broad range of topics from digital and energy to water and transport.

- The UK Digital Strategy (2017) currently remains the most up to date framework identifying the future direction of digital infrastructure, with relevant priorities reflected in Oxfordshire's Digital Connectivity Strategy (see Section 4.6)

- The Energy White Paper: Powering our Net Zero Future (2020) builds on the Ten Point Plan for a Green Industrial Revolution (2020) to identify initial measures to decarbonise the energy supply network. This includes further detail on nuclear power, ‘carbon capture, utilisation and storage’ and a consideration of the diversification of clean energy to consider hydrogen. There is also a specific focus on the need for a ‘just’ transition to a net zero economy
- The Water Strategy for England (2011) reflects the UK Government’s position on water supply. This prioritises the sustainable delivery of water supply, improved water quality and reduced carbon emissions from the water sector

In relation to specific transport modes:

- The Road Investment Strategy 2 (2020 – 2025) (2020) provides an indication of the UK Government’s future investment priorities on the Strategic Road Network. This includes £27.4 billion of improvements aimed at increasing road capacity as well as reduce environmental impacts
- The Transport Decarbonisation Strategy (2021), Gear Change (2020) and the recent National Bus Strategy (2021) provide an indication of the UK Government’s priorities from a sustainable transport perspective
- Additionally, an Electric Vehicle Charging Infrastructure Strategy is also planned for later in 2021

1.5 Bringing Stakeholders Along

The OxIS Stage 1 Report has been defined and shaped through a ‘needs-based approach’ and a comprehensive engagement process with key stakeholders fundamental to infrastructure delivery across Oxfordshire.

1.5.1 Internal Governance & Interaction with Future Oxfordshire Partnership (formerly Oxfordshire Growth Board)

The Stage 1 Report methodology has been shaped by a series of internal forums coordinated by the Future Oxfordshire Partnership (formerly Oxfordshire Growth Board). The key aspects of the technical methodology and approach were then refined and agreed through the hosting of a series of monthly OxIS Working Group meetings (since November 2020) at a Project Board level comprised of appointed officers from each of the six Oxfordshire local authorities alongside OxLEP.

Further input on the OxIS Stage 1 process was also obtained through wider forums (see Figure 1-5) led by executive officers including the:

- Growth Deal Programme Board
- Growth Board Executive Officer Group
- Member-led Infrastructure Advisory Sub-Group
- Oxfordshire Strategic Transport Forum

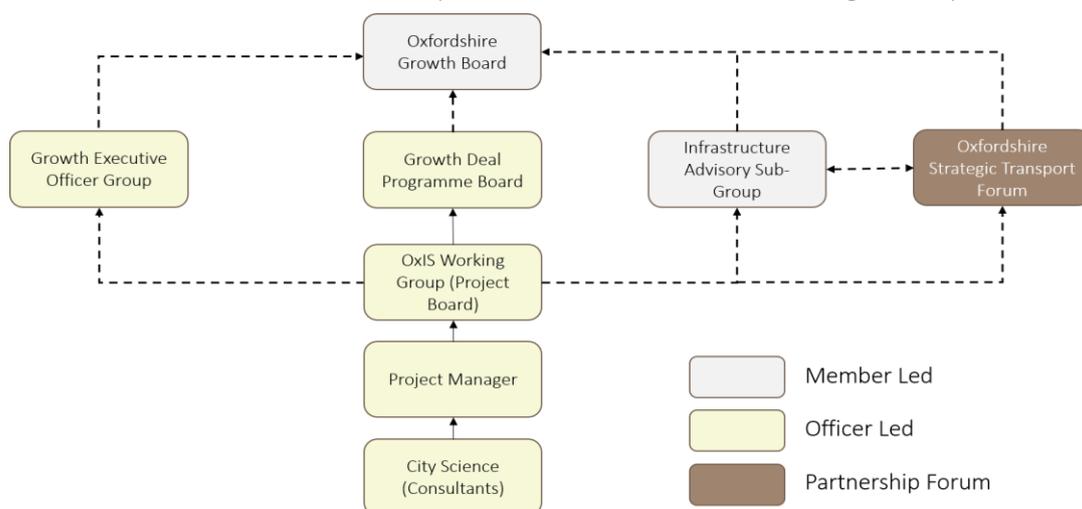


Figure 1-5: OxIS Internal Governance Organogram

1.5.2 OxIS Thematic Workshops

A series of thematic workshops and targeted engagement forums were held with key subject matter stakeholders and infrastructure providers to refine the technical detail of the approach to the OxIS Stage 1 Report. The objectives of these workshops were to:

- Refine and agree Oxfordshire’s future sub-themes (needs) to 2040 across the five OxIS Themes
- Identify and source key measurable evidential data to embed within the baseline assessment and needs-based appraisal
- Agree an overarching approach to OxIS scheme identification (where applicable)

Table provides a summary of the thematic workshops and attendees during the OxIS Stage 1 process.

OxIS Theme	Workshop Topic	Workshop Attendees	
Environment	Environment Thematic Workshop	<ul style="list-style-type: none"> • OCC & District Climate Action Teams • Environment Agency 	<ul style="list-style-type: none"> • OCC & District Natural Environment Teams • County Flooding Team
	Waste & Recycling Workshop	<ul style="list-style-type: none"> • OCC Waste Disposal Team 	<ul style="list-style-type: none"> • OCC & District Waste Collection Teams
Health	Health Thematic Workshop	<ul style="list-style-type: none"> • Oxford University Hospitals NHS Foundation Trust • Healthwatch Oxfordshire • OCC Active Travel Team • Active Oxfordshire 	<ul style="list-style-type: none"> • OCCG • OCC Healthy Place-Shaping Team • Sport England
Place-Shaping	Place-Shaping Thematic Workshop	<ul style="list-style-type: none"> • OCC Cultural & Community Services Team • Communities First Oxfordshire 	<ul style="list-style-type: none"> • OCC Community Safety Team • OCC Road Safety Team • OCC Active Travel Team • OCC Healthy Place-Shaping Team
Productivity	Productivity Thematic Workshop (Business Support)	<ul style="list-style-type: none"> • OxLEP • Business Support Agencies 	<ul style="list-style-type: none"> • OCC Economic Development Team • District Councils Economic Development Teams
	School Education Workshop	<ul style="list-style-type: none"> • OCC County School Team 	
Connectivity	Digital Connectivity Workshop	<ul style="list-style-type: none"> • OCC Digital Infrastructure & Strategy Team • Openreach 	<ul style="list-style-type: none"> • Virgin Media • Zoomm • Airband
	Energy Connectivity Workshop	<ul style="list-style-type: none"> • OCC Energy Team • Scotia / Scottish / Southern Gas Networks 	<ul style="list-style-type: none"> • Scottish & Southern Electricity Networks • Western Power Distribution
	Water Connectivity Workshop	<ul style="list-style-type: none"> • Thames Water 	
	Transport Connectivity Workshop	<ul style="list-style-type: none"> • OCC Transport Team • Stagecoach West • Network Rail • Chiltern Railways 	<ul style="list-style-type: none"> • Oxford Bus Company • Great Western Rail • Oxfordshire Strategic Transport Forum

Table 1-3: OxIS Stage 1 Thematic Workshops

1.5.3 Future Growth & IDP Workshops

Several workshops were also held with key representatives from both the Future Oxfordshire Partnership, OCC and Oxfordshire’s five City and District Councils relating to the future housing and employment growth trajectories within the Adopted Local Plans and over a longer-term horizon to 2040, to align with OxIS Stage 1 (see Chapter 3).

The purpose of these separate workshops was to in relation to each Districts’ Local Plan:

- Gain an up-to-date understanding of each Plan
- Verify and obtain updated data relating to the future projected spatial allocations within each Plan’s period

- Understand the future timescale and likely context of growth to 2040, beyond each Plan’s period
- Confirm and verify the status of IDPs

1.5.4 Public Consultation

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

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 (developed in-house by City Science) that enabled users to explore potential infrastructure schemes in their region and the thematic, growth and deliverability scoring for each scheme.

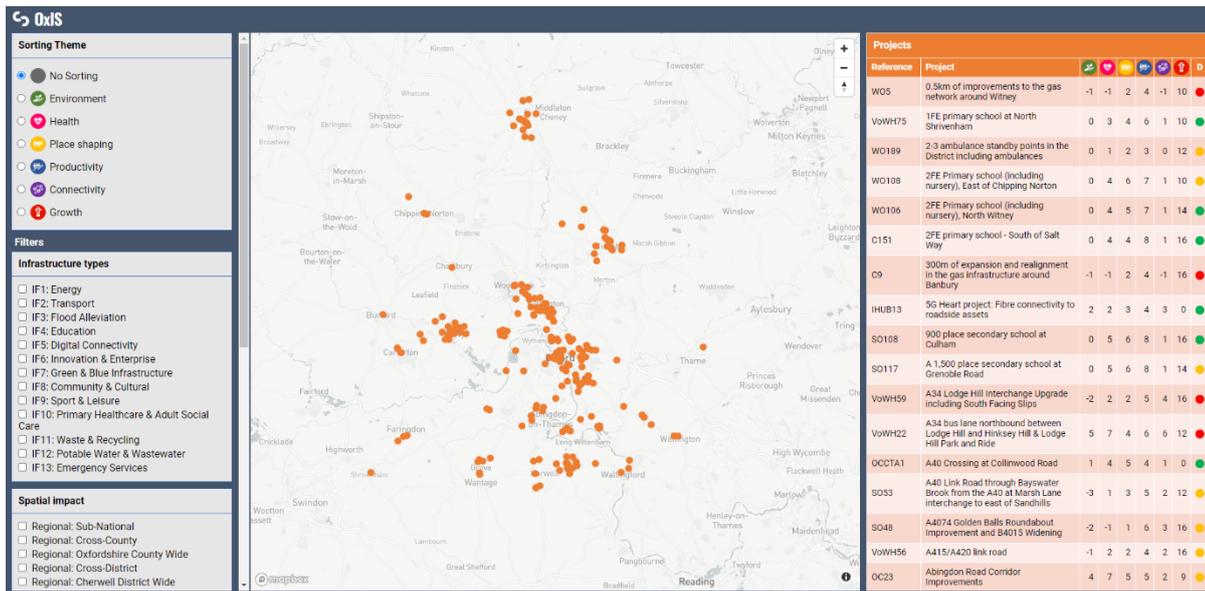


Figure 1-6: Interactive online Scheme Tool for public consultation

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.

Online survey respondents were asked to rank the themes in order of importance. The Environmental Theme was identified as the highest-ranking priority for respondents.

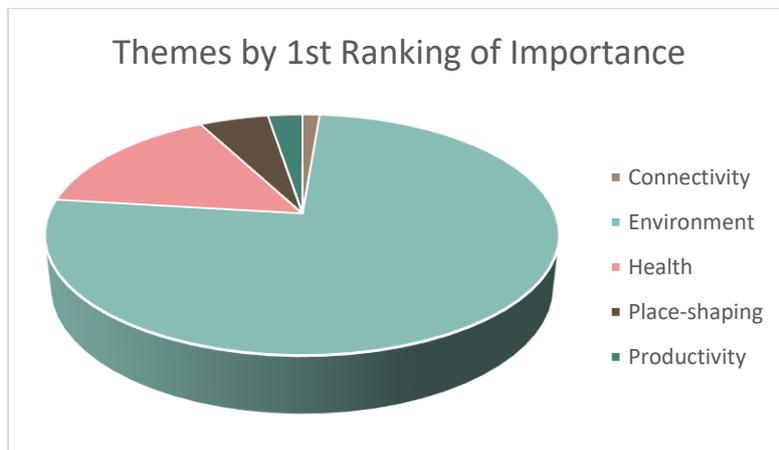


Figure 1-7: Themes ranked by the public

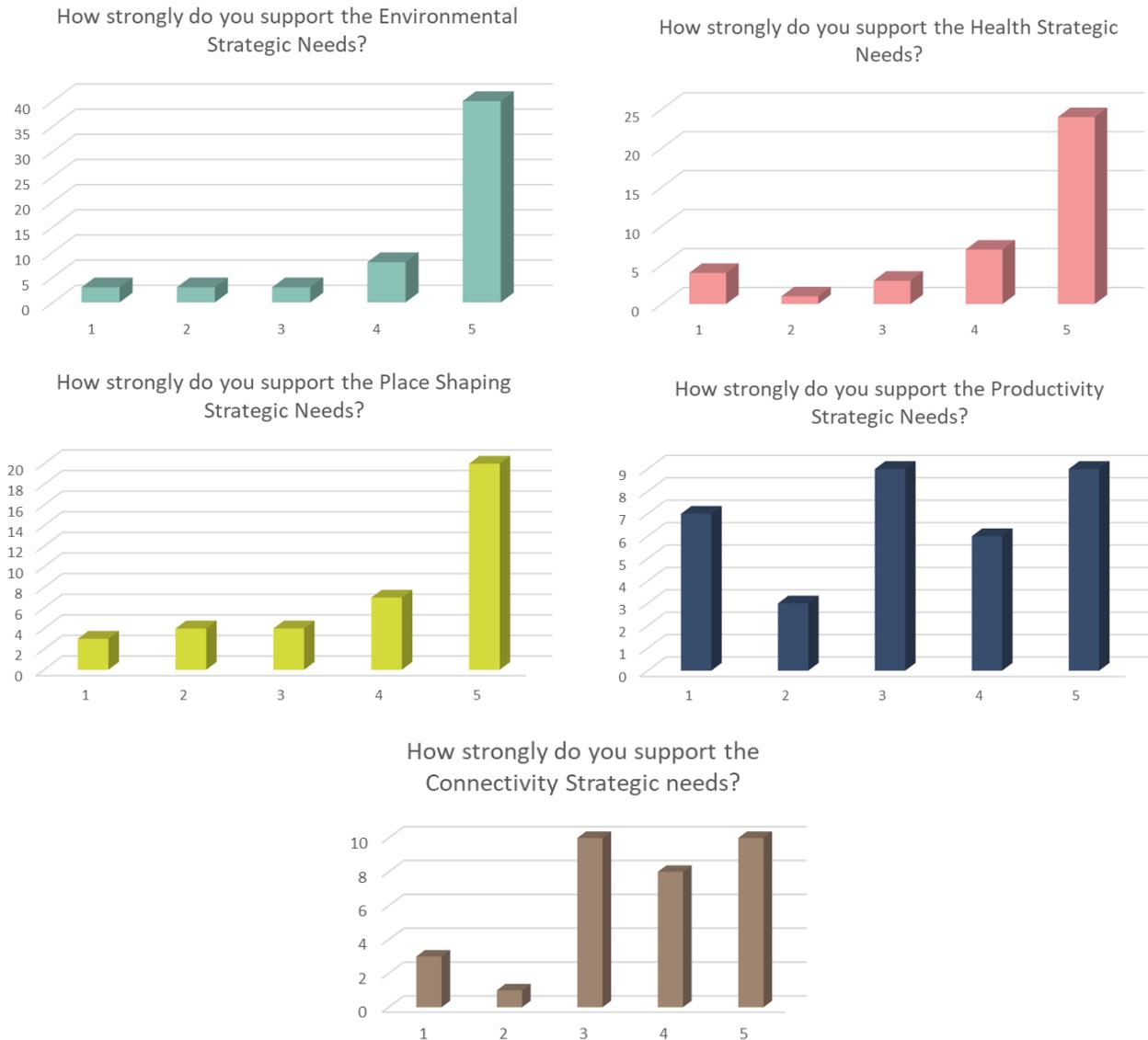


Figure 1-8: Theme Needs support ranked by respondents

In summary the key messages were as follows:

Key Emerging Message	Response
Multiple respondents highlighted the overwhelming importance for reducing CO ₂ emissions and questioned the importance of a growth factor above the need to meet Net Zero targets.	<i>The scoring system takes into account current policy and strategy context against each identified need (including drawing on the Oxfordshire Vision), as well as links with planned development as set out in current local plans. Scoring can also be reviewed for each need alongside the growth score so it is clear how each scheme performs against the environmental need score individually.</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>

Key Emerging Message	Response
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>
Concern that the inter-reliance of schemes has not been reflected in the Multi-Criteria Assessment.	<i>Where appropriate, schemes have been amalgamated to ensure that a full and complete impact assessment has been performed.</i>
Appreciation of the gap analysis assessment, setting out the impact of potential schemes against the needs of Oxfordshire to 2040.	<i>The gap analysis helps to provide a clearer picture for Oxfordshire of the infrastructure requirements and additional focus required for each theme within OxIS. This will help in reviewing how parts of the Oxfordshire Vision can be enabled.</i>
Disagreement over the allocation of a place as either “Town & Surrounds” or “Rural Communities”.	<i>This definition was made based on the number of properties forecast for a location to help inform the needs of the community when assessing infrastructure schemes. It is recognised that over time the number of properties will change, and this will be updated in Stage 2 when OxIS assesses infrastructure to 2050.</i>
Wider questions were asked regarding the funding shortfall and what will happen if funding is not forthcoming and the gap for needs cannot be met.	<i>The funding landscape changes regularly as private and public opportunities arise. OxIS provides a clear platform for identifying suitable infrastructure schemes for arising finance ensuring the most acute needs can be targeted.</i>
Suggestion that any scheme that is considered “transformational”, as defined by HM Treasury in its Green Book Review, should automatically be classified as strategic infrastructure.	<i>Any “transformational” scheme should result in significant change or improvement in a situation. To be transformational at a County level, the scheme will have been identified in the 1,000+ schemes reviewed from public and private sector development plans. In addition, where possible, we have collated County-wide schemes that combined, could be considered strategic.</i>

As a result of the public consultation, additional schemes have been proposed for appraisal which have been checked against the OxIS scheme criteria and where appropriate any changes to existing or proposed schemes were made. Any specific comments regarding technical points have also been assessed and incorporated into the Stage 1 Report where appropriate, examples of which include:

- Improved map visibility
- Review of land allocations
- Additional funding streams added
- Updated Community Infrastructure Levy Rates
- Amendments to references on Flood Alleviation and Main Rivers.

Improvements on the process and information pertaining to schemes running to 2050 have been recorded for assessment in Stage 2 of OxIS.

1.5.5 Role of Oxfordshire Local Authorities & Key Partners

In Oxfordshire, a two-tier system of local government is in place.

- The five City and District Councils are responsible for key, locally specific activities such as land use and spatial planning (including Local Plans and IDPs), as well as recycling & waste collection and leisure facilities. The District and City Councils are also working together (and in collaboration with the County Council) on the development of the new joint Oxfordshire Plan
- The OCC is responsible for more strategic services including schools, transport infrastructure, waste/recycling disposal and capacity and social services. OCC is also the planning authority for minerals and waste

As outlined in Section 1.1, the Future Oxfordshire Partnership (formerly Oxfordshire Growth Board) comprises of a joint committee between the five District Councils and the OCC. It delivers collaboration across economic development and strategic planning covering key aspects such as infrastructure, housing and the Oxfordshire Plan 2050. The Future Oxfordshire Partnership also collaborates with key partners including:

- The OxLEP, who champion the County’s potential to become a global innovation hub and drive sustainable and successful economic growth
- UK Government agencies and infrastructure providers such as the NHS OCG, Homes England and the Environment Agency

1.5.5.1 Oxfordshire Policy Framework

Figure 1-9 outlines key policies and strategies produced by the Future Oxfordshire Partnership (formerly Oxfordshire Growth Board) and the five District Councils related to the future growth trajectory. This includes the Strategic Vision, the Oxfordshire Plan 2050 and the Local Plans as well as the associated IDPs. It additionally outlines key policies and strategies organised by the five OxIS Themes produced by OCC and the five District Councils as well as key external Oxford Growth Board partners (such as OxLEP, NHS OUH and Thames Water).

 Environment Theme	Oxfordshire Climate Action Framework (2020)	Various District Climate Action Plans	District Water Cycle Studies
	Pathways to a Zero Carbon Oxfordshire (Emerging)	Oxfordshire Resources & Waste Strategy 2017 – 2023	Thames Water Drought Plan (2017)
 Health Theme	Oxfordshire Joint Health & Wellbeing Strategy (2020)	NHS OUH Strategy 2020 – 2025	District Air Quality Action Plans
	Oxfordshire Health Impact Assessment Toolkit (2021)	Oxfordshire Mental Health Prevention Framework (2020)	OCCG Primary Care Estates Strategy
 Place-Shaping Theme	Connecting Oxfordshire: Local Transport Plan 4 (2015)	Various Local Cycling and Walking Infrastructure Plans	Oxfordshire Cultural Strategy [Forthcoming]
	Community Safety Agreement 2019/20	Community Risk Management Plan 2017 – 2022	
 Productivity Theme	Oxfordshire Children & Young People Plan 2018-2021	Oxfordshire Skills Strategy (2016)	Oxfordshire Local Industrial Strategy (2019)
	Oxfordshire Pupil Place Plan 2019 – 2023	Special Educational Needs Sufficiency of Places Strategy	Oxfordshire Investment Plan (2020)
 Connectivity Theme	Oxfordshire Digital Infrastructure Strategy	Thames Water Resource Management Plan (2019)	Oxfordshire Energy Strategy (2020)
	Oxfordshire Local Transport & Connectivity Plan [Forthcoming]	Oxfordshire Rail Corridor Study	Drainage & Wastewater Management Plan [Forthcoming]

Figure 1-9: Oxfordshire Key Policies & Strategies

A detailed review of relevant policies and strategies related to Oxfordshire’s needs across the five OxIS Themes as at July 2021, is provided in Chapter 5.

1.5.6 Role of Charitable & Not-for-Profit Organisations

Charitable organisations also play a key role in the planning and management of infrastructure.

This includes:

- Organisations such as those providing healthcare services
- Rivers and Canal Trust, who are responsible for most of Oxfordshire’s waterways and canal network
- Sustrans who are custodians of the National Cycle Network

As charitable organisations, both Oxford University and Oxford Brookes University, alongside independent schools, also play a key role in the delivery of education infrastructure throughout the County.

1.5.7 Role of Private Sector

According to the National Infrastructure Strategy (2020), around half of infrastructure spending originates from the private sector, particularly in utilities amongst digital infrastructure, energy and water suppliers. In a local context, private sector investment in infrastructure, including science parks and life science laboratories, will also be vital to fulfilling Oxfordshire’s Local Industrial Strategy’s vision of making Oxfordshire one of the leading global business and innovation networks by 2040. Recent 2020 analysis from the Confederation of British Industry, suggests that there will likely remain a strong appetite and need for private sector capital investment in infrastructure, despite the impact of the COVID-19 crisis (see Chapter 8 for further detail).

1.6 Report Structure

The OxIS Stage 1 Report structure is outlined in Table 1-4, with growth to 2050 covered in the forthcoming OxIS Stage 2 Report.

OxIS Stage 1 Report	Chapter at a Glance
2. Oxfordshire’s People & Places	Includes a contextual review and consideration of the places people live across the County, as well as the identification of key data concerning age demographics and economic demographics. Through the application of this contextual information, the latter sections of this Chapter introduce the OxIS spatial framework and place-based approach, which provide a coherent framework to the subsequent chapters of this OxIS Stage 1 Report.
3. Oxfordshire’s Future Change Trajectory to 2040	Outlines the most recent County forecasts of population and employment growth to 2040, based on ONS and available information provided by Oxfordshire Local Authorities.
4. Oxfordshire’s Existing Infrastructure	An overview of Oxfordshire’s existing infrastructure context across 13 categories, including an indication of stakeholder responsibilities, infrastructure locational context and capacity.
5. Oxfordshire’s Future Needs to 2040	Identifies and summarises Oxfordshire’s future needs to 2040 across the five OxIS Themes, to inform the needs-based appraisal of schemes. For each of the 25 sub-themes (needs), the strategic policy needs, and level of importance is identified, sourced from key national, County and District wide policy and strategy documents.
6. OxIS Infrastructure	Outlines the methodology for the identification (Step 1), sifting (Step 2), grouping (Step 3) and filtering (Step 4) of OxIS infrastructure schemes. Then identifies strategic gaps (absence or lack of tangible infrastructure schemes) to address future needs to 2040 (see Chapter 5).
7. Infrastructure Scheme Appraisal	Introduces the bespoke multi-criteria appraisal method for assessing the OxIS schemes. Then outlines the purpose of the infrastructure logic maps alongside the needs based and growth-based scoring elements of the appraisal. An outcome for each OxIS scheme is then identified.
8. Scheme Funding & Deliverability	Identifies the total scheme cost alongside the funding gap. Potential funding sources to address the gap such as the UK Infrastructure Bank, the Levelling Up Fund and the Innovation Fund are explored to enable scheme delivery.
9. Conclusions & Next Steps	Provides an overarching conclusion to the Stage 1 Report and introduces the next steps that will be pursued in the forthcoming OxIS Stage 2 Report.

Table 1-4: OxIS Stage 1 Report Structure Overview