

**URGENT BUSINESS AND SUPPLEMENTARY INFORMATION****Executive****13 July 2026**

Agenda Item Number	Page	Title	Officer Responsible	Reason Not Included with Original Agenda
10.	(Pages 3 - 210)	Oxfordshire Infrastructure Strategy (OxIS) Final Report Appendix 1 - OxIS Stage 1 Final Report	Strategic Transport and Infrastructure Lead Officer	Appendix to report published as a supplement to assist downloading

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Oxfordshire Infrastructure Strategy

Stage 1 Baseline Report

**Prepared for the Oxfordshire Leaders
Joint Committee**

August 2025

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Sets out the study objectives and project methodology of this iteration of OxIS

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Transport

Highways
Rail
Bus, Coach and SRT
Active Modes



Energy and Utilities

Energy Infrastructure
Digital Infrastructure
Waste Infrastructure



Green Infrastructure

including Local Nature
Recovery, GI assets and
outdoor sports



Water

Flood Risk Management
Water Supply
Wastewater Treatment



Social Infrastructure

Secondary Education
Special Education
Needs and Disabilities
(SEND)
Further and Higher
Education



Health and Social Care

Primary Healthcare and
Public Health
Acute Healthcare
Mental Healthcare
Social Care
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Lists the abbreviations and acronyms used in this report

01

Introduction

1.1 Introduction

The Oxfordshire Infrastructure Strategy (OxIS) has been prepared on behalf of the Oxfordshire Leaders Joint Committee (OLJC) (formerly the Future Oxfordshire Partnership) to provide a comprehensive understanding of the key strategic infrastructure necessary to support future development to 2050.

The Oxfordshire Leaders Joint Committee (OLJC) is a joint committee of the six councils of Oxfordshire, including:

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

It aims to deliver the Strategic Vision for Sustainable Development in Oxfordshire, first published in May 2021 and adopted by all six councils.

The OLJC's main areas of work include:

- 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 policy that meets the government's stated aim of net zero carbon by 2050 and contributes towards biodiversity gain while embracing the changes needed for a low-carbon world
- Securing funding to achieve these aims and overseeing the delivery of related work programmes delegated to it by the joint committee's constituent local authority members

This third iteration of the Oxfordshire Infrastructure Strategy builds upon previous versions prepared in 2017 and 2021, and supports the nine outcomes of the Strategic Vision for Sustainable Development in Oxfordshire.

Strategic Vision for Sustainable Development in Oxfordshire (May 2021)

The Future Oxfordshire Partnership published the Oxfordshire's Vision for Long-Term Sustainable Development in May 2021, which sets out its statement, guiding principles and delivery strategy for 2050. It aims to facilitate bold, collaborative and inclusive thinking to deliver real and lasting changes in way that build resilience and enhance environmental, social and economic wellbeing. Its vision focuses on drawing upon Oxfordshire's world class economy, its spirit of discovery and global reputation to power this change through the adoption of clean and sustainable technology.

It sets out nine strategic outcomes to be achieved **by 2050**:

- Our **natural environment** will be in a better state than that in which we found it.
- We will already be carbon neutral and accelerating towards a **carbon negative future**.
- Our residents will be **healthier and happier**, and overall wellbeing will have improved.
- Our local economy will be **globally competitive**, sustainable, diverse and inclusive.
- Our community will be a more **equal, fair and inclusive** place for everyone.
- Our **vibrant historic and cultural offer** will be rich, diverse and enhanced.
- We will have energy **efficient and affordable homes** in the right number, location and tenure.
- Our county's **connectivity** will be transformed in ways that enhance wellbeing.
- Our diverse and vibrant communities will thrive with a strong **sense of identity**.

This Strategy functions as both a statement and technical evidence base of Oxfordshire's ambition for sustainable infrastructure development that both enables planned growth but recognises and seeks, where necessary, to mitigate its impacts on the environment.

This document presents the Stage 1 analysis outcomes, which bring together a baseline review of existing strategic infrastructure provision across the county, outline what is already planned, and identify current gaps and barriers to future delivery.

We now invite technical stakeholders to review and comment on the emerging findings to help shape the next phase of the Strategy.

The Strategy is intended for the following audiences:



Members and officers of Oxfordshire County Council and the five District and City Councils

To inform and be informed by individual Local Plans, planning policies, decisions and supporting studies



Government and infrastructure providers

To demonstrate potential infrastructure requirements and their associated delivery and funding opportunities and barriers, and to help ensure a coordinated approach to the delivery of strategic infrastructure across Oxfordshire and in the wider region to 2050 and beyond



Oxfordshire's business community and residents

To inform investment priorities, provide a county-wide view of strategic infrastructure needs, and highlight both the challenges and opportunities associated with infrastructure delivery in Oxfordshire

1.2 Project Aims and Objectives

The Oxfordshire Leaders Joint Committee has commissioned this Strategy to address the following objectives:

- Provide a **comprehensive understanding** of the strategic infrastructure that is necessary to support future development to 2050, at a County wide level
- Function as a **statement and evidence base** of Oxfordshire's ambition for sustainable infrastructure development that both enables planned growth while enhancing, or at least mitigating impacts on the natural environment
- It will be a key **investment document** that Oxfordshire can use to engage with government, infrastructure providers, the business community and residents
- **Inform, and be informed by individual statutory and Local Plans**, other planning policies, planning decisions and key studies across Oxfordshire
- Provide an accessible vehicle for **engagement and consultation** with the Oxfordshire community and wider partners

OxIS will be a high level, strategic study of the funding and delivery implications of the key strategic infrastructure requirements of Oxfordshire to 2050.

It will form part of the evidence base sitting beneath the Oxfordshire Strategic Vision but will not be a statutory policy document.

1.3 Strategy Scope

This Strategy focuses on building a comprehensive understanding of the strategic infrastructure required to enable and support Oxfordshire's long term economic, environmental and social objectives.

It focuses on six key strategic infrastructure areas and over 20 sub-topics identified by and agreed with the Oxfordshire Leaders Joint Committee, including transport, energy and utilities, green infrastructure, water, social infrastructure, as well as healthcare and social care.

The Strategy does not seek to duplicate existing Infrastructure Delivery Plans prepared to support current and emerging Local Plans. Rather, it focuses on identifying and prioritising infrastructure of strategic importance at the county-wide level.

Drawing on comparable studies and stakeholder engagement, this Strategy defines strategic infrastructure as '**critical systems, facilities and services enabling long-term sustainable growth and development across a larger than local area**'.

The following criteria are considered when sifting out non-strategic infrastructure projects:

- If the project is addressing a localised issue, i.e. if the project is addressing an issue which is confined to a single settlement area
- If the project is likely to be directly delivered by developers building a new housing or employment site
- If the project is to enable specific development(s), is likely to be delivered off-site, and wholly funded by developer contributions
- If the project is required as ongoing maintenance or refurbishment of infrastructure
- If the project has a notably small capital cost to deliver

TRANSPORT



Highways



Rail

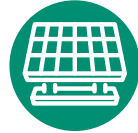


Bus,
Coach and
Strategic
Rapid Transit

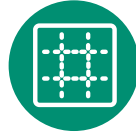


Active
Modes

ENERGY & UTILITIES



Energy
Infrastructure



Digital
Infrastructure



Waste
Infrastructure

GREEN INFRASTRUCTURE



Green
Infrastructure

WATER



Flood Risk
Management



Water Supply



Wastewater
Treatment

SOCIAL INFRASTRUCTURE



Secondary
Education



Special
Education
Needs and
Disabilities



Further
and Higher
Education

*For the purposes of OxIS, community facilities are classified as non-strategic infrastructure projects in line with the identified criteria.

HEALTH AND SOCIAL CARE



Primary
Healthcare
and Public
Health



Acute
Healthcare



Mental
Healthcare



Social Care



Emergency
Services

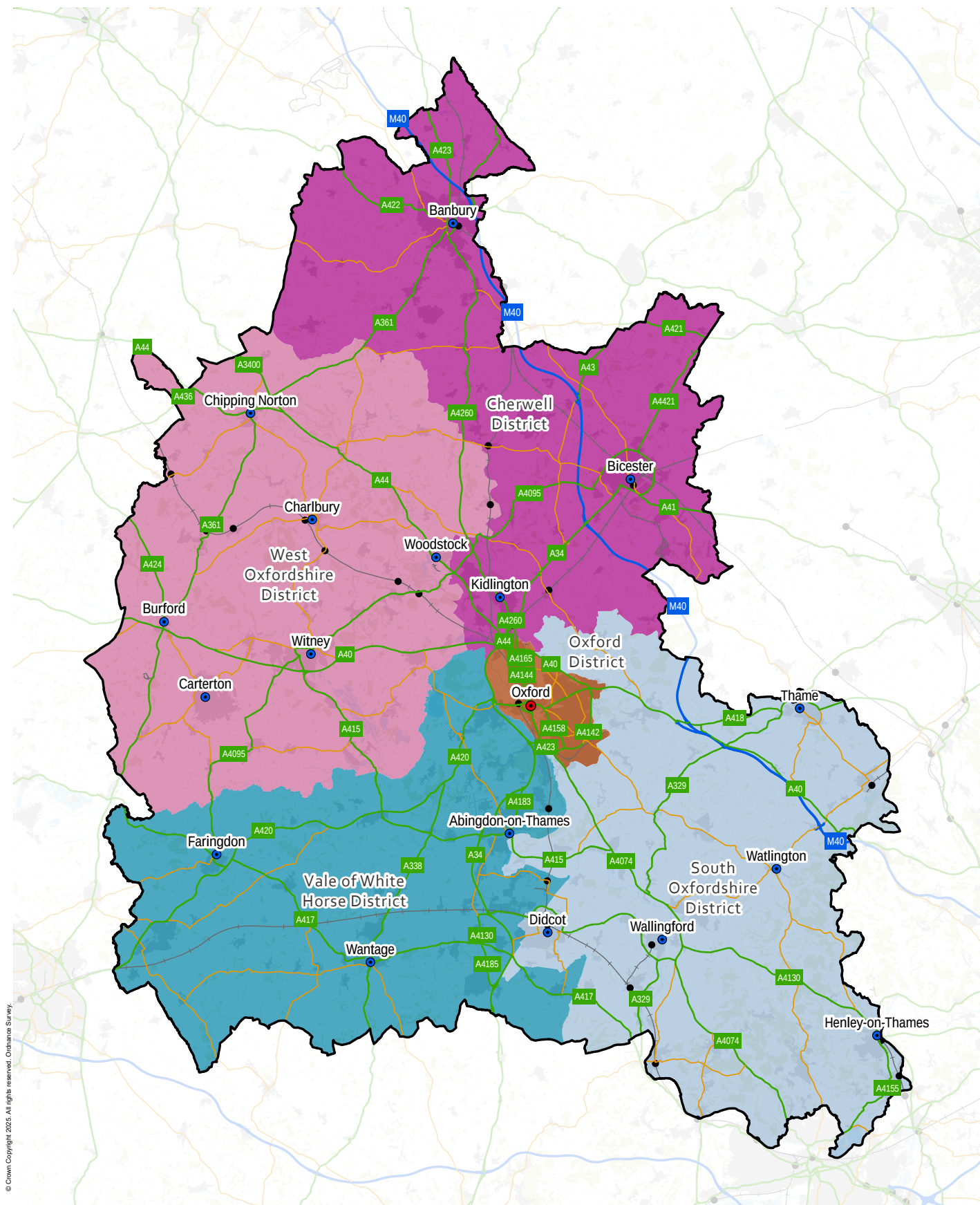
The Strategy applies to all local authorities within Oxfordshire and considers the county in its wider regional context. This includes key interrelationships with neighbouring authorities and strategic geographies such as England's Economic Heartland (EEH) and the Oxford-Cambridge Corridor.

It sets out strategic infrastructure requirements up to 2050, aligning with the Strategic Vision for Oxfordshire. These requirements are assessed across three time horizons:

- **Short term (2025-2030):** Immediate infrastructure priorities within the next five years
- **Medium term (2030-2040):** Emerging infrastructure needs to 2040, aligned where possible with Local Plan periods which range from 2040 to 2042
- **Longer term (2040-2050):** Future infrastructure requirements beyond current Local Plan timeframes, looking ahead to 2050

The Strategy is structured as follows:

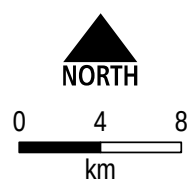
- **Chapter 2** introduces the study area and sets out the housing and economic growth context in Oxfordshire, including the theoretical growth scenarios that underpin the infrastructure analysis
- **Chapter 3** provides an overview of how infrastructure is planned and delivered across Oxfordshire
- **Chapter 4** presents a topic-by-topic assessment of strategic infrastructure needs across the County, focusing on existing capacity and future strategic requirements to support growth to 2050
- **Chapter 5** summarises the Stage 1 draft Project Schedule which collates infrastructure investments required to support Oxfordshire's growth ambitions, including indicative costs and funding assumptions
- **Chapter 6** explores the potential risks and barriers to delivering infrastructure. These will be examined further at Stage 2, along with potential mitigation strategies
- **Chapter 7** outlines the next steps for Stage 2 of this Strategy's development, which will include further refinement of the strategic infrastructure project pipeline and prioritisation of future strategic infrastructure projects through a structured framework



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Legend

Oxfordshire County Boundary	Railway	Built Up Area	Local Authority	Vale of White Horse District
City	Motorway	Waterbody	Cherwell District	West Oxfordshire District
Town/Large Village	A Road	Woodland	Oxford District	
Railway Station	B Road		South Oxfordshire District	



1.4 Project Methodology

Stage 1 Project Methodology

This document has been developed through the following stages of work between January 2025 and July 2025:

- Existing Data and Evidence Base Review
- Project Parameters Development
- Development of theoretical Growth Scenarios in Oxfordshire to 2050
- Strategic Infrastructure Assessment for each infrastructure topic, which includes:
 - Understanding the infrastructure delivery in Oxfordshire and key Drivers of Change, including recent or upcoming changes to infrastructure delivery approaches and policy direction
 - Establishing existing infrastructure capacity, as well as key issues and opportunities
 - Establishing strategic infrastructure requirements to 2050
 - Identifying existing planned infrastructure investments and the gap in infrastructure provision to meet further growth requirements to 2050
 - Development of Strategic Infrastructure Project Pipeline

This phase of work has also been informed by a series of thematic Stage 1 Technical Stakeholder Engagement Workshops with over 35 targeted stakeholders.

These focused on validating the defined parameters for strategic infrastructure and strategic baseline findings on key challenges and opportunities.

They were also used to seek stakeholder views on the infrastructure project pipeline to 2050, including committed and planned investments, as well as to facilitate discussion on strategic infrastructure requirements to support growth to 2050 as well as key Drivers of Change which may impact the quantum and type of future requirements.

Stage 2 Project Approach

Stage 2 of the project will encompass the following tasks which are envisaged to take place over the second half of 2025:

- Technical Consultation of Draft Stage 1 Baseline Report
- Stage 2 Stakeholder Engagement Workshop
- Infrastructure Cost and Phasing Review
- Barriers to Infrastructure Delivery
- Infrastructure Funding Review
- Prioritisation Framework Development
- Project Prioritisation
- Strategy Development

Chapter 7 of this document explores each of these tasks in further detail.

It is recognised that a number of relevant evidence bases are being developed in parallel with this Strategy for Oxfordshire, which will be continuously monitored throughout the strategy development process including through regular alignment meetings and engagement.

These include:

Oxfordshire's Local Nature Recovery Strategy (LNRS)

Oxfordshire's LNRS is part of a wider national ambition to create strategies covering the whole of England to help deliver on the 2021 Environment Act. The LNRS is actively being developed, and is currently concluding its consultation phase. The LNRS will set out a coordinated strategy for nature's recovery with the aim of helping wildlife to flourish, improve air quality and water, and mitigate the impacts of climate change amongst others. The strategy will include biodiversity priorities, and will highlight areas of land that are particularly important for biodiversity.

Oxfordshire Local Area Energy Planning (OxLAEP)

Oxfordshire County Council as well as the individual district councils are currently working on developing their LAEPs. Some of the key objectives of the OxLAEP include identifying the most appropriate interventions across Oxfordshire to reach net zero in a cost-effective way, as well as key infrastructure projects required, including energy generation and demand management. Emerging findings from OxLAEP has been considered to date and will continue to inform the development of OxIS across both Stage 1 and Stage 2.

Oxfordshire Rail Strategy 2040 (OxRAIL 2040)

The OxRAIL 2040: Plan for Rail is a plan being prepared by Oxfordshire County Council that sets out a long-term vision for the development of rail across the county. It is being prepared around three key themes including improving connectivity and enhancing infrastructure, climate action, and rail as a place-shaper. The plan is expected to set out how key priority projects such as Oxford Railway Station, the Cowley Branch line, East West Rail and new trains will help transform rail travel in Oxfordshire and beyond, supporting improved public transport access to housing and jobs.

Wider government ambitions including the Oxford-Cambridge corridor and the Oxford Growth Commission

In early 2025, ambitions for major investment into the Oxford-Cambridge corridor were announced. The government aims to anchor fields including AI, life sciences and semiconductors in the corridor, creating wider investment opportunities across the UK. The Oxford Growth Commission has been established to accelerate the growth potential of Oxfordshire, with a focus upon Oxford and the surrounding areas.

02

Understanding the Growth Context

2.1 Growth Context

Understanding the existing and emerging patterns of housing, economic and population growth is essential for informing an infrastructure strategy for Oxfordshire to 2050. This analysis provides the growth context in which infrastructure will be delivered, helping to understand where and how demand for services and facilities will change over time in response to the evolving scale, composition and need of local residents and businesses.

By estimating the scale and distribution of future population, housing and economic growth to 2050, this also provides a theoretical framework to ensure that planning for infrastructure provision aligns with emerging needs and drives sustainable development in line with the Vision for Oxfordshire.

Planning for housing and economic growth is led through individual Local Plans across Oxfordshire. This study recognises the primacy of the adopted and emerging Local Plans in providing the strategic direction of growth and the allocation of sites across Oxfordshire. The theoretical figures presented are a snapshot in time which will evolve during the development of the evidence base through individual Local Plans.

The City and District Local Plans, as well as the Oxfordshire Minerals and Waste Plan, provides the strategic and local planning policies for meeting development needs and the use of land in Oxfordshire.

The Development Plans are currently at different stages of review and preparation, with most authorities working towards updated plans that will look ahead to 2041 or 2042. These emerging plans will be central to shaping where and how growth occurs across Oxfordshire.

Local Authority	Adopted Local Plans	Emerging Local Plans
Cherwell	Local Plan 2011-2031 (Partial Review Sept 2020)	Local Plan Review 2042
Oxford	Oxford Local Plan 2016-2036 (Adopted June 2020)	Oxford Local Plan 2042
South Oxfordshire	Local Plan 2011 – 2035 (Adopted December 2020)	Joint Local Plan 2041
Vale of White Horse	Local Plan 2031 Part 1 (Dec 2016) and Part 2 (Oct 2019)	
West Oxfordshire	Local Plan 2031 (Sept 2018)	Local Plan 2041
Oxfordshire	Oxfordshire Minerals and Waste Local Plan Part 1 (Core Strategy) (Adopted September 2017)	A new Minerals and Waste Local Plan will be produced by the County Council in due course

Local Plan Status across Oxfordshire (Position as of March 2025)

Beyond adopted and emerging Development Plans, a range of county-wide and regional strategies also provide broader long-term direction, reflecting Oxfordshire's ambitions across climate, economy, infrastructure and the environment.

These include:

- **Oxfordshire Strategic Economic Plan (SEP):** The SEP currently sets out a vision to 2033, focusing on supporting the foundational economy while harnessing Oxfordshire's global position in science, technology, and innovation. It identifies the need for infrastructure that supports inclusive growth and enhances Oxfordshire's role within the UK innovation ecosystem. It is noted however that not all councils have formally endorsed the SEP.
- **Oxfordshire Net Zero Route Map and Action Plan:** This sets out a pathway to net zero carbon emissions by 2050, with key interim milestones in 2025, 2030 and 2040. It identifies the critical infrastructure, energy systems, and behavioural shifts needed to decarbonise transport, housing, and industry in Oxfordshire.
- **Oxfordshire Local Transport and Connectivity Plan (LTCP):** The LTCP envisions a net zero transport and travel system for Oxfordshire that supports health, accessibility, and decarbonisation. It integrates transport and digital infrastructure planning, aiming to improve air quality, biodiversity, and mobility outcomes for all communities.
- **Draft Oxfordshire Local Nature Recovery Strategy (LNRS):** The LNRS provides a spatial strategy for prioritising biodiversity gains in Oxfordshire. It sets out habitat enhancement and restoration targets that are essential for offsetting environmental impacts of growth and aligning infrastructure delivery with natural capital outcomes.
- **EEH Transport Strategy:** This Transport Strategy directly supports a number of the Council's strategic priorities, including reducing carbon emissions, improving air quality, reducing the need to travel, promoting public transport and active travel, and strengthening investment in strategic transport and digital connectivity, notably rail investment such as East West Rail.

Nationally, the government has championed new plans to deliver the Oxford-Cambridge Corridor which is expected to boost the UK economy by up to £78 billion by 2035. An Oxford Growth Commission has also been established by HM Government to review how best to unlock and accelerate growth in the city and surrounding area. This is intended to support the delivery of infrastructure, housing and employment to unleash Oxford and Oxfordshire's economic power, accelerating growth in the Oxford-Cambridge Growth Corridor, and driving sustainable economic growth across the UK.

2.2 Economic Growth

Oxfordshire's economy generates approximately £23.5 billion in Gross Value Added (GVA) and is home to over 34,500 enterprises. There are currently around 430,000 jobs across Oxfordshire, with employment growth outpacing the national average (OxLEP Strategic Economic Plan, December 2023).

Oxfordshire's economic performance is underpinned by its strategic location at the heart of the UK's knowledge economy. Situated within the 'Golden Triangle', linking Oxford, Cambridge and London, the county benefits from world-class universities and research institutions, a highly skilled workforce and innovation-driven investment.

Oxfordshire also forms a central part of the nationally-significant Oxford-Cambridge Growth Corridor, which is envisioned to contribute up to £78 billion to the UK economy by 2035 through catalysing growth across life sciences, technology and advanced manufacturing sectors. The Government envisages the Corridor as having the potential to be Europe's Silicon Valley and home to British innovation.

The area is further connected via the M4 corridor and the Great Western Mainline, linking Oxfordshire to the Thames Valley tech cluster, Heathrow Airport and global markets, which creates a prime and connected environment for attracting investment and supporting high-value industries.

Oxfordshire has global strengths across a diverse range of sectors, including health and life sciences, space, future mobility (including connected and autonomous vehicles, automotive production, and motorsport), robotics, artificial intelligence (AI), quantum technologies, energy, the creative industries, food and farming, and the visitor economy.

Oxfordshire's role within the global innovation ecosystem has gained increasing recognition, supported by significant investment in research, development, and commercialisation. According to the OxLEP Strategic Economic Plan, rental levels for city centre office space and science park accommodation doubled between 2016 and 2023, highlighting the growing demand. In particular, there is a critical need for high-quality laboratory space, especially within Oxford City.

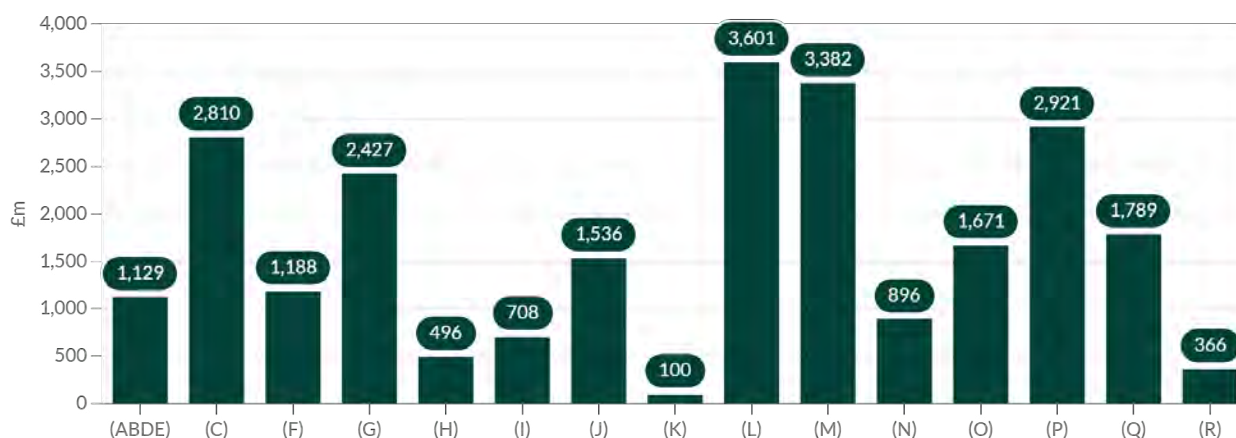
The largest employment sectors in Oxfordshire include (by SIC Level 2 dig.):

- Education (15.5%, ↑7.8%)
- Human Health Activities (7.6%, ↑9.6%)
- Retail Trade (7.4%, ↓13.8%)
- Food and Beverage Service Activities (5.7%, ↓1.4%)
- Scientific Research and Development (4.7%, ↑83.4%)

SIC	Jobs	Rate	Change	%	
P: Education	63,359	15.5%	+4,568	+7.8%	
M: Professional, Scientific and Technical Activities	57,250	14.0%	+11,710	+25.7%	
G: Wholesale and Retail Trade; Repair of Motor Vehicles and Mot..	50,726	12.4%	-5,871	-10.4%	
Q: Human Health and Social Work Activities	47,443	11.6%	+2,007	+4.4%	
N: Administrative and Support Service Activities	29,811	7.3%	+2,019	+7.3%	
I: Accommodation and Food Service Activities	28,443	7.0%	-454	-1.6%	
C: Manufacturing	27,947	6.8%	+621	+2.3%	
J: Information and Communication	24,941	6.1%	+4,960	+24.8%	
F: Construction	15,805	3.9%	-5,786	-26.8%	
H: Transportation and Storage	14,037	3.4%	+2,066	+17.3%	
R: Arts, Entertainment and Recreation	11,815	2.9%	+4,801	+68.4%	
O: Public Administration and Defence; Compulsory Social Sec..	11,546	2.8%	+1,602	+16.1%	
S: Other Service Activities	7,202	1.8%	-1,386	-16.1%	
L: Real Estate Activities	7,062	1.7%	+656	+10.2%	
K: Financial and Insurance Activities	4,938	1.2%	+395	+8.7%	
E: Water Supply; Sewerage, Waste Management and Remediation A..	3,777	0.9%	+1,351	+55.7%	
A: Agriculture, Forestry and Fishing	2,357	0.6%	-942	-28.6%	
D: Electricity, Gas, Steam and Air Conditioning Supply	492	0.1%	-418	-45.9%	
B: Mining and Quarrying	300	0.1%	-47	-13.5%	

Employment by Industry in Oxfordshire (SIC Detail Level Low, 1dig., change rate by 5 years)

Source: Oxfordshire Local Skills Dashboard. This chart shows the distribution of jobs by Standard Industrial Classification (SIC) in Oxfordshire in 2024. The length of each green bar represents the proportion of total jobs in Oxfordshire accounted for by each sector. The vertical blue line on each bar indicates the England average, enabling comparison of sectoral employment strengths and gaps relative to the national economy.



Sectors	Oxfordshire (£m)
Agriculture, mining, electricity, gas, water and waste (ABDE)	1,129
Manufacturing (C)	2,810
Construction (F)	1,188
Wholesale and Retail Trade (G)	2,427
Transportation and Storage (H)	496
Accommodation and Food Service (I)	708
Information and Communication (J)	1,536
Financial and Insurance (K)	100
Real Estate (L)	3,601
Professional, Scientific, Technical (M)	3,382
Administrative and Support Services (N)	896
Public Administration and Defence (O)	1,671
Education (P)	2,921
Health and Social Work (Q)	1,789
Arts, Entertainment, Other Recreation (R)	366

Gross Value Added (Balanced) for Oxfordshire

Source: Oxfordshire County Council Data Hub

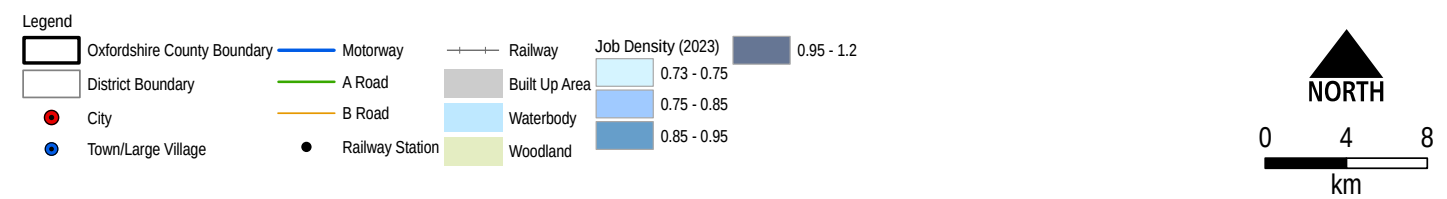
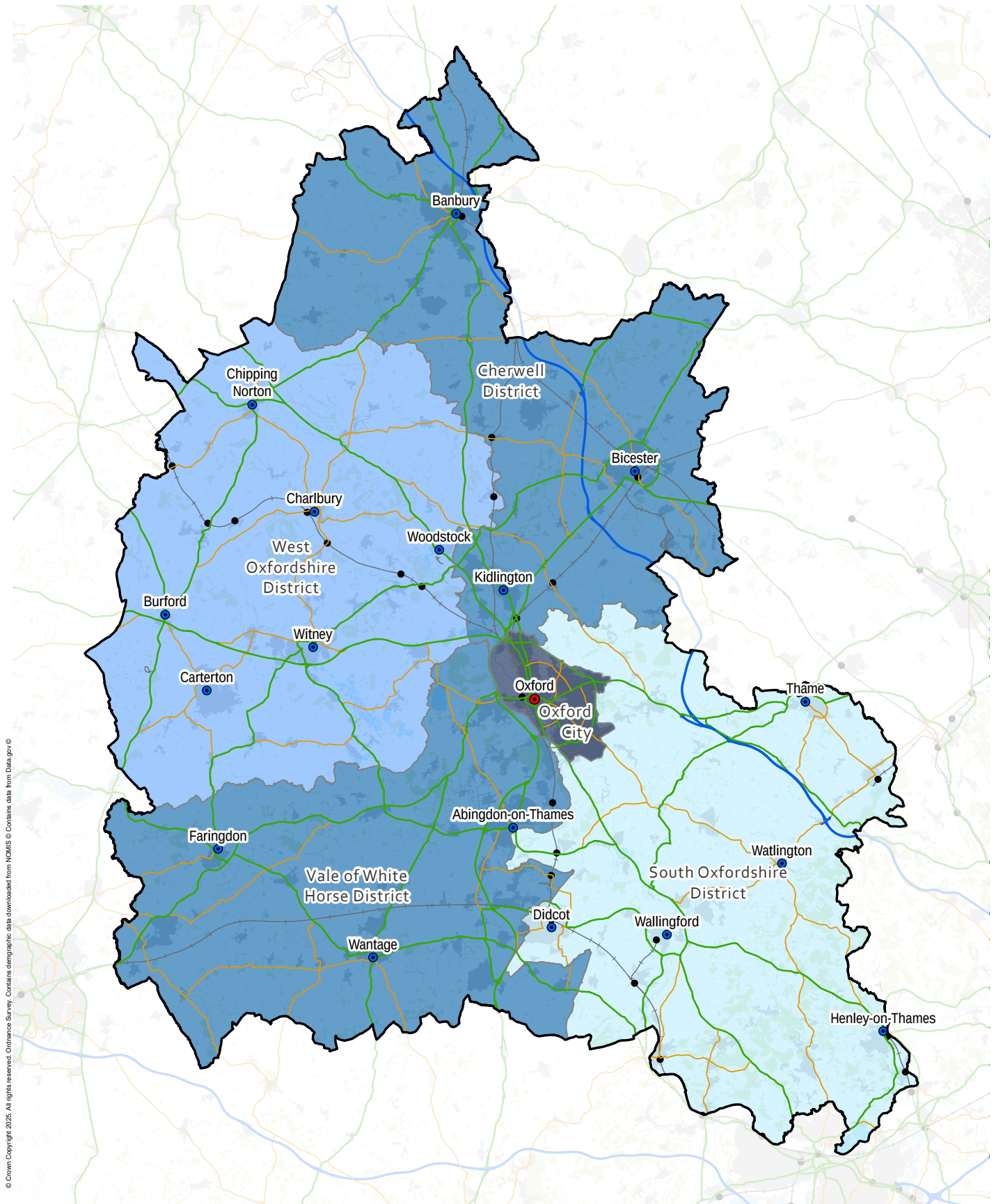
Spatial analysis of job density from the Strategic Economic Plan shows that Oxford accounts for the highest proportion of jobs in the county and has experienced the strongest growth over the past two decades. While other districts have followed a similar trajectory, Oxford remains the clear leader in terms of both job concentration and growth. As of 2021, job density in all five Oxfordshire districts exceeds the national average, with Oxford being the only district where the number of jobs surpasses the working-age population.

Looking to the future, Oxford's world-renowned strengths in digital technologies and life sciences, supported by key institutions including the University of Oxford, UKAEA, and a high concentration of biotech unicorns and scale-ups, are recognised in the Government's Modern Industrial Strategy (MIS) as positioning the city-region for national leadership.

Oxfordshire is expected to play a significant role in delivering sector plan priorities, with strong capabilities across six of the eight Industrial Strategy growth-driving sectors (IS-8): digital technologies, life sciences, clean energy, advanced manufacturing, defence, and creative industries.

The MIS also deepens support for the Oxford-Cambridge Growth Corridor's potential across these sectors. This aligns with the work of the Oxford Growth Commission, which provides a mechanism to advance strategic infrastructure projects that will be critical to unlocking the region's economic potential and making it easier to live, work, and travel across the corridor.

Key infrastructure investments expected to unlock growth include East West Rail, the proposed Abingdon Reservoir, and the UK's first AI Growth Zone in Culham.



Job Density across Oxfordshire

Economic Growth Forecast to 2050

There is currently no agreed housing and economic needs assessment that establishes the strategic employment need of Oxfordshire to 2050. In addition, as outlined in **“Understanding the Growth Context” (Chapter 2)**, local authorities in Oxfordshire are at different stages of Local Plan preparation, with no available evidence base that considers growth levels across Oxfordshire as a whole, nor beyond the current plan periods ending in 2040-2042.

However, the baseline trajectory from previous economic modelling in the December 2022 Oxfordshire Housing and Economic Needs Assessment indicates that **employment growth is likely to increase by over 100,000 jobs by 2050.**

Looking to 2050, there is a growing emphasis on sustainable and inclusive economic growth, with a vision that sets the foundational economy gaining prominence alongside high-growth sectors. This shift is supported by the Oxfordshire Strategic Economic Plan and a stronger focus on the infrastructure investment required across transport, digital, and energy systems to sustain Oxfordshire’s position as a globally significant innovation ecosystem.

Spatial Portrait of Economic Growth

The figure on the next page illustrates key committed and planned economic growth across Oxfordshire.

Key strategic employment sites and growth areas include:

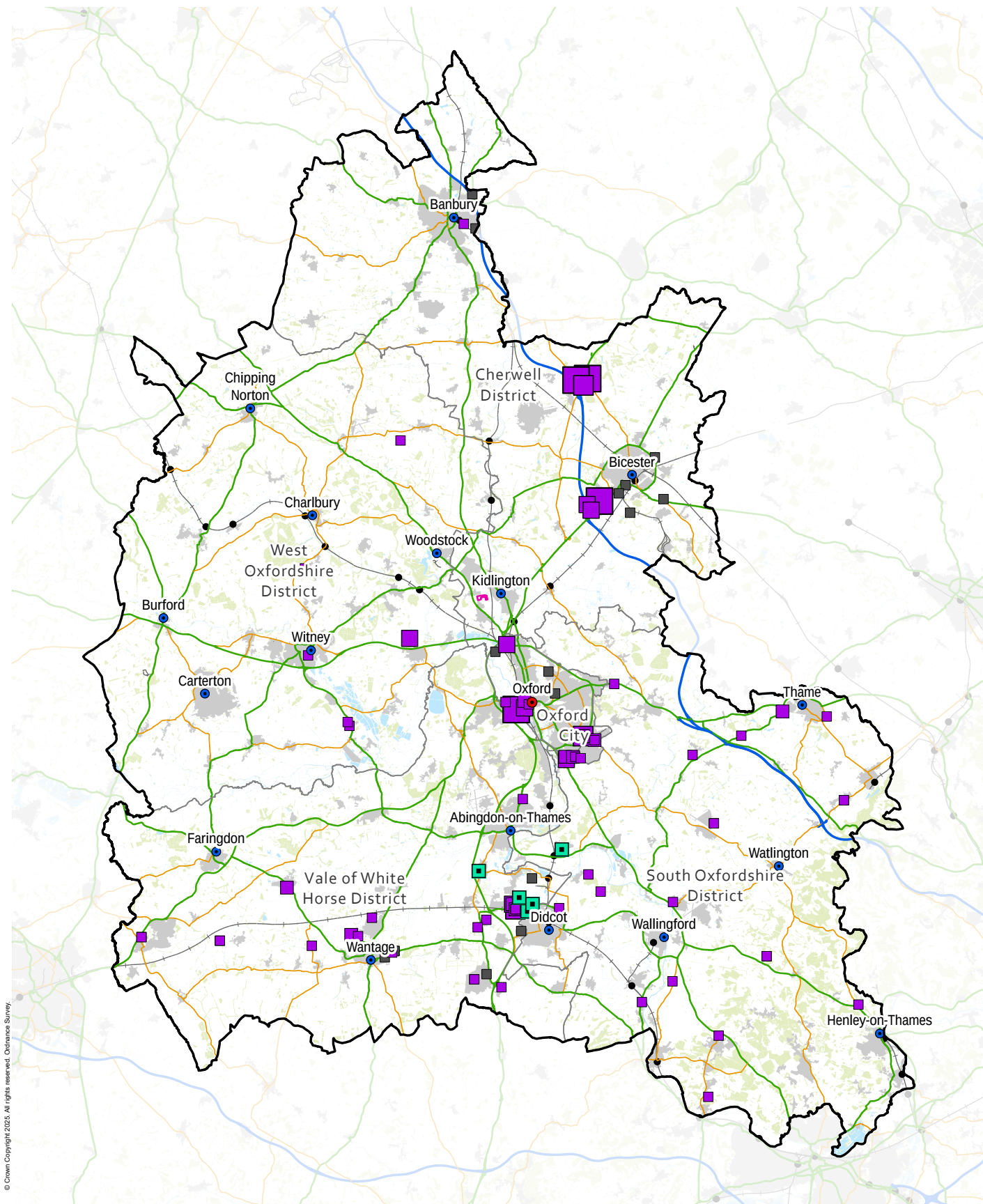
- Allocations around Bicester
- Allocations around Banbury
- Ardley/Baynards Green
- ARC Oxford (formerly Oxford Business Park)
- Begbroke Science Park
- Culham Science Centre
- Former Didcot A Power Station site
- Grove Technology Park
- Harwell Campus
- Kidlington - Oxford Technology park and airport
- Milton Park
- Oxford North
- Oxford Science Park
- Salt Cross Science and Technology Park
- Siemens employment site
- The West End and Osney Mead Regeneration Area

In addition, there is an increasing interest in data centre development within Oxfordshire. Approximately 400,000 sqm of committed and planned data centre development is underway within the Science Vale Enterprise Zones, particularly around the former Didcot A Power Station site. This is in addition to three operational data centres across Oxfordshire and the UK Government's newly announced AI Growth Zone in Culham.

A key challenge will be to ensure connectivity across key economic assets and with the wider region, while also enabling wider communities in Oxfordshire to access major employment centres.

Beyond existing commitments and allocations, a number of strategic speculative sites are promoted at present, including:

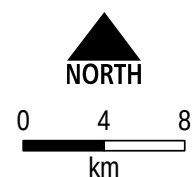
- Puy du Fou Oxfordshire
- OUFC Stadium



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Legend

			Net Economic Floorspace (sqm)	



2.3 Housing Growth

Existing Housing Profile

There are approximately 319,000 properties across Oxfordshire, with a mix of bungalows, flats, terraced houses, semi-detached houses, and detached houses, similar to the South East and England. As of 2023, there are approximately 2,368 vacant dwellings, below 1% of the overall housing stock.

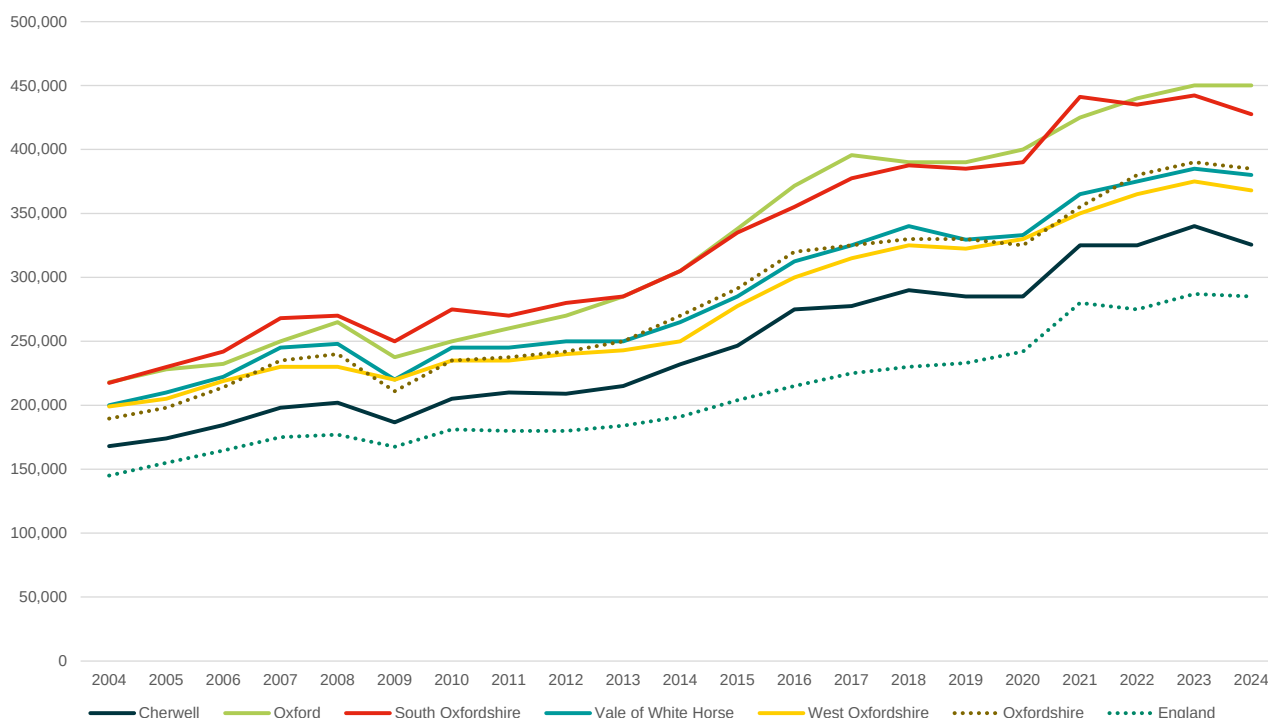
The number of households estimated across Oxfordshire in 2025 by ONS was approximately 284,000, with an average household size of 2.4 as of 2023. The ONS estimates that by 2043 the average household size will gradually decline to 2.3.

Two-thirds (65%) of households in 2021 owned their homes, with 20% living in private rented homes and 15% in social rented homes.

Oxfordshire's housing market is characterised by high housing costs and affordability pressures. The median housing

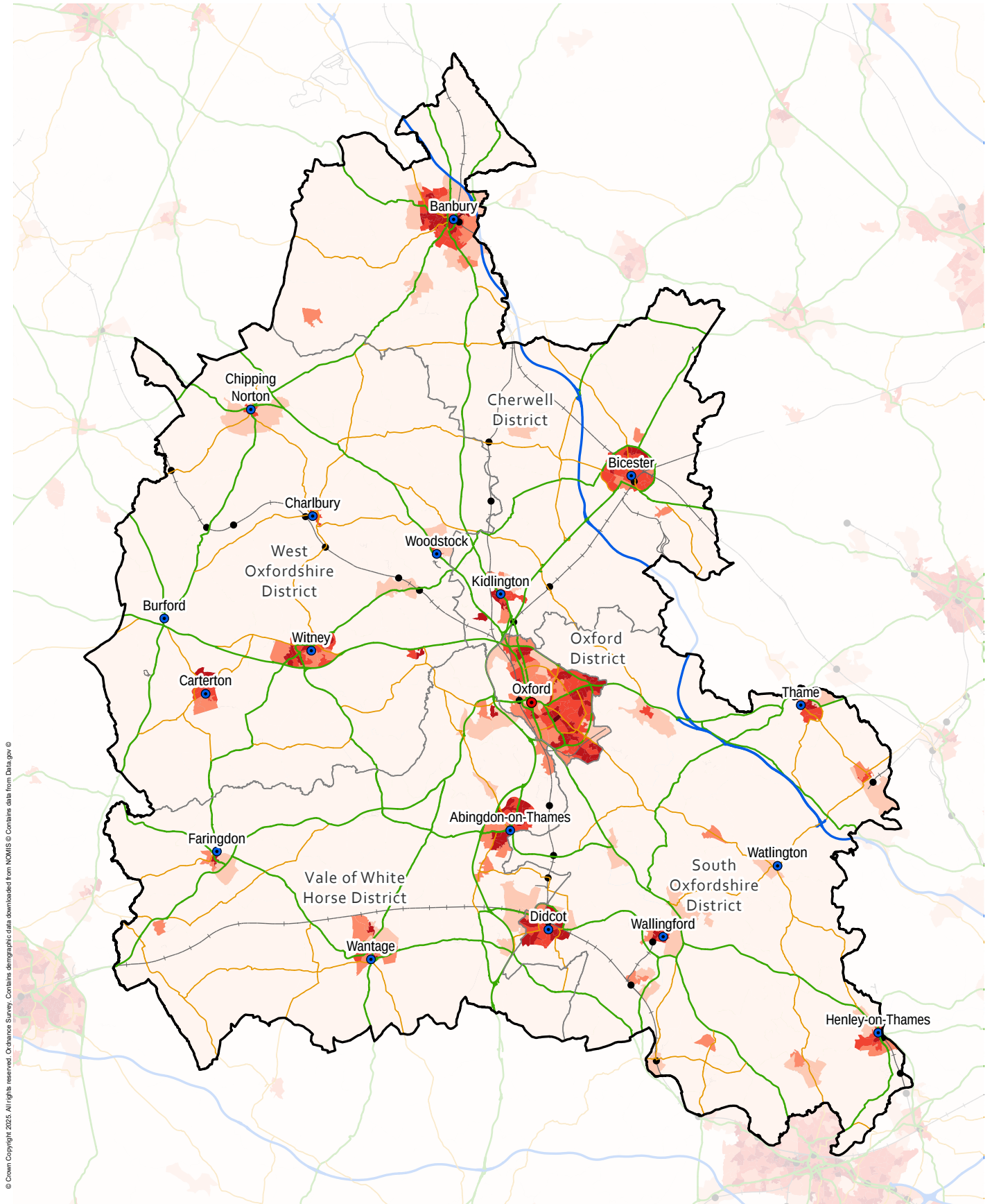
price of existing dwellings in Oxfordshire in September 2024 was £385,000, 37.5% above the average for England and Wales, and 5% above the average for the South East region. This represents almost a two-fold increase over the past twenty years when compared to £200,000 in December 2004.

Across Oxfordshire, the median house price of existing dwellings is 9.14 times the median gross annual residence-based earnings in 2024, with a five-year average of 10 times. The 2004 average was 7.99. Affordability issues have been previously identified as a potential factor which can hold back economic growth in Oxfordshire, as poor housing availability may affect the ability of businesses to recruit and retain young professionals in high tech and innovation business sectors. Increasing house prices have also made it particularly difficult for workers of the foundational economy to live in the area.

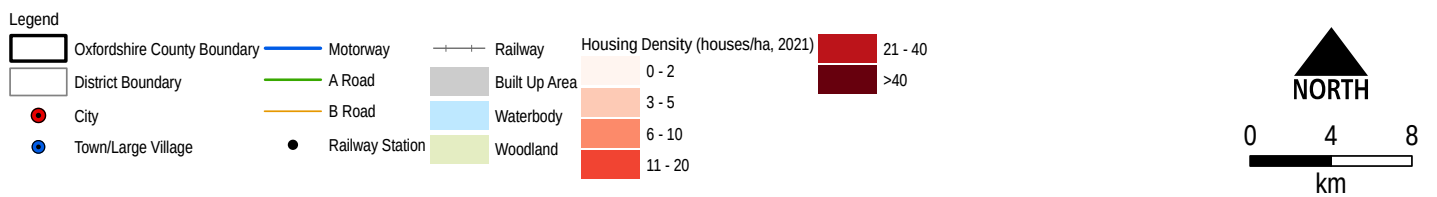


Median house price (£) by Local Authority (2004-2024)

Source: AECOM Analysis of ONS data (Median price paid for administrative geographies, existing dwellings)



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Distribution of Existing Households across Oxfordshire

Historic Housing Delivery

The average annual delivery of homes across Oxfordshire ranges from 3,638 homes per annum (over a 15-year horizon) to 4,759 homes per annum (based on the latest three-year average delivery rate). Housing delivery peaked in 2018/19, 2019/20, and 2022/23, when more than 5,000 homes were delivered per year.

Analysis of recent delivery trends demonstrates a significant increase in housing delivery since 2016/17, with the three-year average being 30% higher than the 15-year average. Locally, the highest levels of housing completions have been achieved in the Vale of White Horse, followed closely by Cherwell and South Oxfordshire.

However, while data is only available up to the year 2023/24, it should be noted that housing delivery has reduced considerably across the county in the last two monitoring years.

Year	Cherwell	Oxford	South Oxfordshire	Vale of White Horse	West Oxfordshire	Oxfordshire (Total)
2001-02	343	439	349	140	538	1,719
2002-03	295	267	317	168	409	1,492
2003-04	269	578	196	320	402	1,645
2004-05	585	669	189	749	588	2,635
2005-06	925	943	217	636	696	3,278
2006-07	713	821	217	542	773	2,960
2007-08	305	529	540	464	839	2,571
2008-09	286	665	281	328	537	1,986
2009-10	298	257	221	442	343	1,454
2010-11	230	200	239	338	383	1,301
2011-12	356	228	508	346	359	1,797
2012-13	340	213	475	270	278	1,576
2013-14	410	215	484	586	186	1,881
2014-15	946	332	596	739	395	3,008
2015-16	1,425	383	612	1,132	246	3,798
2016-17	1,102	419	718	1,575	518	4,332
2017-18	1,387	367	934	1,556	556	4,800
2018-19	1,489	358	1,369	1,258	813	5,287
2019-20	1,159	790	1,481	1,598	1,086	6,114
2020-21	1,192	711	868	1,109	868	4,748
2021-22	1,188	581	975	1,211	1,002	4,957
2022-23	1,318	554	1,359	1,360	729	5,320
2023-24	805	365	978	1,168	683	3,999
3 year Average Delivery	1,104	500	1,104	1,246	805	4,759
5 year Average Delivery	1,132	600	1,132	1,289	874	5,028
15 year Average Delivery	910	398	788	979	563	3,638
Change from 15-year to 3-year average	+21%	+26%	+40%	+27%	+43%	+31%

Historic Housing Completions in Oxfordshire (dwellings)

Source: AECOM Analysis of ONS Net Additional Dwellings Table 122: Net additional dwellings by local authority district, England 2001-02 to 2023-24 and data provided by individual Local Authorities

Housing Growth Forecast to 2050

To inform the analysis of infrastructure demand and requirements to 2050, three potential housing growth scenarios have been derived for the purpose of this Study, working with the Oxfordshire Leaders Joint Committee.

There is currently no agreed housing and economic needs assessment that establishes the strategic housing need of Oxfordshire to 2050. In addition, as outlined in **"Understanding the Growth Context" (Chapter 2)**, local authorities in Oxfordshire are at different stages of Local Plan preparation, with no available evidence base that considers growth levels across Oxfordshire as a whole, nor beyond the current plan periods ending in 2040-2042.

As such, the Growth Scenarios derived use a 'bookend' approach, exploring both minimum and maximum potential levels of housing growth. This ensures a reasonable range is considered to inform OxIS's calculations of infrastructure demand and requirements.

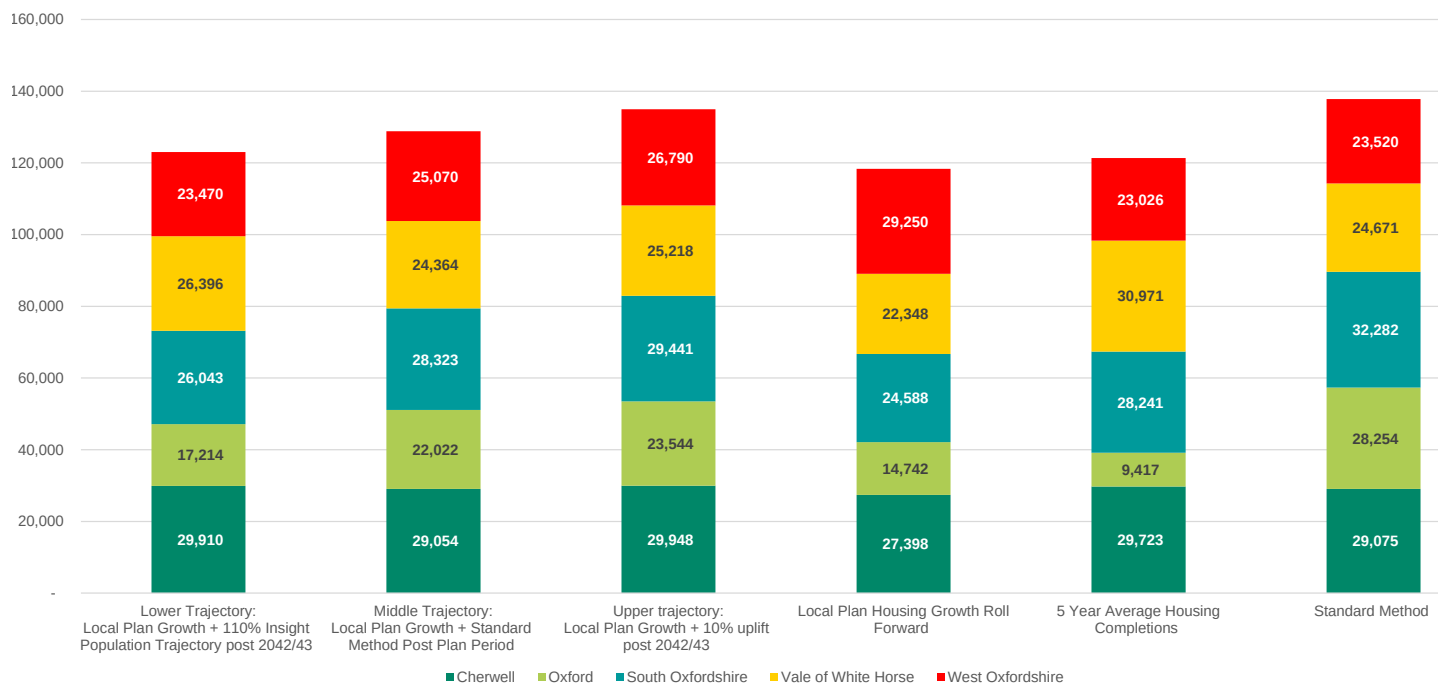
This work does not replace an Oxfordshire Housing and Economic Needs Assessment. The Growth Scenarios are not indicative of housing need and should not be used or interpreted as such.

At this stage, the current growth scenarios do not account for the potential redistribution of Oxford City's possible unmet need, which will need further consideration in terms of the quantum and potential spatial distribution through future Local Plans.

The Growth Scenarios follow a plan-led approach and explore three potential trajectories beyond the existing plan periods. These include:

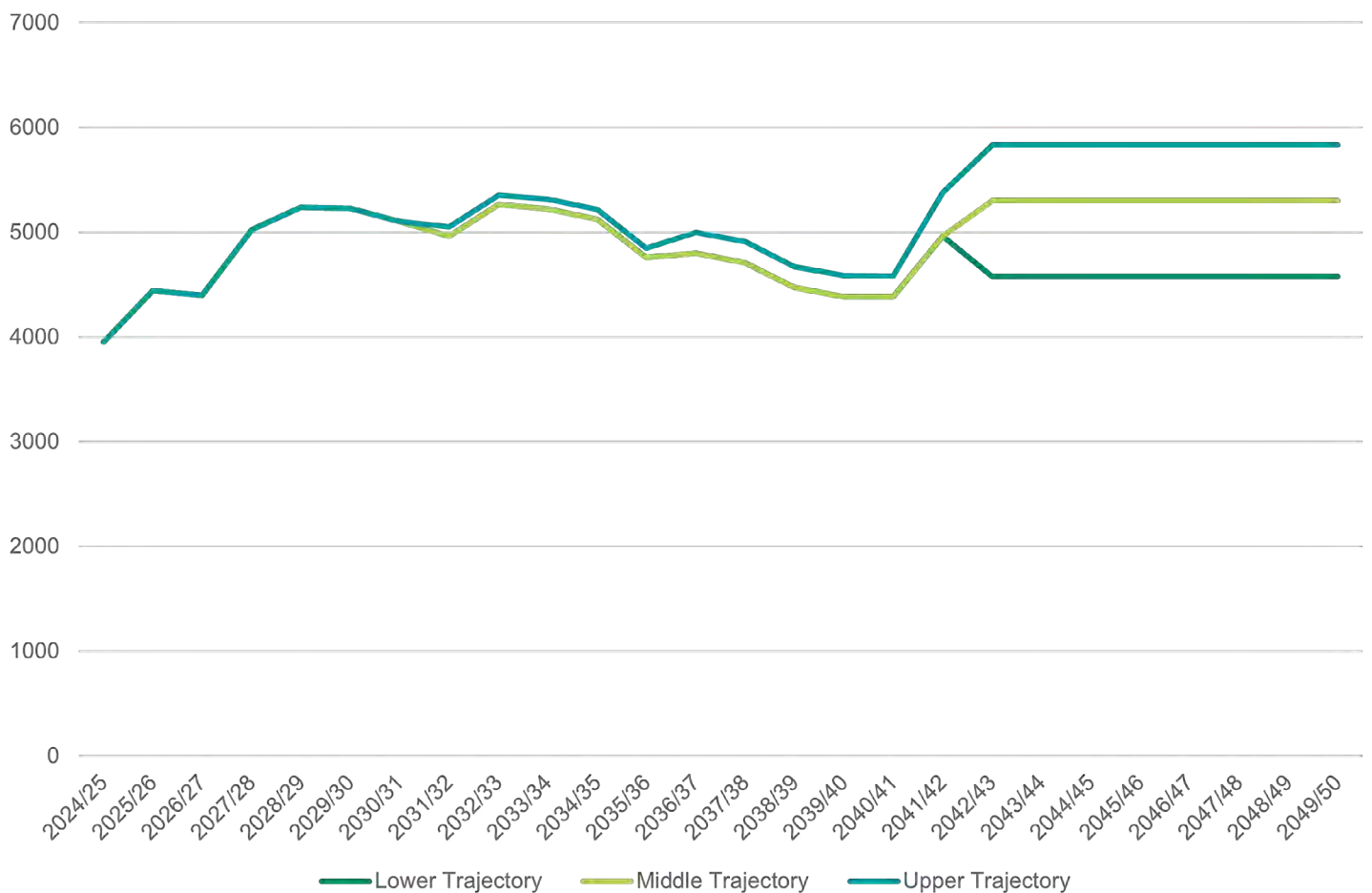
- A lower trajectory, which tests the average 10-year housing delivery rate based on the Oxfordshire County Council 110% Insight Population Trajectory
- A medium trajectory, which combines existing Local Plan housing requirements with the standard method (December 2024) post plan period
- An upper trajectory, which explores additional growth ambitions beyond the plan period, applying a 10% uplift to the standard method housing need in response to the Government's ambitions for the Oxford Growth Commission and the Oxford-Cambridge Growth Corridor

This has resulted in projected theoretical scenarios of between **approximately 123,000 and 134,000 additional homes** across Oxfordshire between 2024/25 and 2049/50.



OxIS Growth Scenarios by District

The first three columns (left) indicate the lower to upper growth scenarios trajectories for OxIS. The last three columns (right) provides relevant benchmarks for comparison with historic delivery and standard method.



OxIS Growth Scenarios (2024/25-2049/50)

Spatial Portrait of Housing Growth

The figure overleaf illustrates key committed and planned housing growth across Oxfordshire. Many of these identified housing sites are located along key transport corridors and around existing urban areas, such as Oxford City, Banbury, Bicester, Culham, Didcot and Witney. In addition, there are also a number of planned Garden Villages across Oxfordshire.

The strategic housing sites illustrated do not equate to the total number of homes planned within each local authority area, as the focus is limited to strategic sites. Additionally, not all Local Plans are at a stage where site allocations have been identified or confirmed for inclusion.

Key example strategic housing sites include:

Cherwell

- Bicester (multiple sites): 7,750 dwellings
- Banbury (multiple sites): 6,400 dwellings
- Heyford Park: 2,500 dwellings
- Kidlington Area: 4,400 dwellings

West Oxfordshire

- Salt Cross Garden Village: 2,200 dwellings
- West Eynsham Strategic Development Area: 1,000 dwellings
- North Witney Strategic Development Area: 1,400 dwellings

South Oxfordshire

- Berinsfield Garden Village: 1,700 dwellings
- Land adjacent to Culham Campus: 3,500 dwellings
- Northfield, edge of Oxford: 1,800 dwellings
- South of Grenoble Road: 3,000 dwellings
- Chalgrove Airfield: 3,400 dwellings
- Sites at Didcot: 2,000 dwellings

Vale of White Horse

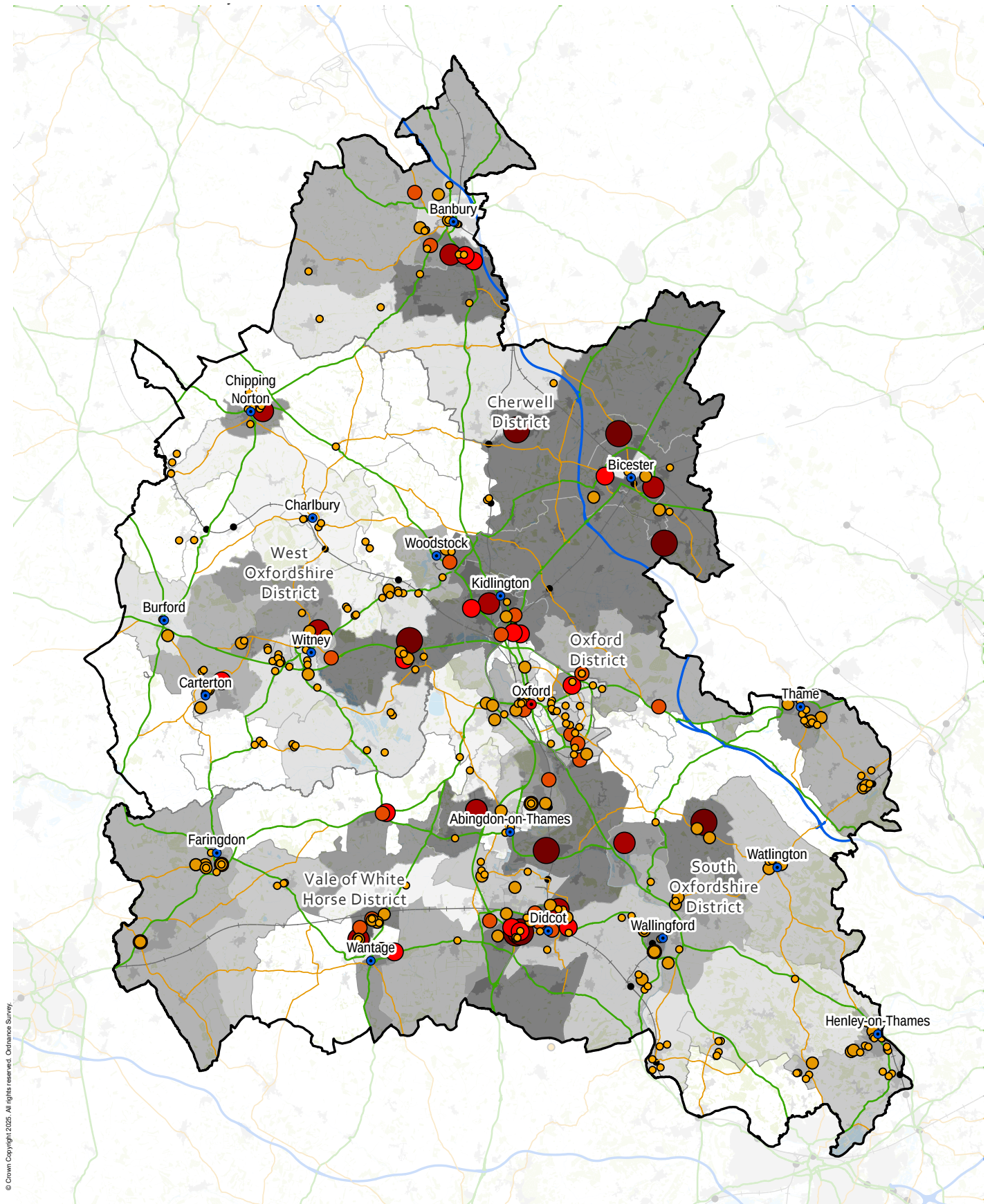
- Valley Park, Didcot: 4,000 dwellings
- Dalton Barracks Garden Village: 2,750 dwellings
- Sites at Wantage and Grove: 5,000 dwellings

Oxford City

- Barton Park: 800 dwellings
- Northern Gateway (Oxford North): 500 dwellings
- Thornhill Park: 400 dwellings

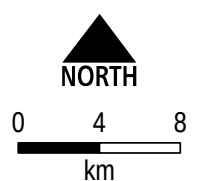
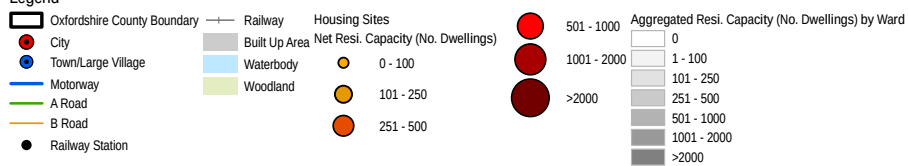
Beyond existing commitments and allocations, a number of strategic speculative sites are promoted at present, including:

- Additional growth at Heyford Park (8,000 dwellings), which is being considered as part of the New Towns Taskforce



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Legend



2.4 Population Growth

Population Profile

Oxfordshire is estimated to be home to more than 750,000 residents as of 2023 (ONS, 2023). The county experienced a population increase of approximately 20% between 2001 and 2021 (ONS, 2021). Its overall population structure is largely similar to that of England as a whole, except for a higher proportion of students aged 15-24 in Oxford City.

Oxfordshire County Council's analysis of the 2021 Census highlights a significant increase over the past twenty years in the number of young people (+15%), working-age adults in their 30s (+15%) and 50s (+27%), and older people aged 65 and over (+25%). However, there has been a decline in the number of children aged 0-4 (-8%), with the most notable decrease observed in Oxford City.

This reflects a clear ageing population trend, with increasing need for healthcare, social care and age-friendly infrastructure.

The 2021 Census shows that Oxfordshire's median age is consistent with the national figure. There continues to be notable variation across the county between urban and rural areas, as noted in previous OxIS studies. Median ages in 2021 ranged from 31 in Oxford City to 44 in West Oxfordshire. In some rural communities, nearly one-quarter of the population is aged 65 or older.

According to the 2021 Census, a total of 105,482 residents in Oxfordshire (14.5%) reported that they are disabled under the Equality Act. At the time of the census, 7.7% of Oxfordshire residents were providing unpaid care.



750k

Estimated number of total residents in Oxfordshire (ONS, 2023)



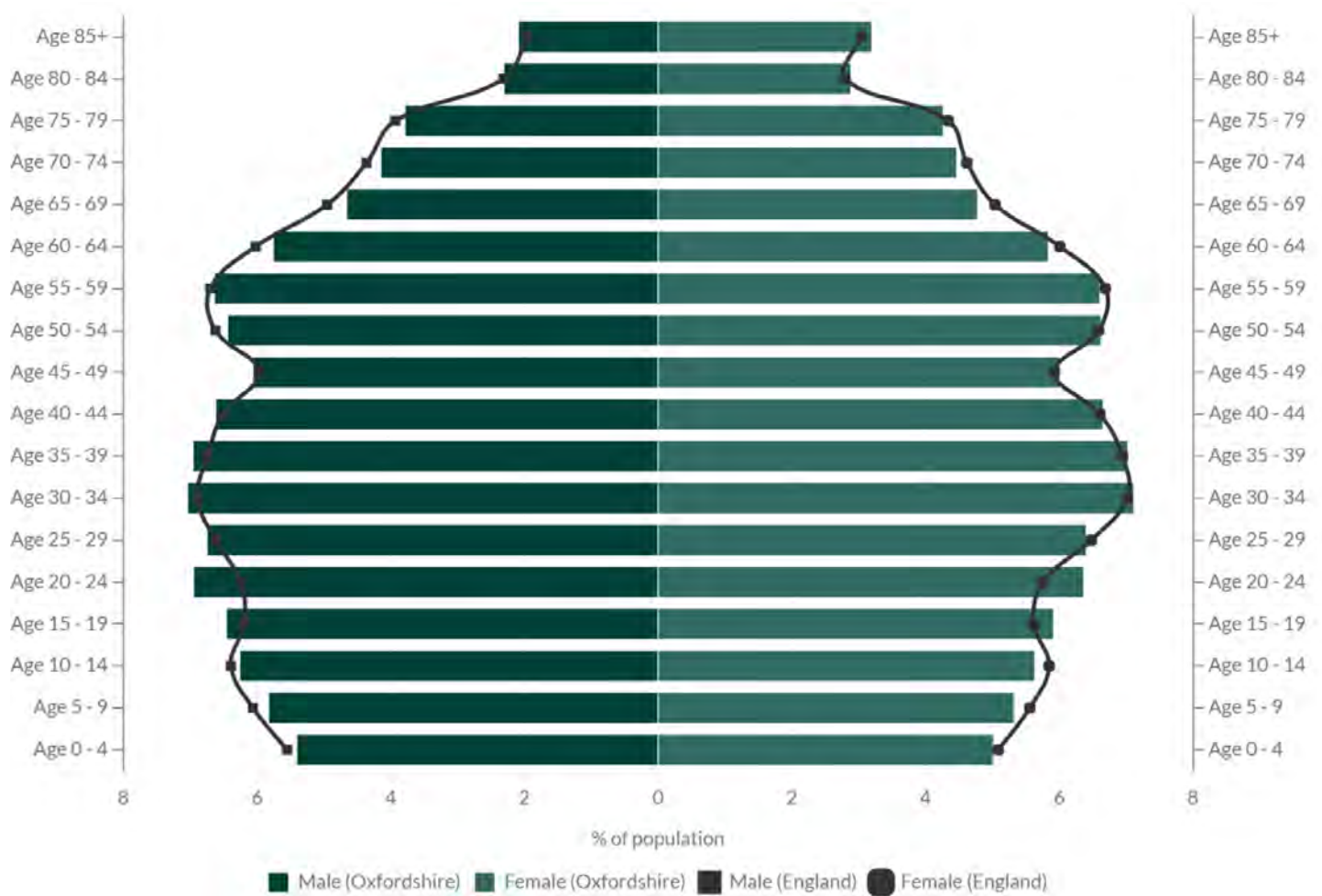
14.5%

Number of residents reported that they are disabled under the Equality Act (ONS, 2021)



7.7%

Number of residents providing unpaid care (ONS, 2021)



Percentage of population by 5-year age groups (2023)
 Source: Oxfordshire County Council Data Hub

Population Forecast to 2050

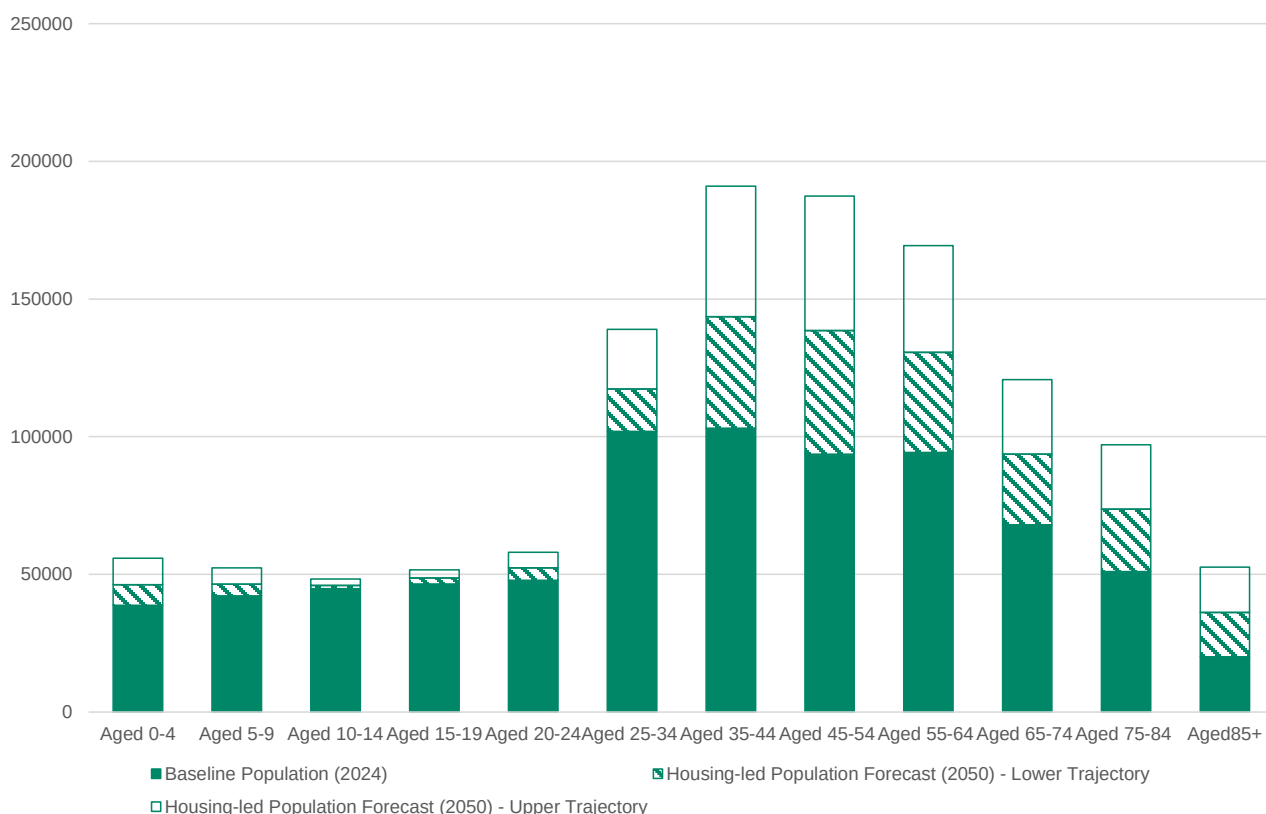
Looking ahead to 2050, OxIS-specific housing-led population projections have been modelled in partnership with the Oxfordshire Insight team at Oxfordshire County Council, based on the three theoretical growth scenarios set out in this report. These projections form the basis for calculating future infrastructure needs, such as education and healthcare provision, as outlined in Chapter 4.

Compared to the ONS projections, this approach provides a more detailed forecast to understand local growth and service requirements. It also allows for the explicit consideration of population change arising from new housing development in Local Plans.

Overall, it is estimated that there will be a population growth of approximately **221,000 to 250,000 people between 2024/25 and 2049/50** (+29% to +33%), meaning that Oxfordshire's overall population will be reaching 1 million by 2050.

This represents additional population growth compared to the trend-based ONS projections, which estimate that Oxfordshire's population will reach 750,551 by 2043, up from a base population of 725,291 in 2021. These projections have already been exceeded as of 2023.

The table opposite presents different population projections which are derived from both adopted and emerging local plans, and government's 'standard method' for identifying local housing needs.



Housing-led demographic forecast to 2050 by 5-year age group

Source: AECOM Analysis of OCC Insight Team Projections

Local Authority	2024	2031	2041		2050	
			Low	High	Low	High
Cherwell	167,676	180,733	203,818	203,818	224,438	224,538
Oxford	163,638	167,360	178,780	180,044	185,119	199,271
South Oxfordshire	155,141	167,927	186,991	186,991	204,684	213,380
Vale of White Horse	147,662	163,809	175,591	175,591	195,442	192,472
West Oxfordshire	117,728	133,296	150,442	152,803	163,501	172,136
Oxfordshire	751,845	813,125	895,622	899,247	973,184	1,001,796

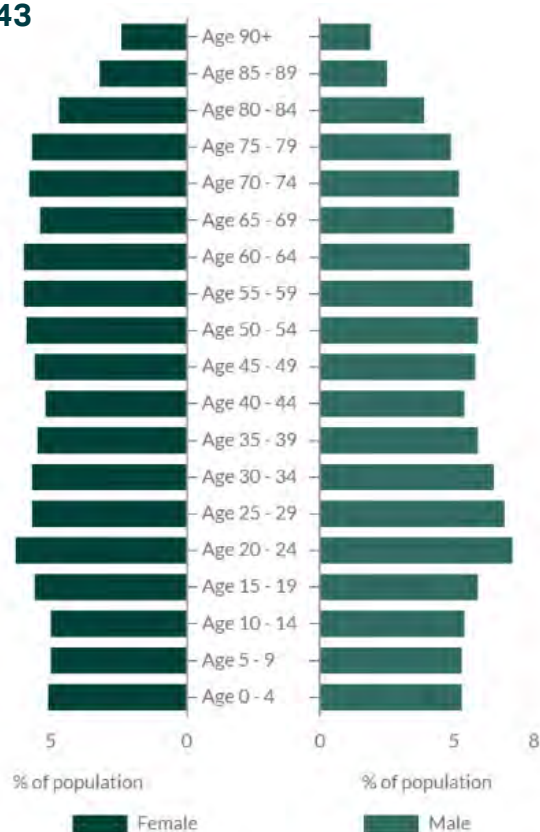
Housing-led Population Projections

Source: AECOM Analysis of OCC Insight Team Projections

2021



2043



ONS Population Projections, Percentage of population by age and sex for Oxfordshire (2021, left; 2043; right)

Source: Oxfordshire County Council Data Hub

03

Infrastructure Planning and Delivery

3.1 Planning for Infrastructure

Planning for the use of land in England, including the provision and coordination of infrastructure, is governed by national legislation and policy, with oversight from central government. The legislative framework continues to be anchored by the Planning and Compulsory Purchase Act 2004, now significantly supplemented by the Levelling-up and Regeneration Act 2023 (LURA), which introduces key reforms to infrastructure planning, funding and delivery mechanisms.

National policy is guided by the National Planning Policy Framework (NPPF), most recently revised in December 2024 and updated in February 2025, alongside associated Planning Practice Guidance issued by the Ministry of Housing, Communities and Local Government (MHCLG). These documents set out the principles of sustainable development, plan-making and infrastructure provision that Local Planning Authorities (LPAs) must follow.

At the local level, District and City Councils operate as LPAs and are responsible for preparing Local Plans. These statutory plans must articulate a vision for sustainable growth in housing, employment, and supporting infrastructure.

Under both the 2004 Act and the new provisions in LURA, LPAs are required to identify:

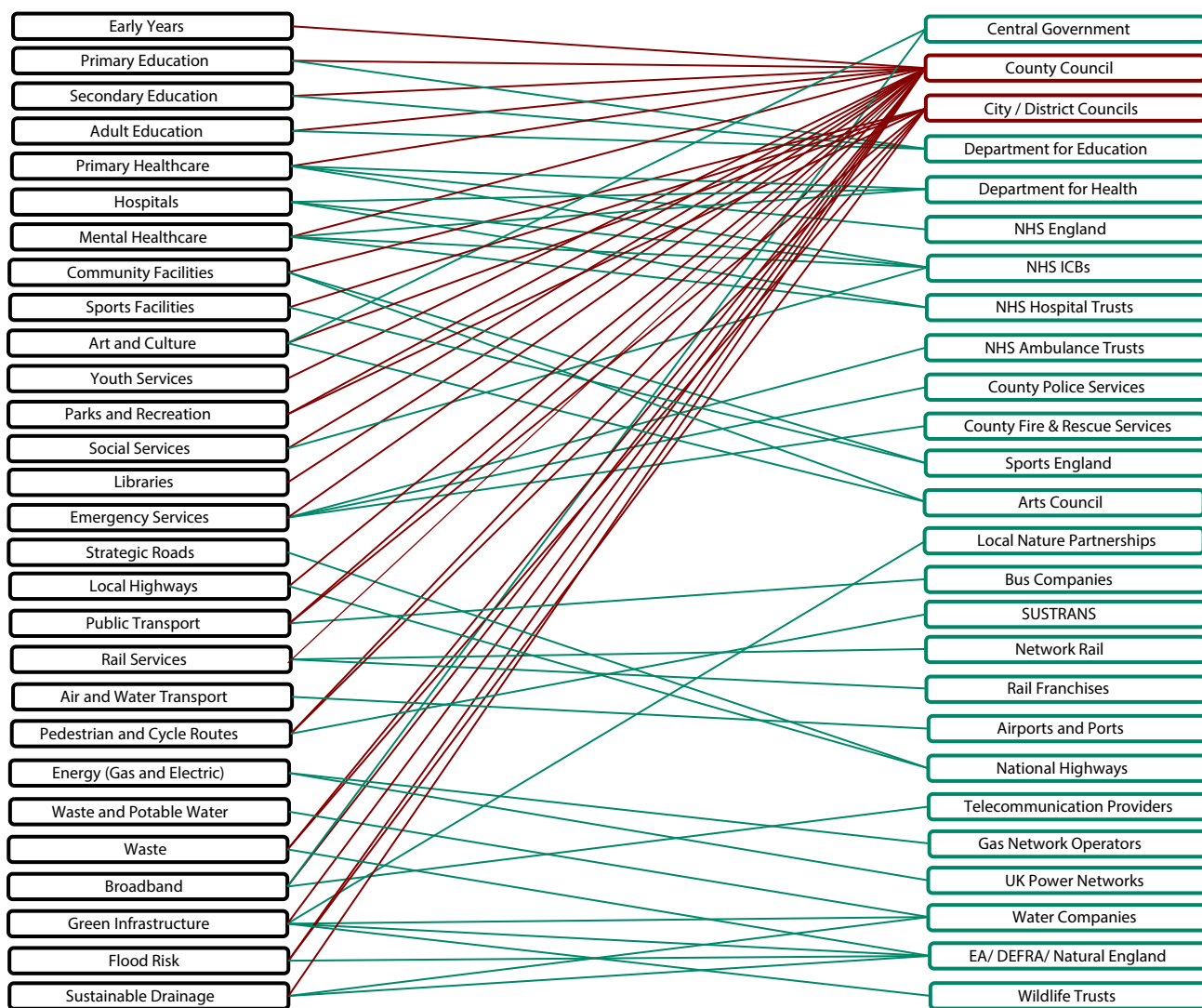
- The infrastructure required to support planned growth
- The likely sources of funding
- The bodies responsible for delivery
- The anticipated timing and phasing of provision

Under LURA, the requirement for an Infrastructure Delivery Plan is expected to evolve into a broader and more strategic Infrastructure Delivery Strategy (IDS), subject to the publication of secondary legislation and further guidance. The IDS is intended to align infrastructure planning with housing and economic growth trajectories, with an increased emphasis on deliverability and accountability.

LURA also introduces the Infrastructure Levy (IL), a new mandatory levy intended to replace the Community Infrastructure Levy (CIL) and Section 106 planning obligations. However, the IL remains at pilot stage, with full implementation pending further consultation, testing, and secondary legislation. In the interim, CIL and Section 106 remain in effect.

Planning for certain types of infrastructure, such as waste, education, highways, and transport, remains the responsibility of upper-tier authorities, such as Oxfordshire County Council (OCC). OCC also plays a key role in coordinating infrastructure investment across the county and ensuring alignment with both local plans and strategic priorities.

National infrastructure providers, including National Highways, Network Rail, Homes England, and the Environment Agency, continue to play significant roles in delivering large-scale or cross-boundary infrastructure in Oxfordshire. Collaborative working with these agencies is essential to successful implementation of both local and regional development strategies.



The Complex Pattern of Infrastructure Provision

Figure shows the complexity of infrastructure provision highlighting the number of infrastructure stakeholders and providers that are involved and their respective responsibilities.

In recognition of the cross-boundary nature of infrastructure needs, the Localism Act 2011 introduced the Duty to Cooperate, requiring LPAs to engage constructively and on an ongoing basis with neighbouring authorities and relevant infrastructure bodies on strategic planning matters. While the Duty remains legally in place, LURA proposes to replace it with a new 'alignment policy'. However, until secondary legislation is enacted, the Duty to Cooperate continues to apply.

To that end, local partnerships such as the Oxfordshire Leaders Joint Committee have played a pivotal role in coordinating strategic evidence bases and ensuring an integrated approach to infrastructure challenges. This group continues to explore mechanisms for enhancing cross-boundary planning and shared investment priorities.

Further strengthening this regional approach, Enterprise Oxfordshire (successor to the Oxfordshire Local Enterprise Partnership) serves as the principal forum for aligning infrastructure investment with skills, innovation, and business support. Following national reforms to Local Enterprise Partnerships, Enterprise Oxfordshire now operates as a partnership owned by Oxfordshire County Council, which acts as its sole shareholder. The body brings together representatives from the public, private, and academic sectors to set strategic economic and infrastructure priorities for the region.

Together, these frameworks and organisations reflect a continued emphasis on place-based, coordinated infrastructure planning, aligned with wider national goals in growth and investment.

In parallel to the local planning system, certain large-scale infrastructure proposals are brought forward through the Nationally Significant Infrastructure Projects (NSIP) regime, governed by the Planning Act 2008. NSIPs include major developments in sectors such as energy, transport, water, waste, and now also certain forms of digital infrastructure.

These projects are subject to a Development Consent Order (DCO) process, with applications examined by the Planning Inspectorate and determined by the relevant Secretary of State. While separate from the Local Plan process, NSIPs are required to demonstrate regard to local development plans, infrastructure strategies and relevant local authority representations. Recent reforms under the National Infrastructure Strategy, the Levelling-up and Regeneration Act (LURA) and further proposals in the Planning and Infrastructure Bill, aim to streamline the DCO process, improve community engagement, and better align NSIPs with local growth priorities and environmental goals.

As of July 2025, there are four live National Infrastructure Projects in Oxfordshire, including:

Examination

- Botley West Solar Farm

Pre-Application

- Oxfordshire Strategic Rail Freight Interchange
- South East Strategic Reservoir Option (SESRO)
- East West Rail

Aligning with the ambition of the UK Infrastructure Strategy

In June 2025, the UK Government published a new 10-year UK Infrastructure Strategy, setting out a new approach to infrastructure investment across the UK for the long-term. The Strategy focuses on providing funding certainty and strategic clarity for both economic and social infrastructure, underpinned by a commitment of £725 billion in public investment over the next decade.

It also seeks to remove existing barriers to infrastructure delivery, including through the establishment of the National Infrastructure and Service Transformation Authority (NISTA) and introducing a place-based approach to business case development.

To support transparency and delivery tracking, a digital Infrastructure Project Pipeline will be launched in July 2025 by NISTA. This is expected to include details of capital and maintenance costs infrastructure and construction projects with a total cost of £25 million or more for economic infrastructure (including Transport, Utilities and Energy) and £15 million or more for social infrastructure (such as Education and Health).

A number of infrastructure investments in Oxfordshire are also highlighted and are anticipated to be included as part of the upcoming project pipeline, such as East West Rail, Oxford Flood Alleviation Scheme and the first AI Growth Zone in Culham. These are expected to play a key role in supporting and unlocking growth in the Oxford to Cambridge Growth Corridor.

This provides a window of opportunity for Oxfordshire to take a spatial approach in understanding planning for infrastructure, joining up across sectors and strengthening the local evidence base for place-based infrastructure investment. This is also likely to support national and local opportunities for attracting and targeting private finance towards Oxfordshire's strategic infrastructure needs.

Drivers of Change

In understanding the planning and need for infrastructure, it is also critical to take into account potential Drivers of Change (**Appendix 4**) which may transform the quantum and type of infrastructure, as well as how infrastructure will be delivered and invested in towards 2050 and beyond.

These Drivers of Change can relate to social, political, governance, economic, technological, innovation and environmental factors. They may apply across various geographies in Oxfordshire and across different infrastructure sectors.

Most of if not all, are difficult to quantify or confirm in terms of their likely impact on infrastructure planning and delivery in the short, medium and longer term, however it is important to keep in mind when considering future infrastructure demand and supply.

04

Baseline Infrastructure Assessment

4.1 Key Findings Summary and Gap Analysis

This section summarises the key findings emerging from the evidence gathered to date and highlights the key gaps identified in the current analysis. The OxIS Stage 1 Baseline Technical Assessment draws on a wide range of datasets and stakeholder input to establish a comprehensive picture of current and planned infrastructure across Oxfordshire. While this provides a robust foundation, several limitations and information gaps remain, which will need to be addressed through further engagement in Stage 2.

Chapters 4.2 to 4.7 provide a detailed baseline technical assessment for each infrastructure topic, considering the organisations responsible for planning and delivery, including any notable changes in strategic policy direction; the current strategic infrastructure capacity and associated constraints and opportunities; and the estimated future requirements to support growth to 2050. This includes an assessment of both the existing pipeline of committed investment and the potential future strategic infrastructure required to address identified gaps.



Key Findings

- Congestion hotspots on A34, A43 and M40, with limited EV charging infrastructure
- OCRS identified the need for a 70% increase in passenger services and calling patterns and service coverage by 2028
- East West Rail presents opportunities for improved regional and national connectivity and increased freight capacity
- Bus depot capacity forecast to be reached by 2025
- Existing active travel infrastructure falls short of latest design standards, with poor walking and cycling links to key destinations such as rail stations
- Need for inter-urban active travel routes

Gap Analysis

There remain significant uncertainties regarding the scale, timing and nature of strategic transport infrastructure required to accommodate growth to 2050:

- **Funding and commitment uncertainties, including RIS 3:** Delays to the Road Investment Strategy 3 (RIS 3) programme have created uncertainty over the delivery of strategic road schemes, posing risks to meeting long-term capacity needs and aligning transport upgrades with other infrastructure investment and planned growth.
- **Rail strategy in early development:** The OxRAIL2040 strategy is still in its early stages but is expected to shape long-term rail investment and capacity enhancements across Oxfordshire, including the identification of priority projects to improve network capacity, connectivity and sustainability.
- **Need for enabling infrastructure:** Realising the benefits of planned and future rail investment will require coordinated planning for supporting infrastructure, including interchange hubs, enhanced electricity supply and network reinforcements, and improved digital connectivity such as 5G mobile coverage.
- **Uncertainty of strategically significant developments:** Including the potential delivery of the Oxfordshire Strategic Rail Freight Interchange (OxSRFI).
- **Limited bus sector planning beyond 2030:** The current Bus Service Improvement Plan (BSIP) extends only to 2030. There are currently limited planned investments in the bus sector beyond that horizon, despite the Local Transport and Connectivity Plan (LTCP) emphasising the importance of further integrating bus infrastructure to support modal shift.
- **Gaps in mass transit strategy and transport modelling:** There is currently no specific mass transit strategy and no up-to-date transport modelling for Oxfordshire. It is understood that an Integrated Transport Partnership is being established at present, which will foster collaboration between stakeholders to improve multi-modal connectivity.



Key Findings

- Oxfordshire faces significant constraints on its electricity network, with exceptionally long connection times for new housing development in Bicester due to the need for reinforcements at the Grid Supply Point (GSP). The SSEN Network Capacity Map indicates that electrical infrastructure is constrained in parts of the county, which could limit development before 2030 until scheduled reinforcement upgrades are completed.
- There is currently no published SSEN forecast for electricity demand to 2050, however, indicative estimates suggest an increase of at least 966 MWh by 2050, which will be further refined through forthcoming OxLAEP modelling. Demand for electricity, including from renewable energy sources, is expected to rise in response to system-level changes such as the Future Homes Standard and rail electrification.
- Additional demand is anticipated from Oxfordshire's AI Growth Zone and data centre developments, reflecting its position as a global innovation hub. At present, the combined load from committed and potential data centre development within the Science Vale Enterprise Zones is estimated at approximately 637 MW. While around half of this demand is expected to be supported by the grid, the mechanisms for meeting the remainder are unclear at this stage. There are also opportunities to capture waste heat from data centre operations through a whole energy systems approach, for example, by supplying it to nearby housing developments or large heat users via district heating networks.
- Only 62% of premises in Oxfordshire currently have access to full-fibre connectivity, with Oxford City having the lowest coverage (27%) despite its status as a global innovation and economic hub. Most local authority areas in Oxfordshire have 5G coverage below 10%.

Gap Analysis

- **Net Zero Pathways:** The Oxfordshire Local Area Energy Plan (OxLAEP) will provide detailed energy modelling of system-level change scenarios to 2050, identifying the infrastructure required to deliver the county's net zero pathway. This work is ongoing and will be essential to refining long-term requirements for energy generation, storage, and distribution across Oxfordshire. It is also expected to complement the forthcoming Strategic Spatial Energy Planning and Regional Energy Strategic Planning processes.
- **Underestimated future demand:** Analysis of the DFES 2024 projections conducted by Oxfordshire County Council has highlighted an underrepresentation of renewable energy generation, housing growth and electric vehicle uptake in Oxfordshire. As a result, current infrastructure planning does not fully account for the scale of growth expected, increasing the risk of infrastructure investment shortfalls.
- **Waste infrastructure requirements to be informed by new Minerals and Waste Plan**



Key Findings

- A large proportion of Oxfordshire does not meet any of the Accessible Greenspace Standards, with over 50 urban neighbourhoods identified as areas of concern or priority.
- There are no existing publicly accessible green spaces large enough to meet the sub-regional Accessible Greenspace Standard.
- Significant green infrastructure delivery will be required to support planned and future housing growth in Oxfordshire. While relevant open space and biodiversity requirements can be partially delivered through individual sites, strategic investments such as the Evenlode Landscape Recovery Project and the Oxfordshire Nature Recovery Fund will be needed to meet sub-regional needs and enhance connectivity.
- Integrated infrastructure planning presents an opportunity to maximise the role of green infrastructure in enhancing health and wellbeing outcomes and providing natural solutions for flood risk mitigation.

Gap Analysis

- **Draft Oxfordshire Local Nature Recovery Strategy in development:** While this study has been informed by the draft LNRS mapping outputs, the Strategy is currently being finalised. Once complete, it will identify priority areas for nature recovery, guide investment in green infrastructure and support the delivery of biodiversity net gain.
- **Lack of comprehensive provision standards for green infrastructure:** There are currently no formal standards that can be used to model future green infrastructure requirements for delivering ecosystem services, climate resilience, and health outcomes. Existing standards primarily focus on access to greenspace and biodiversity, leaving other functions such as carbon sequestration and flood mitigation without defined benchmarks for infrastructure planning.
- **Absence of Oxfordshire-wide GBI assets and requirements mapping:** There is currently no county-wide mapping of green and blue infrastructure assets and requirements to enable a detailed analysis of under-provision and identify strategic opportunities for enhancement.
- **Limited identification of strategic NFM and NBS schemes:** There are currently no further identified natural flood management (NFM) or nature-based solutions (NBS) projects in Oxfordshire, although partial opportunity modelling has been undertaken.



Key Findings

- Nearly 6,000 properties will be at 1% of higher risk of flooding by 2080
- By 2050, 7% of properties will be at risk of hydraulic flooding internally from the sewerage system for up to 1 in 50-year storm
- TWUL forecasts supply-demand deficit of -90MI/d by 2045 and may no longer routinely meet potable water demand of non-residential development, such as data centre development, which would require investment in water management.
- 77% of Sewage Treatment Works catchments were vulnerable to the risks of growth and climate change

Gap Analysis

- **Lack of statutory requirements for flood risk reduction in existing areas:** There is currently no statutory obligation for infrastructure providers or developers to construct assets aimed at reducing flood risk in already-developed areas. This limits the ability to address legacy flood risk issues through planned infrastructure investment.
- **Limited strategic NFM/NBS schemes:** There are no further identified strategic natural flood management (NFM) or nature-based solutions (NBS) projects in Oxfordshire beyond those already in progress, although partial opportunity modelling has been undertaken.
- **Absence of Oxfordshire-specific long-term water supply projections:** There are no direct projections for Oxfordshire's water supply needs to 2050, with available data only provided at the broader Water Resource Zone (WRZ) level. This limits the ability to assess localised supply-demand balances and target investment effectively.
- **Potential shifts in future demand patterns:** Future demand for water could be significantly affected by emerging high-consumption sectors, such as data centres, which are not yet fully reflected in demand forecasts.
- **Institutional change in water regulation:** Ongoing organisational changes, including proposals for Ofwat to be replaced by a single regulator for the entire water system, create uncertainty for long-term investment planning and delivery responsibilities.



Key Findings

- As of 2024, there is an overall surplus of around 7,000 secondary education places across Oxfordshire, although availability varies significantly between different parts of the county. Demand for secondary places is expected to increase in Didcot, Bicester, and Wantage over the coming years.
- There is a projected deficit of approximately 609 Special Educational Needs and Disabilities (SEND) places by 2027.
- Oxfordshire’s key educational institutions play a vital role in improving local skills and supporting the growth of the county’s global research and innovation ecosystem.

Gap Analysis

- **Limited long-term projections:** Education planning currently operates on a five-year cycle, and there are no available projections to estimate infrastructure needs beyond 2027/28.
- **Housing-led demand:** Based on housing-led benchmark assumptions, Oxfordshire is expected to require around twelve additional 10-form-entry secondary schools, 1,954 additional SEND places, 6,500 further education and college places, and 1,000 adult learning places. These estimates will need to be reviewed in light of changing demographics, which are likely to produce peaks and troughs in demand and a smaller net requirement over time.
- **Condition and accessibility of existing facilities:** While much of the projected demand could be met through new developments, there are ongoing challenges relating to the condition of existing school buildings and the adequacy of walking, cycling, and public transport links to them, which will need holistic consideration.



Key Findings

- Healthcare provision in Oxfordshire is predominantly Oxford-centric, with an ageing estate and a significant investment backlog.
- Primary healthcare services are already under pressure in Oxford City, Bicester, Didcot, and Wantage.
- There is no confirmed funding for the renewal of Horton General Hospital.
- There are currently no plans to upgrade A&E capacity in Oxfordshire or to increase the number of hospital beds.

Gap Analysis

- **Short-term and reactive planning:** Health and care infrastructure planning in Oxfordshire is generally focused on the short term, with some estate strategies not extending beyond the current year. There are currently no confirmed updates to address longer-term needs arising from population growth and demographic change.
- **Ongoing engagement and evidence gathering:** Further engagement is planned with key health stakeholders to confirm long-term investment priorities and estate renewal strategies. Engagement has taken place with the BOB Integrated Care Board (ICB) and Oxford Health NHS Foundation Trust, and discussions with the Oxford University Hospitals NHS Foundation Trust are expected to form a focus area for the consultation and Stage 2.

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4.2Transport



Highways



Rail



Bus,
Coach and
Strategic
Rapid Transit



Active
Modes

Highways

Infrastructure Delivery Bodies

The road network in Oxfordshire consists of 'Trunk' roads and 'Principal' roads.

The Strategic Road Network (SRN) is made up of the motorways and trunk 'A' roads. In Oxfordshire, the M40, A34, and A43 are located on the SRN. The SRN is managed by National Highways.

Non-trunk roads are the roads on the local road network which are the responsibility of OCC as the Local Highway Authority (LHA).

Some 'A' roads managed by the local authority form part of the major road network (MRN). The MRN comprises the country's busiest and most economically important local authority 'A' roads. The A40 and A420 are two of several key links in Oxfordshire which are part of the MRN.

National Highways' Road Investment Strategy (RIS) sets the long-term vision and investment priorities for the SRN, informed by national policies and strategies.

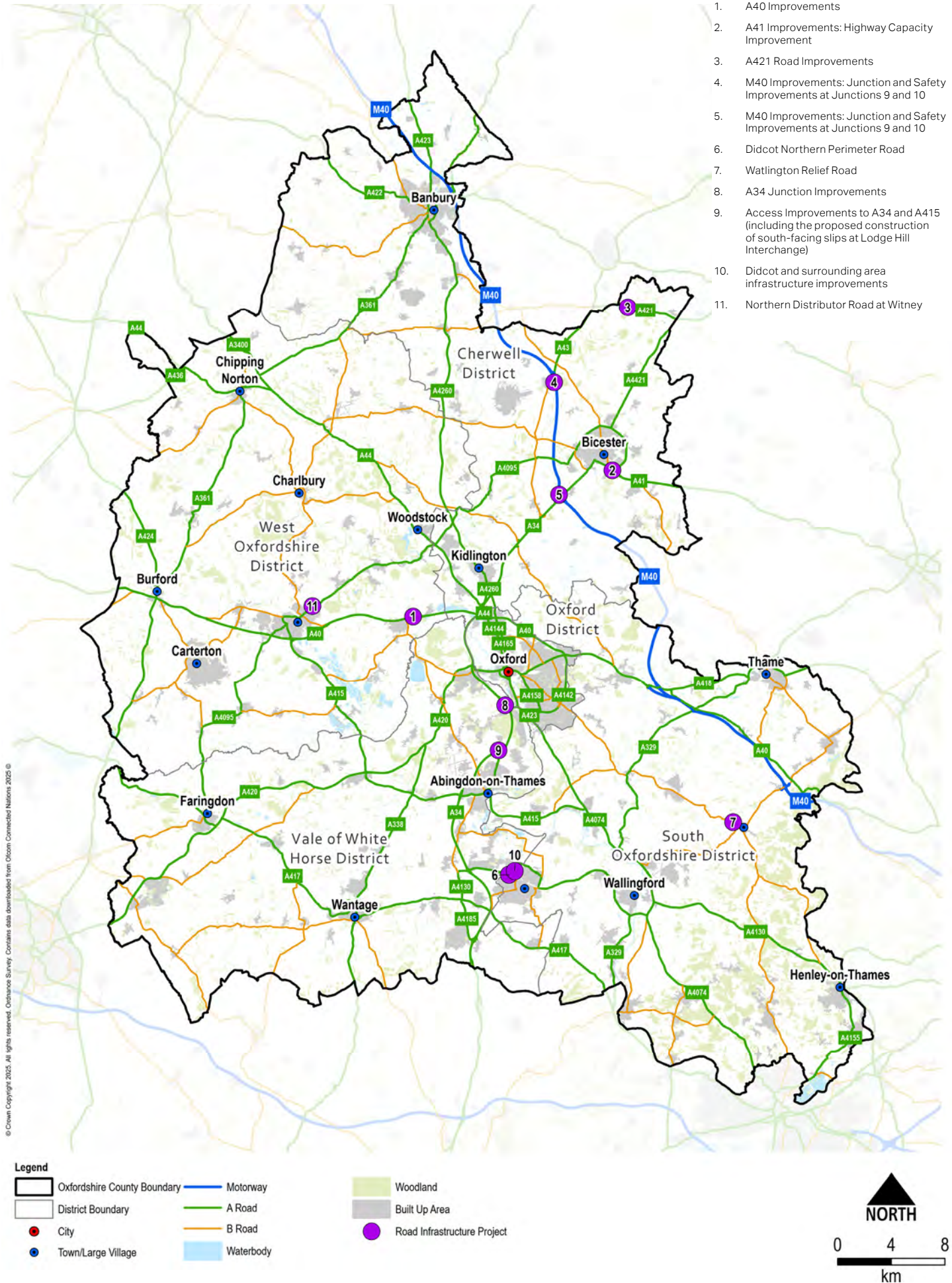
Investment in the road network can support a range of transport modes beyond private vehicles. RIS aims to enhance the SRN to work better for all road users including walkers, cyclists, horseriders and motorists, in line with the Government's wider ambitions on active travel and healthy lifestyles.

The current RIS2 (2020-2025) outlines planned enhancements, maintenance, and operations. The future investment priorities will be set out in the upcoming RIS3. The publication of RIS3 has been delayed to April 2026 by the national government's ongoing spending review.

OCC's Local Transport and Connectivity Plan (LTCP), published in 2022, sets out a vision which frames the County's approach as LHA to transport policy. The vision references promoting inclusivity, reducing inequalities, advancing towards net-zero emissions, and reaching zero road deaths as key facets of the County's approach. The LTCP also has a number of targets to reduce car use, increase active travel, and improve road safety, and the County Council are now working on delivering a number of area focused Movement and Place Plans to identify how the LTCP vision can be delivered at more local level.

An Integrated Transport Partnership is in the process of being established to strengthen Oxfordshire's transport infrastructure and network by fostering collaboration between stakeholders.

The English Devolution White Paper was published in December 2024. Local authority reorganisation and changes to the governance of Oxfordshire may impact the direction of travel in terms of planning and delivering this type of strategic infrastructure.



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Example Major Transport Infrastructure Projects in Oxfordshire (Road Infrastructure)

Existing Strategic Infrastructure Capacity

To inform the RIS process, National Highways are making updates to their Route Strategies, which set out the current constraints on the SRN and opportunities for improved connections with local roads and rail links.

Two routes pass through Oxfordshire:

- Solent to Midlands
- London to Scotland West (South)

In advance of the publication of the full route strategies at the end of the RIS2 process, Initial Overview Reports for both routes were published in 2023, setting out the issues and opportunities on the SRN in Oxfordshire.

These include:

- Proposals for an Oxfordshire Strategic Rail Freight Interchange (OxSRFI) to be located south-west of Junction 10 on the M40
- There is a concentration of collisions that involved someone being killed or seriously injured on the A43 and M40 either side of the A34/M40 and A43/M40 Junctions, and North and South of the A34/A303 Junction
- Delays are expected to worsen in the future, particularly between the Hinksey Hill and Peartree Junctions, and at the junctions where the A34 and A43 meet the M40. Traffic volumes on M40 Junctions 9 to 10 are expected to exceed capacity by 2031

- There is expected to be an increase in local traffic from the increased growth using the SRN, particularly with the plans to remove through traffic from the centre of Oxford in OCC's Local Travel Plan
- The A34 has traffic levels comparable to a motorway, therefore limiting the local environmental impact is an important issue
- There is limited provision of Electric Vehicle (EV) infrastructure on some sections of the A34, on the northern section where the road is parallel to Abingdon
- Significant growth is planned at multiple locations along the A43, including Bicester. Development in Abingdon and Didcot will likely impact the A34 between the Chilton Interchange Junction and the North Abingdon Junction (A34/A4183)
- There are opportunities to develop the provision of sustainable modes along key road corridors, through higher frequency rail services, branch reopenings, and park & ride (P&R) schemes

On the local road network, the LTCP outlines some of the issues and opportunities in the context of the 'Vision' for Oxfordshire, as set out above:

- Congestion in Oxford city centre and on the ring road. This presents opportunities for measures to encourage modal share and behaviour change.
- There is a high proportion of C and unclassified roads, which are often not built to modern standards and in rural areas, making highway maintenance a challenge

Strategic Infrastructure Requirements to Support Growth to 2050

Infrastructure investment related to the SRN which could support growth to 2050 includes:

- Improved efficiency of freight flows, especially at M40 J10 if the OXSFRI is delivered
- Improvements to access, congestion, and safety at junctions on the M40 (J10, J11 and J12), A34 and A43, including through better provision of non-motorised user (NMU) infrastructure on the A34
- Better management of traffic on the A34 between the Hinksey Hill and Peartree Junctions
- Developments along the SRN need to limit their impact on the network, including through modal shift and demand reduction
- Better provision of sustainable transport to relieve pressure on key road corridors and improve sustainability of the transport network

Consideration may be given to how the strategic infrastructure requirements align with OCC's 'vision-based' approach to planning, ensuring that improving sustainable transport provision and managing demand is prioritised over capacity creation on the SRN.

For the local road network, the LTCP emphasises the need to reduce reliance on road schemes, but notes that in some cases new roads, or widening roads and junctions may be necessary to ensure a reliable and effective transport network. OCC are producing Corridor Movement and Place Strategies to respond to issues and opportunities on the A40, A420, A41, A44, A4074 and M40/A34 in a way which aligns with the LTCP vision.

Existing Pipeline Infrastructure Investment

The projects which are part of the current RIS2 pipeline in Oxfordshire and their status are as follows:

- **A34 Newbury to Oxford Safety Improvements**
(Completed)
- **A34 Technology Enhancements/A34 Botley and Pear Tree Interchange Improvements**
(Completed)

Other planned, ongoing or recently completed schemes on the SRN, but not part of the RIS process, include:

- **M40 Junction 10 Padbury Roundabout Improvements**
(Expected Completion: Summer 2025)
- **M40 Junction 10 OxSRFI Improvements**
(Not Started – Pending OxSRFI DCO decision)
- **A34 Lodge Hill Interchange**
(Construction to Start: 2025)

In line with the LTCP vision, there are a number of non-road infrastructure measures which have been put forward to tackle existing issues on the road network. Many of the improvements planned are multi-modal in nature and will provide benefits for all users of the road network, including bus and active travel. These are presented in the topic summaries for their respective modes. Road based measures on the local road network which are ongoing or planned include:

- **Didcot and surrounding area infrastructure improvements**
(Construction Expected: 2026 onwards) - These improvements include a new Bridge over the Thames, as well as significant road and active travel improvements across the area to support planned development
- **Frilford and Marcham Improvements**
(Traffic Modelling Ongoing)
- **A40 Improvements**
(Park and Ride and Bus Priority measures in development, with further improvements on corridor planned)

- **Didcot Northern Perimeter Road**
(Expected Completion: Summer 2027)
- **Watlington Relief Road**
(Planning Decision Expected: Spring 2025)

Challenges or risks associated with delivering the existing pipeline road infrastructure investments include:

- **Public opposition:** Resistance to road expansion can lead to political and planning challenges
- **Legal challenges:** Judicial reviews and legal objections can delay or prevent project delivery. The delivery of OxSRFI is pending a Development Consent Order (DCO). Hinckley SRFI DCO was rejected in 2025 by the Secretary of State because of an unacceptable transport impact.
- **Funding constraints:** Economic uncertainty may lead to reprioritisation or budget shortfalls. There remains ongoing uncertainty about RIS3 and the direction of National Highways' funding process.
- **Local authority reorganisation:** Changes to the governance of Oxfordshire could disrupt decision-making, especially in relation to cross-border investment

Future Strategic Infrastructure Required to Support Growth

There are a number of uncertainties regarding the extent of infrastructure required to support growth to 2050 relating to:

- The location of proposed new growth.
- The delivery of strategically important developments e.g. OxSRFI.
- The provision of funding e.g. RIS3.

When greater clarity is available on these matters, transport modelling can be undertaken to understand the gap between proposed provision and the impact of growth.

Numerous other schemes have been put forward in District Local Plans and Area Strategies. These schemes generally remain at an early stage of planning and can be found in the draft Stage 1 Strategic Infrastructure Project Schedule.



Highways



Rail



Bus,
Coach and
Strategic
Rapid Transit



Active
Modes

Rail Infrastructure

Infrastructure Delivery Bodies

Rail infrastructure includes tracks, stations, crossings, signalling and maintenance infrastructure which make up the rail network in the County.

Network Rail is responsible for operating, maintaining and renewing the rail infrastructure (e.g. track, signalling, level crossings, bridges and tunnels), and owns the stations. Stations are managed by the Train Operating Companies (TOCs), Great Western Railway (GWR) and Chiltern Railways. OCC are involved in the development of rail strategy and planning, interchange between rail and other modes, and supporting funding for rail in the County.

The development of East West Rail (EWR) between Oxford and Cambridge is being managed by the East West Railway Company (EWR Co), a non-departmental public arm's length body.

Existing Strategic Infrastructure Capacity

A joint steering group, including Network Rail and OCC, coordinated the Oxfordshire Rail Corridor Study (ORCS) which was published in 2022.

ORCS and LTCP set out the key issues and opportunities related to the current geographical distribution and capacity of rail infrastructure in Oxfordshire. Issues and opportunities include:

- The ongoing delivery of EWR provides a number of new potential rail connections towards Milton Keynes (part 1), and Cambridge, with benefits for network capacity (including rail freight capacity), modal shift and supporting development.
- Many services terminate at Oxford Station, limiting connectivity across the rest of the County and wider region.
- There is a lack of capacity for passenger and freight rail traffic, with the need for a 50% increase in capacity anticipated by 2028. Routes from Oxford to Banbury, Didcot and London Marylebone are the routes with the most immediate capacity concerns.

The market for rail freight in Oxfordshire is also forecast to grow. Demand is growing nationally and Oxfordshire's strategic location to the north of London makes it well-placed for investment. The Oxford Strategic Rail Freight Interchange (OxSRFI) is proposed for a location to the south-west of M40 J10.

Although not directly impacting Oxfordshire, HS2 presents longer-term opportunities to reallocate capacity, potentially relieving some pressure on other routes in the region. Rail connectivity to Heathrow Airport could be improved with passengers needing to transit through Central London.

Strategic Infrastructure Requirements to Support Growth to 2050

The ORCS sets out improvements which could support growth to 2033, with longer-term ambitions in the LTCP.

These include:

- The need for a 70% increase in passenger services as well as improved calling patterns and service coverage by 2028
- EWR is needed to improve regional and national connectivity, as well as freeing up capacity for passenger and rail freight. Supporting infrastructure is needed to provide interchange and limit potential severance concerns e.g. London Road in Bicester.
- Banbury, Bicester Village, Culham, Didcot Parkway, Hanborough, Oxford, and Oxford

Parkway are stations that would benefit from the new and improved services, improving regional connectivity

- To facilitate additional service improvements, capacity enhancements are needed on the Cowley Branch Line, North Cotswolds Line and Great Western Mainline
- New stations to support housing and employment growth at several locations across the County including Wantage and Grove and at Begbroke
- Rail improvements will also support and enable access to planned new and major leisure proposals such as Puy du Fou and the new Oxford United Stadium

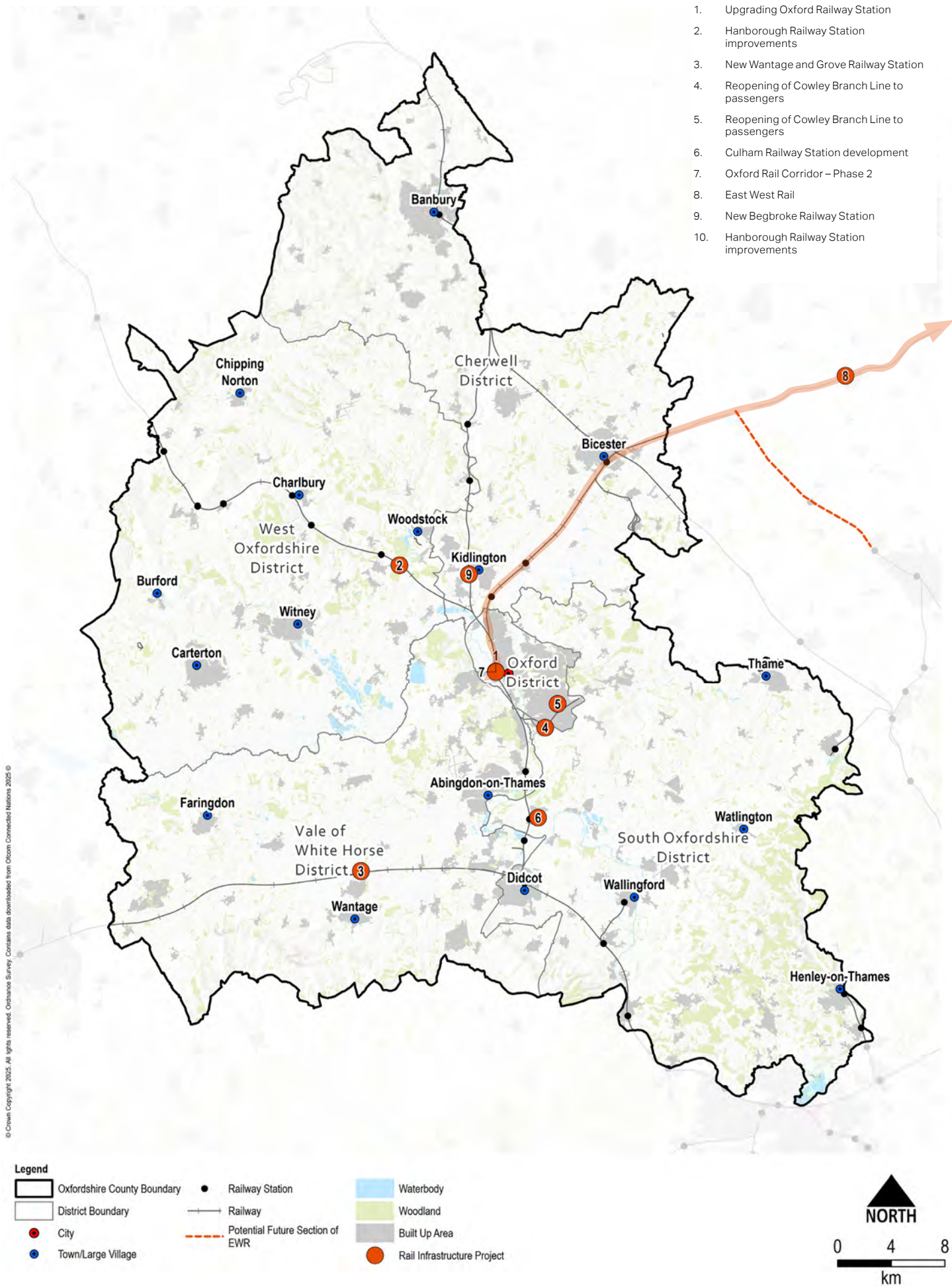
The Rail Strategy for Oxfordshire is currently in development. The strategy will set out the requirements for rail investment across the County to 2040, alongside outlining the key benefits and outcomes that this will achieve.

50%

There is a lack of capacity for passenger and freight rail traffic, with the need for a 50% increase in capacity anticipated by 2028 (Source: Oxfordshire Rail Corridor Study (ORCS) (2021), Network Rail)

70%

Need for a 70% increase in passenger services and improved calling patterns and service coverage by 2028 (Source: Oxfordshire Rail Corridor Study (ORCS) (2021), Network Rail)



1. Upgrading Oxford Railway Station
2. Hanborough Railway Station improvements
3. New Wantage and Grove Railway Station
4. Reopening of Cowley Branch Line to passengers
5. Reopening of Cowley Branch Line to passengers
6. Culham Railway Station development
7. Oxford Rail Corridor – Phase 2
8. East West Rail
9. New Begbroke Railway Station
10. Hanborough Railway Station improvements

Existing Pipeline Infrastructure Investment

The planned and proposed rail investments or improvements in Oxfordshire to address the County's infrastructure needs are as follows:

- The full delivery of East West Rail, with services running between Oxford and Cambridge, and potential service extensions onwards to East Anglia and to Bristol
- Junction upgrades to Oxford North Junction, the Didcot Area and the North Cotswolds Line
- An additional east-side through platform at Oxford Station and the delivery of 'Oxford Phase 2' enhancements (high-speed crossovers, level crossing improvements and additional platform and associated station works)
- Cowley Branch Line reopening for passengers and improvements, including the delivery of new stations at Oxford Science Park and Oxford Business Park
- An additional platform at Didcot Parkway and Hanborough Stations
- A new station and loop extension at Grove – Wantage and Grove Station
- An upgrade to four tracks at Oxford Radley and double tracking on the North Cotswold Line.

In addition, land east of the former Upper Heyford Air Base, south of the Chiltern railway line, has been identified for the development of the Oxfordshire Strategic Rail Freight Interchange (OxSRFI).

Initial feasibility studies are also being undertaken for a possible new rail line along the Carterton–Witney–Oxford rail corridor. Land along the corridor is proposed to be safeguarded through the emerging West Oxfordshire Local Plan, and the County Council will be considering the ambition further through OxRAIL 2040, in the context of wider required rail infrastructure enablers, the cost and feasibility of the link, and how it would fit with the broader transport strategy and plans for the A40 corridor in light of planned growth.

Challenges or risks associated with delivering the existing pipeline rail infrastructure investments include:

- Funding constraints: Funding for larger rail projects is often led by national government. Changes to national spending priorities may impact delivery, especially of larger projects like EWR
- Planning and regulatory hurdles: Rail infrastructure projects often require extensive planning, environmental assessments, and regulatory approvals, which can lead to delays
- Coordination with multiple stakeholders: Projects depend on effective collaboration between Network Rail, TOCs, local authorities, and funding bodies, which can complicate decision-making and timelines
- Constrained supporting energy infrastructure: Delivering electrification of major rail infrastructure network including through East West Rail will require significant electrification capacity and reinforcement works to the local energy transmission and distribution network

Future Strategic Infrastructure Required to Support Growth

Beyond 2033, the timescale of the ORCS, the LTCP highlights the importance of ensuring that the benefits of rail infrastructure are maximised, supporting planned housing and employment growth. As demand on the passenger and freight networks increases, there will be further pressure on the existing infrastructure and additional mitigation and future planning will be needed.

There are several uncertainties regarding the extent of rail infrastructure required to support growth to 2050 relating to:

- The location of proposed new growth
- The delivery of proposed strategic developments e.g. OxSRFI
- The provision of funding

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Highways



Rail



Bus,
Coach and
Strategic
Rapid Transit



Active
Modes

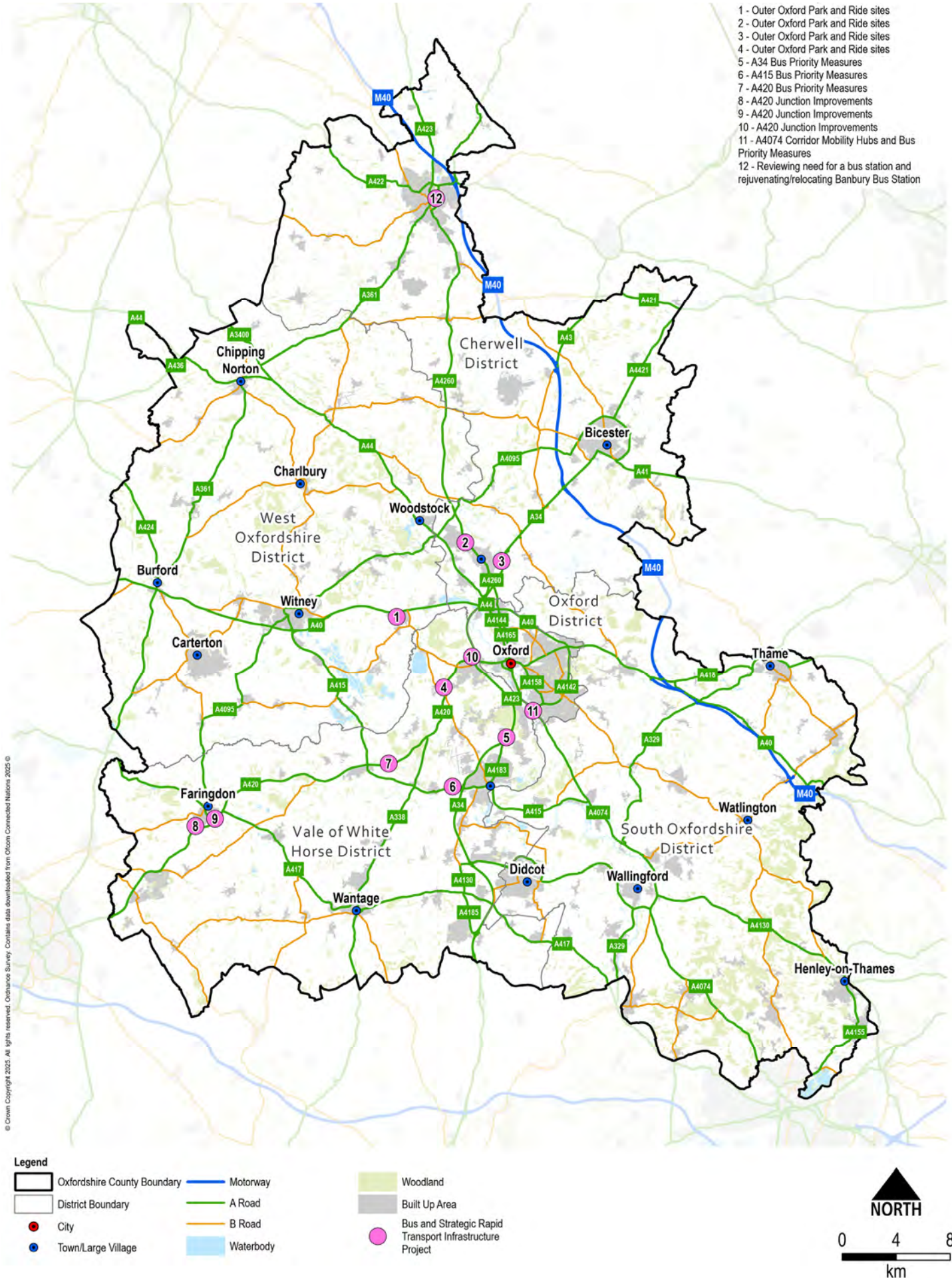
Bus, Coach and Strategic Rapid Transit Infrastructure

Infrastructure Delivery Bodies

The bus infrastructure in Oxfordshire covers the following sub-modes: buses, coaches, demand responsive transit (DRT), community transport, and Park & Ride (P&R). Bus and coach services are run by a number of private operators, including Oxford Bus Company, Stagecoach, Thames Travel (part of GoAhead), and National Express (coach only). Infrastructure decisions are made collaboratively between OCC, including as its role as LHA, and the operating companies. Since January 2023, the OCC and bus operators have worked under a formalised Enhanced Partnership arrangement.

The English Devolution White Paper was published in December 2024. Local authority reorganisation and changes to the governance of Oxfordshire may impact the direction of travel in terms of planning and delivering this bus infrastructure, especially in planning cross-border connections.

The Bus Services (No. 2) Bill is currently going through the Parliamentary process with the objective of giving local authorities control over routes, timetables, connections and fares. Greater control could be accompanied by a need for new infrastructure to support enhanced services.



Example Major Transport Infrastructure Projects in Oxfordshire (Bus, Coach and Strategic Rapid Transport Infrastructure)

Existing Strategic Infrastructure Capacity

The key issues and opportunities related to the current geographical distribution and capacity of bus infrastructure in Oxfordshire are set out in the LTCP and subsequent Oxfordshire Bus Service Improvement Plan (BSIP), updated in June 2024. The main physical infrastructure challenges identified include:

- Worsening journey times and reliability in Oxford due to on-going traffic congestion around city, in part due to temporary road closures such as Botley Road near station, and in advance of the planned traffic reduction and bus priority measures
- Interchange facilities are more limited outside of key hubs at Didcot Parkway, Oxford and Oxford Parkway
- It is predicted that all bus depots will reach full capacity by 2025, partly as a result of increased space required for electric bus infrastructure
- In addition to bus specific challenges, issues on the road network covered in the previous section impact on the efficient operation of services, especially in areas with limited bus priority infrastructure

Strategic Infrastructure Requirements to Support Growth to 2050

The BSIP sets out bus measures which could support growth to 2030. This infrastructure includes:

- Delivery of faster and more reliable services, including through the provision of junction improvements, bus priority measures, and traffic filters
- Providing improved bus stations, stops and interchange locations to improve the passenger experience. Specific measures which could be implemented include bus station redevelopment, high-quality standardisation of bus stops, new transport hubs / mobility hubs.
- Improved information for users. In addition to soft measures, this can be rolled out through real time passenger information (RTPI)
- Greater accessibility in the provision of bus related infrastructure. Rural areas can be supported by the trial of DRT services. Further rollout is dependent on the evidence of the success of local trials
- Supporting the wider operation of the network, for example through the provision of capacity at depot facilities to enable more bus services

Existing Pipeline Infrastructure Investment

The proposals for large-scale physical infrastructure in the Oxfordshire BSIP for the period 2025 - 2030, classified as high priority, are as follows, along with their current status:

- **Between Towns Road/Oxford Road/Hollow Way junction improvements.** This investment would create faster and more reliable services, improved integration with sustainable travel, and have the potential for the creation of a transport hub (Short-Term Realisation: 2025-2027)
- **Cowley Road pinch point scheme** is proposed to improve bus journey times and reliability along Cowley Road. The scheme consists of localised carriageway widening and adjustments to parking arrangements (Short-Term Realisation: 2025-2027)
- **HIF1 Didcot Garden Town Housing Infrastructure Scheme** will lead to the creation of eighteen new bus stops, with more frequent and better integrated services (Short-Term Realisation: 2025-2028)
- **HIF2 A40 Corridor programme** includes the delivery of a new P&R site at Eynsham, an extension of the dual carriageway around Witney, new bus lanes and junction improvements (Ongoing, Short-Term Realisation: 2025-2027)
- **Connecting Oxfordshire – Traffic Filters with bus priority** is a scheme involving the trial of six traffic filters in and around Oxford (Ongoing, Short-Term Realisation: 2025-2027).
- **New transport hubs – Carterton and Benson Marina.** Pilot mobility hubs are to be delivered at both of the locations, selected for their potential to maximise opportunities for modal shift. (Medium-Term Realisation: 2027-2029)
- **Securing the future for network growth by increasing bus depot capacity in Oxford.** The scheme involves the development of solutions to improve capacity of depot sites to enable more bus services. (Short-Term Realisation: 2025-2027)

There are a number of additional schemes which have been classified as medium priority. These can be found in the BSIP Appendix 2.

Furthermore, new radial Park and Ride sites for Oxford, located within the Outer Oxford area, are currently under investigation as identified in England's Economic Heartland Investment Prioritisation Framework.

Challenges or risks associated with delivering the existing pipeline bus infrastructure investments include:

- **Public opposition:** Concerns over road space allocation and changes to traffic flow may lead to resistance from residents and businesses
- **Funding constraints:** Beyond the BSIP period to 2030, changes to funding mechanisms could disrupt planning. Funding is also reliant on sufficient s106 contributions
- **Political uncertainties:** Changes in local (e.g. reorganisation) and national government priorities may impact policy direction and funding commitments
- **Operating difficulties:** As services are privately run, any issues faced by the operating companies may impact on the ability of service provision and the delivery of infrastructure
- Any new plans/growth in places with no network capacity and planned short term projects plugging the gap will be constrained - the nature of what long term projects are needed needs to be carefully considered, and could change

Future Strategic Infrastructure Required to Support Growth

Beyond 2030, the span of the BSIP, the LTCP emphasises the importance of further integrating bus infrastructure into Oxfordshire's transport network to support modal shift and tackle the climate emergency. As infrastructure roll-out continues, and the location of proposed growth sites develops, further insights can be gained into the best use of bus infrastructure spending to 2050.

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Highways



Rail



Bus,
Coach and
Strategic
Rapid Transit



Active
Modes

Active Modes

Infrastructure Delivery Bodies

Active travel predominantly refers to walking and cycling, but can also include trips made by wheelchair, mobility scooters, adapted cycles, e-cycles, scooters, as well as cycle sharing schemes.

Local authorities are responsible for planning and delivering active travel infrastructure. Although funding is often controlled by national government, decision-making generally falls to the OCC in coordination with the five district councils and other local stakeholders.

Active travel is an integral part of delivering OCC's policy priorities. The English Devolution White Paper was published in December 2024. Local authority reorganisation and changes to the governance of Oxfordshire may impact the direction of travel in terms of active travel policy and delivery.

Existing Strategic Infrastructure Capacity

The key issues and opportunities related to active travel infrastructure in Oxfordshire are set out in the LTCP and Local Cycling and Walking Infrastructure Plans (LCWIPs) for the local authorities. OCC have set out to create a culture where active travel is the natural way of moving around.

The main infrastructure challenges to achieving this vision include:

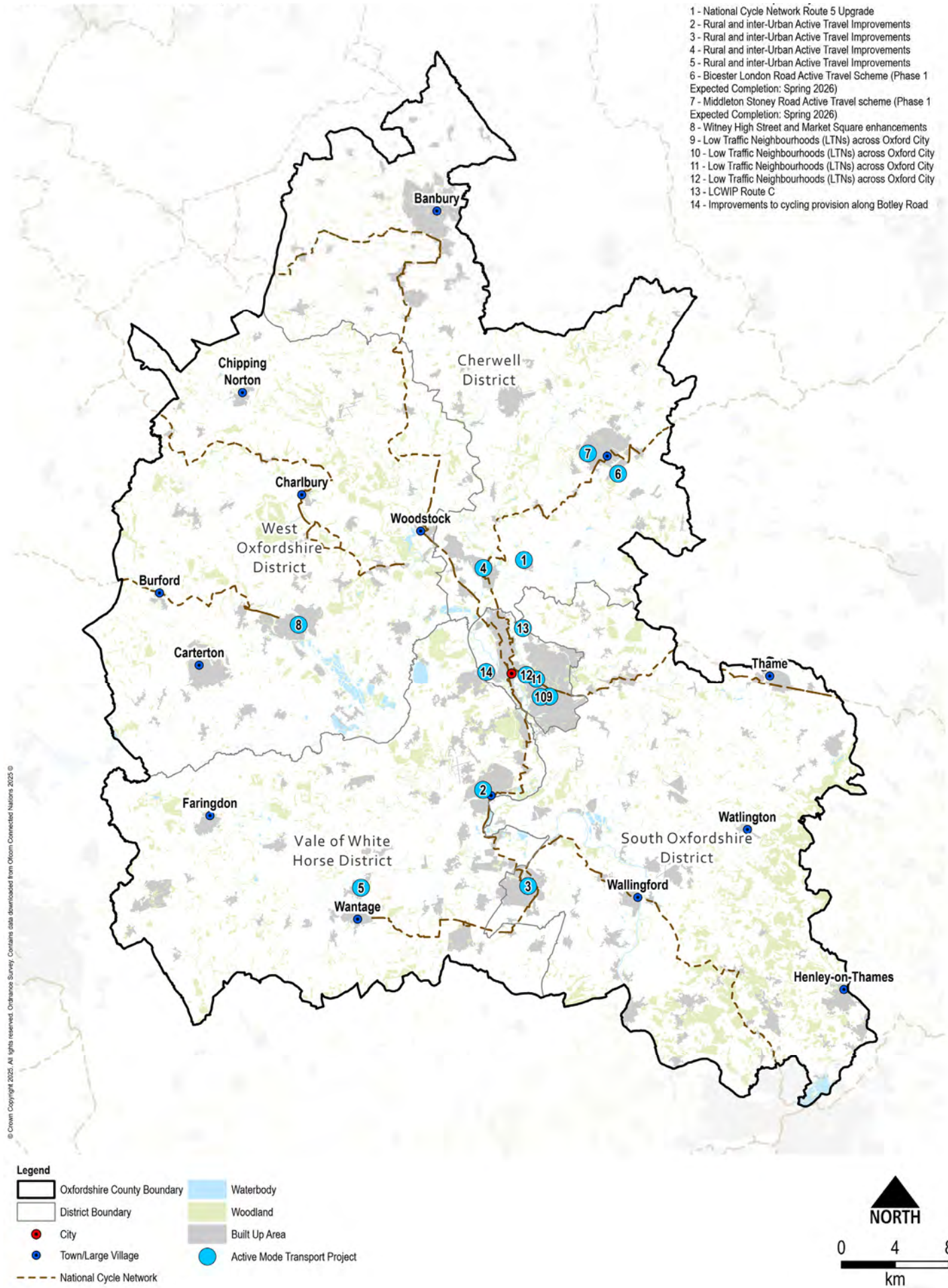
- Much of the existing walking and cycling infrastructure does not meet the latest design standard, for example the DfT's cycle infrastructure design LTN 1/20
- Train stations in Oxfordshire are often situated away from town centres and access is frequently hindered by poor junctions and narrow footways
- Many retail parks, business parks, and large supermarkets have been developed in edge-of-town or out-of-town locations, designed primarily for car access, with little consideration for pedestrians or cyclists
- Suburban and local shopping areas are typically located along main roads leading to town centres, but many are affected by high levels of through traffic, reducing their appeal and economic viability

- Many villages in Oxfordshire lack footways on several streets, and few have dedicated pedestrian links connecting them to neighbouring villages
- There is limited infrastructure which facilitates longer distance trips between the County's urban areas and linking rural areas to urban areas
- The road network is often, particularly in rural areas, orientated towards drivers which puts the safety of cyclists and pedestrians at risk. This lack of inclusive design limits modal shift away from private cars

Strategic Infrastructure Requirements to Support Growth to 2050

A number of strategic infrastructure measures were identified within the LTCP as crucial to promoting modal shift in Oxfordshire to 2050:

- A network of proposed walking and cycling routes with potential interventions, based on the latest technical guidance. Networks need to be developed for all major settlements, with additional potential for smaller rural settlements or networks of village. Cross-border connectivity needs to be considered in the formation of these networks.
- An inter-urban Strategic Active Travel Network (SATN), which can be integrated with the Science Vale Active Travel Network (SVATN), to support longer-distance movements
- A greenway network of high-quality leisure routes for walkers, cyclists and horse-riders
- Changes to the management of traffic including the development of Low Traffic Neighbourhoods (LTNs), speed reduction programmes and traffic management to enhance safety and improve the perception of cycling
- Improvements to the layout of new and existing junctions to ensure they prioritise walking and cycling movements and support car reduction targets
- Implement widespread accessibility and public realm improvements
- Invest in cycle parking to ensure there is better supply of high-quality secure parking for private cyclists and shared micro-mobility schemes



Example Major Transport Infrastructure Projects in Oxfordshire (Active Modes Walking and Cycling Infrastructure)

Existing Pipeline Infrastructure Investment

Many of the infrastructure requirements are being delivered at a local level through the implementation of proposals in LCWIPs.

LCWIPs, including proposed walking and cycling networks, have been developed and approved in Oxford, Bicester, Kidlington, Abingdon, Witney, Banbury and Didcot. LCWIPs are currently in development for Thame, Wantage and Grove, Wallingford Area, Woodstock, Chipping Norton, Carterton, Charlbury, Eynsham, and will be developed in Faringdon and Henley on Thames.

A prioritised SATN has been developed. The routes are currently undergoing detailed design, implementation and then construction.

Strategic active travel projects which are currently being proposed, planned and implemented include:

- **Bicester London Road Active Travel Scheme** (Phase 1 Expected Completion: Spring 2026)
- **Didcot Central Corridor including public open space improvements and improved infrastructure for people who walk, cycle or use public transport.** (Planning Ongoing)
- **Middleton Stoney Road Active Travel scheme** (Phase 1 Expected Completion: Spring 2026)
- **Witney High Street and Market Square enhancements scheme** (Expected Completion: Summer 2025)

Challenges or risks associated with delivering the existing pipeline active travel infrastructure investments include:

- **Public opposition:** Concerns over road space allocation and changes to traffic flow may lead to resistance from residents and businesses
- **Political uncertainties:** Changes in local (e.g. reorganisation) and national government priorities may impact policy direction and funding commitments
- **Land ownership and safeguarded routes:** Getting ownership of necessary land is a major challenge in some instances

Future Strategic Infrastructure Required to Support Growth

The focus of active travel investment to 2050 will be shaped by the location of growth. Existing proposed growth is a key consideration in the development of the LCWIPs across Oxfordshire. As such the further strategic infrastructure required to support growth over the period to 2050 will be the continued rollout of routes and other measures within those LCWIPs.

As greater clarity emerges on the location of proposed growth sites beyond the current local plan periods, LCWIPs can be updated to respond to new demand.

4.3 Energy and Utilities



Energy
Infrastructure



Digital
Infrastructure



Waste
Infrastructure

Energy

Infrastructure Delivery Bodies

The key energy infrastructure delivery bodies in Oxfordshire include:

Electricity Distribution Network Operators

- National Grid Energy Distribution – North of Cherwell and North of West Oxfordshire
- UK Power Networks (UKPN) (East) – East of South Oxfordshire
- Scottish & Southern Electricity Networks (SSEN) – Rest of Oxfordshire

Gas Distribution Network Operators

- Wales & West Utilities (WWU) – Western areas of West Oxfordshire and Vale of White Horse
- Southern Gas Networks (SGN) – remaining area of Oxfordshire not supplied by WWU.

The current local energy system in Oxfordshire consists of three largely isolated energy vectors: power, heating and transportation. Heating presents the largest end-use of energy, and demand is mostly met through natural gas. Currently, almost all road transport demand is met by petrol and diesel and agricultural activities primarily consume petrol and diesel for agricultural equipment (OxLAEP Baseline Summary, p.9)

The Oxfordshire Leaders Joint Committee has commissioned the production of an Oxfordshire Local Area Energy Plan (OxLAEP) in parallel to this study, which will set out a long-term vision for system-level change for what a future zero carbon energy system should look like in Oxfordshire. It will also provide an action plan which takes into account energy and infrastructure plans at the national level. The LAEP aims to deliver cost savings, social benefits and a more coordinated energy transition by taking a proactive, whole-systems, place-specific approach to energy planning as well as giving DSO's the information they need to invest in delivering the required network capacity for development and net-zero objectives.

This is expected to complement the forthcoming Strategic Spatial Energy Planning and Regional Energy Strategic Planning being developed by the National Energy System Operator (NESO). NESO takes a strategic, long-term approach to

ensuring that the whole energy system is planned, designed, and delivered to meet future needs nationally and regionally. Working with the government and Ofgem, NESO is preparing a coordinated strategy and plan to shape the future energy system in line with policy ambitions for 2030, 2035, and 2050. These plans will influence how energy is delivered in Oxfordshire following a review of future pathways to net zero for energy demand and supply.

In addition, the Future Homes Standard will be implemented in full in the UK in 2025 to ensure that new homes are more energy efficient and environmentally friendly. From 2025, new homes will not be permitted to include gas boilers and will instead be required to use low-carbon heat sources such as heat pumps or electrified heating. This is expected to increase electricity demand and reduce demand for gas. Locally, some emerging Local Plan policies require new buildings to be energy self-sufficient and effectively prohibit connections to non-renewable energy sources. This will contribute to increased demand for renewable energy.

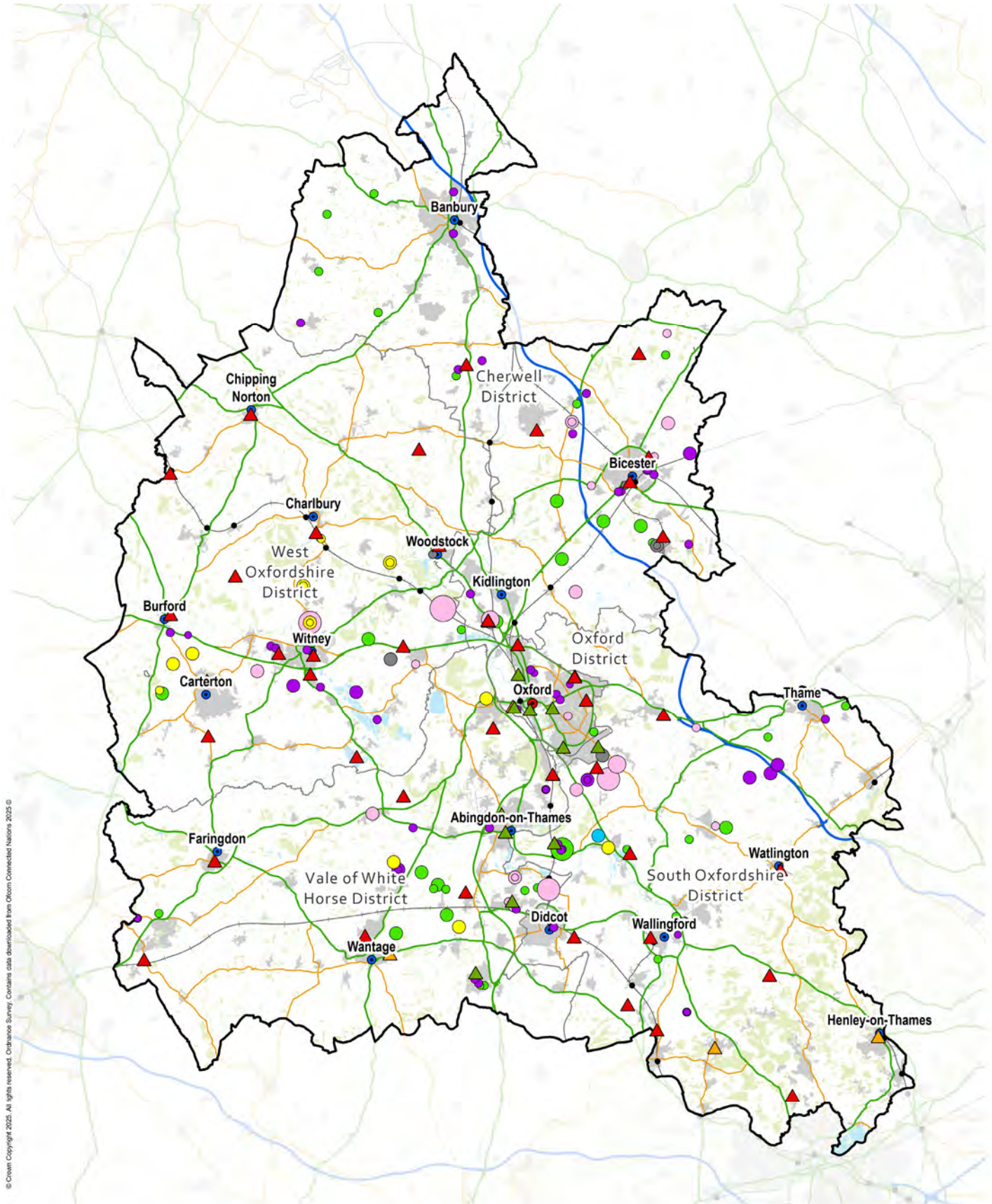
Existing Strategic Infrastructure Capacity

Electricity

Most electricity in Oxfordshire is grid-supplied, with around 10% of annual consumption being met by local renewables, of which the largest proportion is solar PV. The network receives electricity from the National Grid transmission network at 8 grid supply points (GSP) and reduces its voltage through a series of 69 primary substations to supply homes, businesses, and other end users. Currently, 22 substations are already overloaded in Oxfordshire, with an additional 3 at risk of becoming overloaded, which presents a significant challenge (OxLAEP Baseline Summary p.9-10),

The SSEN bulk supply points (BSP) in the north of Oxfordshire are noted as constrained on the SSEN network capacity map. SSEN BSPs in the south of Oxfordshire close to Abingdon-on-Thames and Harwell show unconstrained capacity.

These challenges therefore may be most applicable to the rural areas of Oxfordshire where existing network infrastructure is more sparse.



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Legend

- Oxfordshire County Boundary
- District Boundary
- City
- Town/Large Village
- Railway Station
- Motorway
- A Road
- B Road
- Railway
- Built Up Area
- Woodland
- Waterbody

SEPDP Generation Heat Map 2024

- Constrained

Renewable Energy Development Status

- Partially Constrained
- Unconstrained
- Appeal Granted
- Operational

Planning Application Status

- Planning Application Submitted
- Planning Permission Granted
- Revised
- Under Construction

Installed Capacity (MWelec)

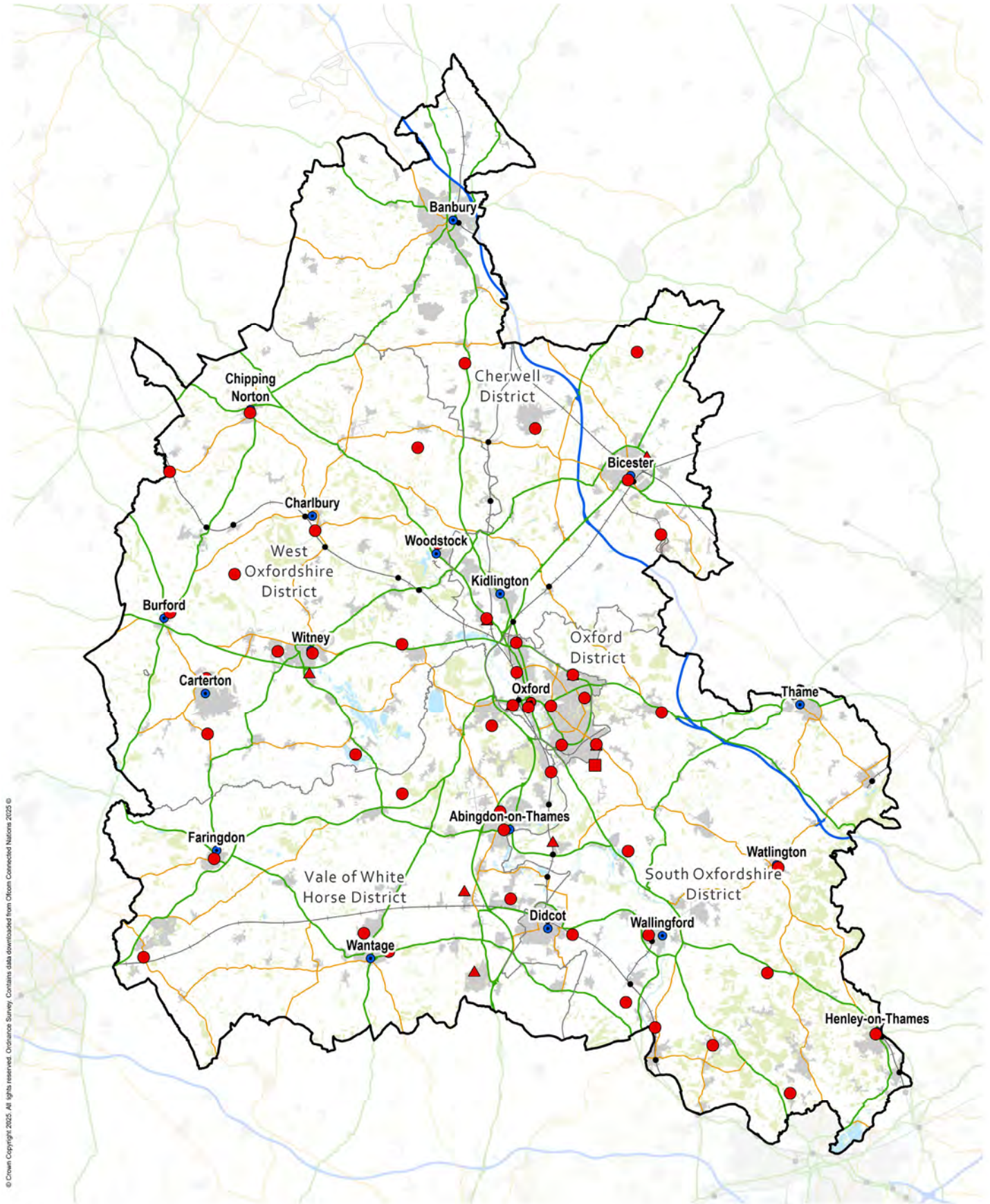
- <10
- <50
- <100
- <500
- <840

Scale and Orientation

NORTH

0 4 8 km

Energy Generation Availability and Constraints
 Source: AECOM Analysis of SSER SEPD Generation Heat Map December 2024

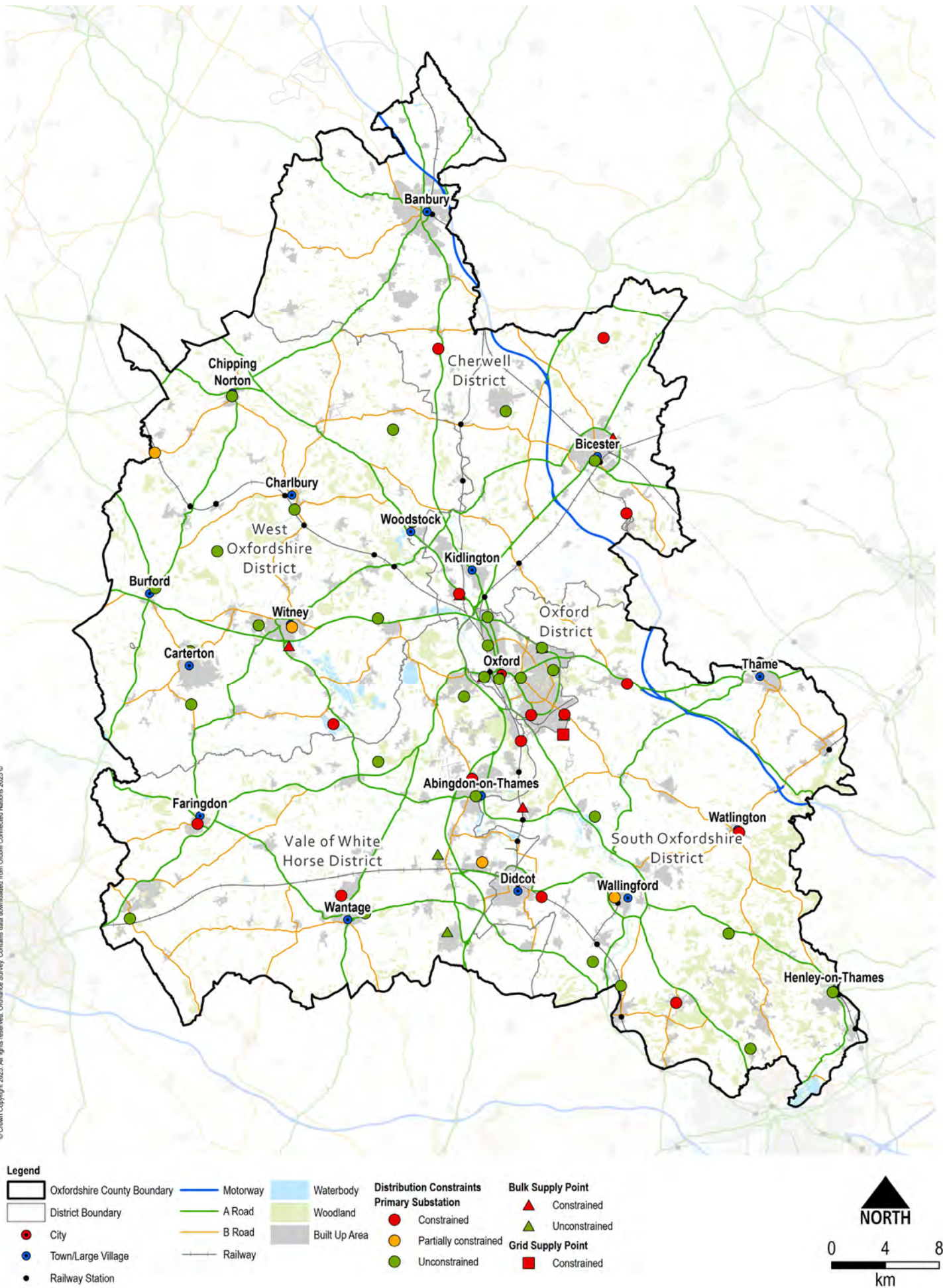


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Legend		Transmission Constraints	 NORTH 0 4 8 km
	Motorway	Primary Substation	
	A Road	Bulk Supply Point	
	B Road	Grid Supply Point	
	Railway		

Energy Transmission Capacity and Constraints
Source: AECOM Analysis of SSN SEPD Demand Heat Map December 2024

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In some locations, including Oxford City and Bicester, electricity network capacity and connection times are a barrier to timely development. Previously, DNOs could not reinforce their networks ahead of confirmed demand, meaning the first developer to connect often faced high costs. Under the current price control period (ED2), DNOs can now invest ahead of need, enabling more strategic upgrades however delivering this anticipatory investment remains challenging.

In particular, there are exceptionally long connection times for new housing development at Bicester, primarily related to the requirement for reinforcement at the GSP areas that serve Bicester and regulatory frameworks were not conducive to the long-term network upgrades required for the planned scale of housing around Bicester. MHCLG are directly involved alongside the Oxford Growth Commission as part of work towards possible solutions to electricity supply issues, and the emerging OxLAEP will also reveal high level insight. In the meantime, the County Council and Cherwell District Council are facilitating discussions with developers in Bicester about the possibility of using flexibility technology to reduce peak demands for developments to enable the connection date to come forward sooner.

In addition, gap analysis conducted by Oxfordshire County Council of the 2024 Distribution Future Energy Scenarios highlighted that the rate of growth to 2050 has not been fully accounted and planned for, with new housing being significantly underrepresented with an anticipated shortfall of 43% compared to expected delivery. This also has not factored in wider potential energy demands from potential AI Growth Zones and data centre development across Oxfordshire. This underestimation may as a result lead to insufficient capacity being built into the electricity system and infrastructure planning to meet future demand.

Electricity Storage

There are a number of existing Battery Storage facilities in the county, notably the Oxford Super Hub hybrid battery at Cowley, the world's first grid scale 'hybrid battery' which comprises a Lithium ion battery and a Vanadium Redox Flow battery working in tandem to provide additional flexibility to National Grid in stabilising the electricity system.

Gas

There are currently 254,900 gas connections within Oxfordshire with total annual consumption of 4,665.8 GWh. Oxford City has the highest consumption, particularly from non-domestic sources.

Gas is supplied to buildings in Oxfordshire through a distribution network, similar to electricity. SGN and Wales and West Utilities (WWU), the Gas Distribution Network Operators (GDNO) in Oxfordshire, supply gas to the area and transport it from the National Transmission System - operated by National Gas - to end users. (OxLAEP Baseline Summary p.11)

Heating presents the largest end-use of energy and demand is mostly met through natural gas and individual boilers. (OxLAEP Baseline Summary p.9)

Gas is supplied to buildings in Oxfordshire through a distribution network. Around 80% of homes in Oxfordshire have a gas connection, higher than the UK average of 73%. (OxLAEP Baseline Summary p.11)

Didcot B is an operational natural gas power plant owned and operated by RWE with a total capacity of 1.45 GW. This site is not considered to be part of Oxfordshire's local energy system as it is connected directly to the transmission network and not the distribution network. (OxLAEP Baseline Summary p.12)

The total annual non-domestic gas consumption in Oxfordshire was 2,004 GWh in 2002. (OxLAEP Baseline Summary p.16)

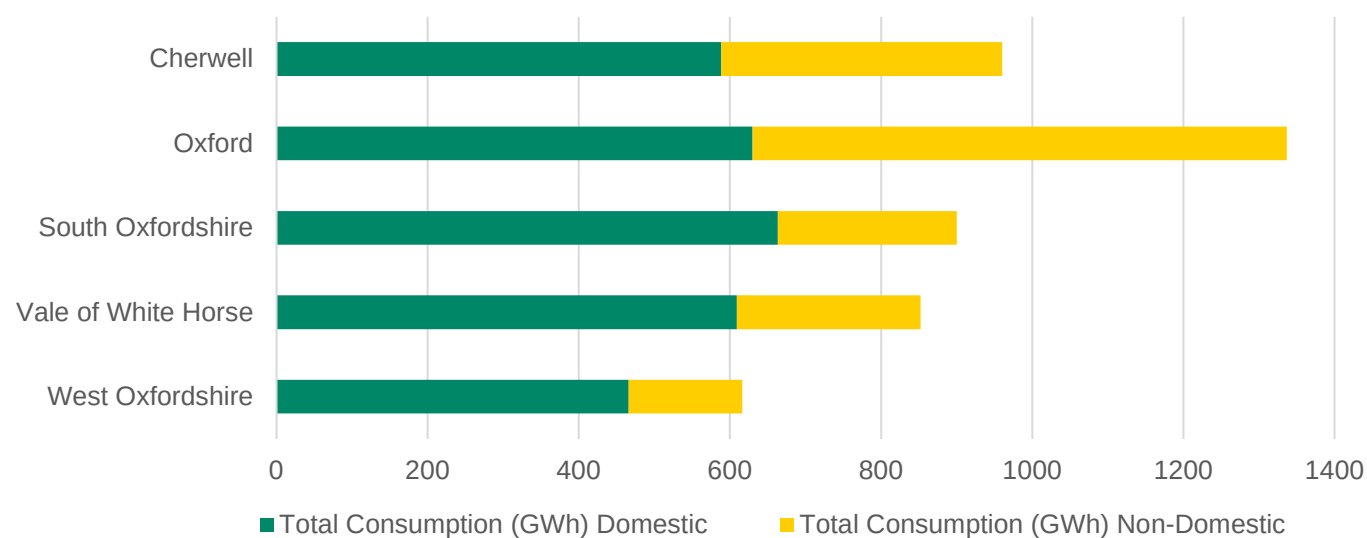
Heat Networks

There is an existing heat network in Oxford that connects part of the NHS estate in Headington.

Local Authority	Number of meters (thousands)			Total Consumption (GWh)		
	Domestic	Non-Domestic	All	Domestic	Non-Domestic	All
Cherwell	53.8	0.6	54.4	588.6	371.5	960.0
Oxford	51.4	1.2	52.6	630.0	707.0	1,337.0
South Oxfordshire	53.8	0.5	54.3	663.4	236.8	900.1
Vale of White Horse	53.0	0.5	53.5	609.2	243.2	852.4
West Oxfordshire	39.7	0.3	40.0	466.1	150.3	616.3

Gas Consumption in Oxfordshire, 2023

Source: AECOM Analysis of Regional and Local Authority Gas Consumption Statistics, Department for Energy Security and Net Zero



Gas Consumption in Oxfordshire, 2023

Source: AECOM Analysis of Regional and Local Authority Gas Consumption Statistics, Department for Energy Security and Net Zero

Renewable Energy

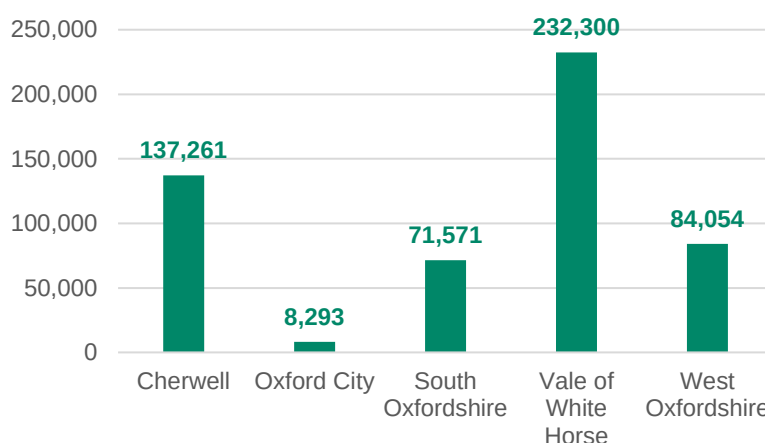
As of 2019, Oxfordshire generates a total of 533,480 MWh of renewable energy. Oxfordshire currently has a variety of renewable energy installations, with the majority being PV panels.

In terms of partially renewable energy, there is a large energy from waste facility at Ardley in the Cherwell District. This facility currently diverts 95% of Oxfordshire's residual municipal waste from landfill and generates 26.9MW electricity annually.

533,480

Current Renewable Energy Generation Capacity at Oxfordshire as of 2019 (MWh)

Renewable Energy Generation (MWh)



Current Renewable Energy Generation in Oxfordshire

Source: AECOM Analysis of Energy Trends: UK renewables (Data on the UK's renewables sector, including capacity, electricity generation and liquid biofuels consumption) (January 2024). Department for Energy Security and Net Zero

Local Authority	PV Panels	Onshore Wind	Hydro	Anaerobic Digestion	Sewage Gas	Landfill Gas	Municipal Solid Waste	Plant Biomass
Cherwell	4,467	2	0	4	1	2	1	0
Oxford	2,460	2	2	0	0	0	0	0
South Oxfordshire	4,109	0	3	3	1	0	0	0
Vale of White Horse	3,692	7	3	1	0	3	0	0
West Oxfordshire	4,002	1	2	0	0	1	0	1

Renewable Energy Installations in Oxfordshire

Source: AECOM Analysis of Department for Energy Security & Net Zero Renewable Energy Planning Database Version January 2025

Strategic Infrastructure Requirements to Support Growth to 2050

Electricity

SSEN have not published expected demand increase for Oxfordshire by 2050. However, with the government's push toward greener energy generation and Oxfordshire's local ambitions with regards to achieving Net-Zero targets, the demand for electricity is anticipated to increase beyond current demand levels.

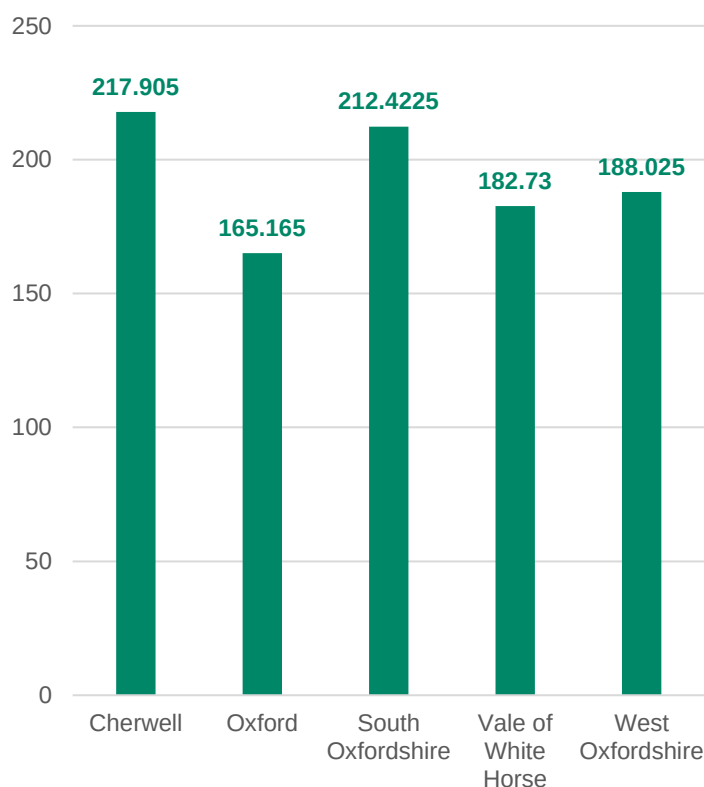
The Cowley GSP Strategic Development Plan (2025) sets out demand to 2050 across a range of technologies, and the East Claydon GSP Strategic Development Plan is due for publication in Autumn 2025. SSEN are also undertaking their 2025 Distribution Network Options Assessment (DNOA) to strategically plan and efficiently provide capacity and faster access to a smart energy network.

966MWh

Estimated additional electricity demand based on medium growth scenario (AECOM Analysis)

The electricity demand increase by 2050 in Oxfordshire as a direct result of housing growth has been estimated using the housing growth scenario and a daily electricity demand of 7.5kWh per house (BSRIA's Rule of Thumb Guidelines for building services). This represents an estimated additional theoretical demand of at least 966 MWh across Oxfordshire, which is less than 1% of the total electricity consumption across Oxfordshire.

This figure is expected to be refined through the detailed modelling undertaken as part of the Oxfordshire Local Area Energy Plan, which will take into account a wider range of energy demand and system changes.



Projected Electricity Demand Increase by 2050, based on medium Oxfordshire Infrastructure Strategy Growth Scenario

Source: AECOM Analysis

Gas

OxLAEP work bases assumptions on the provision that there is to be no gas for domestic heating by 2050 which aligns with government initiatives to reduce the use of gas as an energy source.

Despite UK regulation requiring less dependence on gas, SGN's Long Term Development Statement (LTDS) forecasts that the annual gas demand shall increase by 13.1% and peak day demand shall increase by 3.1% by 2033. WWU however, expect gas demand to recover to 2022 level, but then gradually reduce over the next 10 years.

SGN still believe that their network will have a part to play in achieving Net Zero by 2050 despite the Future Homes Standard phasing out unabated natural gas for low carbon energy sources. SGN are investing in using biomethane and hydrogen as natural gas alternatives. These products can be supplied within their networks but would require houses to be fitted with the correct boilers.

Renewable Energy

Local authorities' support for renewable energy projects will help Oxfordshire exploit its potential for renewable energy generation.

The Oxfordshire Net Zero Route Map and Action Plan sets out energy system targets which are central to achieving net zero by 2050. One example is quadrupling Oxfordshire's installed photovoltaic capacity by 13x from 2020 as the baseline to reach 5,314MW installed PV by 2050. Further to targets set in the Route Map and Action Plan, the OxLAEP work has determined that

the 5,314MW target could be partially met by onshore wind following recent policy changes at a national level.

Much of the hydroelectric power potential of the Thames within Oxfordshire has already been realised and biomass is projected to play a minor role in renewable energy generation.

Existing Pipeline Infrastructure Investment

Electricity

SSEN have scheduled reinforcement upgrades to the following Bulk Supply Points:

- Yarnton BSP
- Headington BSP
- Witney BSP
- Drayton BSP

SSEN have also scheduled reinforcement updates to Grid Supply Points

- Cowley
- East Claydon

There are currently 11 battery energy storage (BES) projects proposed for the county in the near future with a total capacity of c. 100MW.

Gas

Whilst the demand for gas is expected to decrease by 2050 to help achieve Net Zero targets, SGN & WWU still invest in their network to ensure they continue to deliver sufficient system capacity. At some point in the future a fall in the number of gas customers will render the network unviable, however this point in time is currently unknown.

Heat Networks

A proposal for a larger Oxford City Centre heat network has been delivered by 1Energy, a commercial heat network developer. This will be a high temperature, low carbon heat network powered by air source heat pumps with a gas top-up designed to enable many of the historic buildings in the city centre to connect. Parts of Oxford are likely to be named as heat zones in the near future and initial studies have been undertaken into village scale heat networks based on anchor loads such as schools. It is assumed that the following property typologies will be selected for connection to heat networks:

- Properties that are already communally heated
- Non-domestic properties with a demand >100 MWh/year
- New buildings
- Industrial sites identified within a zone with an assumed low temperature heat load

Renewable Energy

A total of 64 renewable energy projects in Oxfordshire are under construction or awaiting construction.

Oxfordshire is also a key area of market focus for new solar farm development, including an ongoing application for a Development Consent Order for the Botley West Solar Farm currently at examination stage. The solar farm is expected to have an electrical output of 840MW, and will be integrated into the National Grid transmission system via a new National Grid 400kV substation to be located close to the existing National Grid 400kV line that runs between Cowley and Walham.

There are also plans for a new ERF facility in the Cherwell District - a considerable amount of waste heat can be generated from ERF's and options for colocation with potential heat networks will be considered as part of the OxLAEP.

OCC believe that the journey to Net Zero will require a combination of technological solutions including hydrogen. A hydrogen and refuelling rig is currently being installed on the Highways Depot at Drayton - this project focusses on developing hydrogen fuel cells with the aim of assessing how hydrogen may be able to support net-zero operation in vehicle types where charging downtime or limited range could restrict deployment. OCC intend to develop a countywide hydrogen strategy which will closely link to the emerging OxLAEP.

	Battery		Solar Photovoltaics		Total	
Local Authority	Planned Installations	Planned Capacity (MW)	Planned Installations	Planned Capacity (MW)	Planned Installations	Planned Capacity (MW)
Cherwell	2	40	19	36	21	76
Oxford	0	0	6	1	6	1
South Oxfordshire	3	49.9	11	202	14	252
Vale of White Horse	3	0	6	55	9	55
West Oxfordshire	3	19	11	134	14	153
Grand Total	11	108.9	53	428	64	537

Oxfordshire Renewable Energy Installations

Source: AECOM Analysis of Long Term Development Statement, 2024, SGN

Future Strategic Infrastructure Required to Support Growth

Based on the SSEN Network Capacity Map (page 78-80), it appears the electrical infrastructure is constrained which could limit development before 2030 until scheduled reinforcement upgrades have been completed.

The Cowley GSP Strategic Planning Document forecasts significant increases in demand over the next 25 years. Most of the planned upgrades set out in the SPD are based on DFES data via the DNOA rather than being connections-driven. The SPD also sets out current planned works

and systems needs at various voltage levels over a range of timescales. It makes recommendations for further works ahead of 2030 on system needs for a number of priority areas including High Wycombe BSP transformers and 132 kV circuits, Drayton BSP transformers, Headington BSP transformers and Wootton Road Primary Transformers.



Energy
Infrastructure



Digital
Infrastructure



Waste
Infrastructure

Digital Infrastructure

Infrastructure Delivery Bodies

Digital communication infrastructure in Oxfordshire is owned and maintained by various Mobile Network Operators (MNOs) and Fibre Operators and regulated by the Office of Communications (Ofcom). Ofcom oversees the telecom sector, defining and enforcing the conditions by which all mobile and broadband companies must abide.

The Department of Science, Innovation and Technology (DSIT) is responsible for government policy on digital connectivity, including on the rollout of mobile and fixed broadband networks.

The UK Digital Strategy (October 2022) recognises the importance of world-class and secure digital infrastructure in supporting innovation across the UK's digital ecosystem. It sets national targets of at least 85% gigabit-capable broadband coverage by 2025 and 99% by 2030.

This is complemented by the UK Wireless Infrastructure Strategy (April 2023) which aims to deliver nationwide standalone 5G coverage in all populated areas by 2030.

At the local level, Oxfordshire County Council provides strategic leadership, working in collaboration with the District and City Councils in their capacity as local planning authorities, to enable digital infrastructure delivery through corporate strategies and funding initiatives.

The Local Transport and Connectivity Plan 2022-2050, produced by Oxfordshire County Council, further supports digital rollout. This includes support for the rollout of full fibre broadband and services to reduce digital exclusion (Policy 24), support for mobile infrastructure proposals and encouragement for new developments to integrate 5G infrastructure (Policy 25), and collaboration with stakeholders to ensure high-quality internet connectivity and supporting facilities for remote working (Policy 26).

The County Council also leads regional digital collaboration across England's Economic Heartland, aiming to maximise private investment while identifying and addressing emerging infrastructure gaps.

Most current adopted and emerging Local Plans support the provision of, or access to, high-speed or full-fibre fixed broadband. This ensures that gigabit or full-fibre connectivity is planned into all new development from the outset. The emerging Cherwell Local Plan Review additionally supports access to mobile data connectivity. The table below summarises the key digital infrastructure policies within adopted and emerging Local Plans in Oxfordshire.

This aligns with the Building Regulations, which, since December 2022 have made gigabit-readiness a legal requirement for new homes in England. New builds must be fitted with gigabit-capable infrastructure and connected to a gigabit-capable network where reasonably practicable.

Previous iterations of the Oxfordshire Infrastructure Strategy focused solely on fixed broadband network infrastructure. However, as reliance on mobile connectivity and Internet of Things (IoT) infrastructure grows, it is essential for this iteration to also consider mobile network radio-based infrastructure, such as mobile masts and antennae for 4G and 5G services.

Local Authority	Relevant Digital Infrastructure Policy
Cherwell	Emerging Local Plan Review 2042 Policy COM 22 Public Services and Utilities All new developments will be required to demonstrate that the necessary infrastructure is in place or will be provided to enable access to high-speed broadband and mobile data connectivity from a range of providers.
Oxford City	Adopted Oxford Local Plan 2016-2036 Policy V9 Digital Infrastructure Planning permission will be granted for all new major developments where they are served by full fibre broadband capable of gigabit download speeds; and b) The full fibre broadband connections are available at the point of releasing for sale where relevant, and that the cost of the services are at market rates, preferably offering broadband services from more than one service provider
South Oxfordshire Vale of White Horse	Draft Joint Local Plan 2041 Policy IN8 Digital Connectivity All proposals for new development must ensure appropriate infrastructure is provided during development, sufficient to enable all properties to be connected to full fibre broadband without any post-development works. Applicants will also be encouraged to demonstrate that there is flexibility in the ducting to future-proof additional connectivity.
West Oxfordshire	Local Plan 2041 Preferred Policy Options Paper Policy DM38 - Supporting Digital Infrastructure for Home and Co-Working This policy is intended to promote development of new and enhanced digital infrastructure to support the growing demand for remote working, home based businesses and co-working spaces.

Local Plan Digital Infrastructure Policies
Source: AECOM Analysis

In addition, UK data centres have been classified as critical national infrastructure since September 2024, reflecting the government's recognition of their role in powering the economy and enabling support for the sector during critical incidents. While there are no specific targets for data centre floorspace in Oxfordshire, the UK government has set a national goal to expand sovereign compute capacity by at least 20 times by 2030, as outlined in its response to the AI Opportunities Action Plan. This is expected to be further developed in the UK Compute Strategy, due to be published in Spring 2025.

Digital infrastructure is expected to play an increasingly vital role in supporting the government's ambitions for Oxfordshire, including those of the Oxford Growth Commission and the Oxford-Cambridge Corridor. In January 2025, the UK government announced that Culham Campus, south of Oxford and home to the UK Atomic Energy Authority, will become the UK's first AI Growth Zone, aimed at accelerating planning approvals and delivery of AI infrastructure. It is also understood that several other science parks in Oxfordshire have submitted Expressions of Interest to the government's AI Growth Zones initiative.

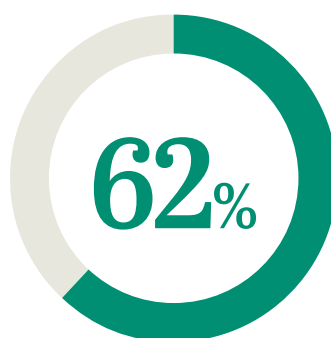
Existing Strategic Infrastructure Capacity

Fixed Broadband

The table on the next page summarises fixed broadband infrastructure coverage across Oxfordshire's districts at different speed thresholds, drawing on data from Ofcom's Connected Nations Report (Spring 2025).

Overall, 83.4% of premises in Oxfordshire have access to a gigabit-capable service, slightly trailing the national target of 85% by 2025, and falling further short of the UK Government's long-term ambition of 99% coverage by 2030.

In terms of full-fibre (FTTP) connectivity, just over 62% of premises in Oxfordshire are served, below the national average of 73.7%. However, this marks significant progress from only 11.3% coverage in 2019 (Oxfordshire Digital Infrastructure Strategy and Delivery Plan, 2020). The County has also exceeded its interim target of 16% full-fibre coverage by 2021.



Only 62% of premises in Oxfordshire are served by full-fibre (FTTP) connectivity

The data also highlights marked geographical disparities in fixed broadband connectivity across Oxfordshire. West Oxfordshire emerges as the strongest performer, with over 90% gigabit coverage and nearly 80% full-fibre availability. This reflects the early impact of infrastructure subsidy by West Oxfordshire District Council and Building Digital UK in collaboration with Gigaclear, which since 2017 has delivered publicly subsidised full-fibre rollout to many of the district's rural communities.

In contrast, Oxford City has the lowest full-fibre coverage in the county, despite its role as a hub for global innovation and economic growth. This can be attributed to both the lack of commercial subsidy for urban areas and the physical constraints of deploying digital infrastructure in historic settings. Similar issues affect market towns such as Abingdon and Thame, where although full-fibre services have been introduced on the outskirts of high streets, engineering challenges and heritage sensitivities have limited deployment within cobbled high streets, impacting digital support for the local economy.

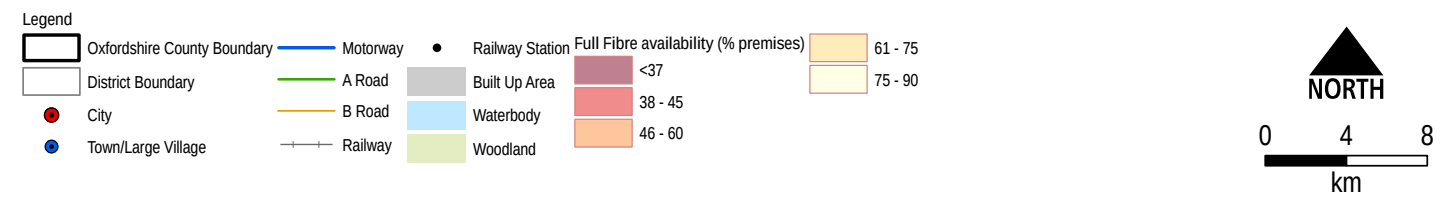
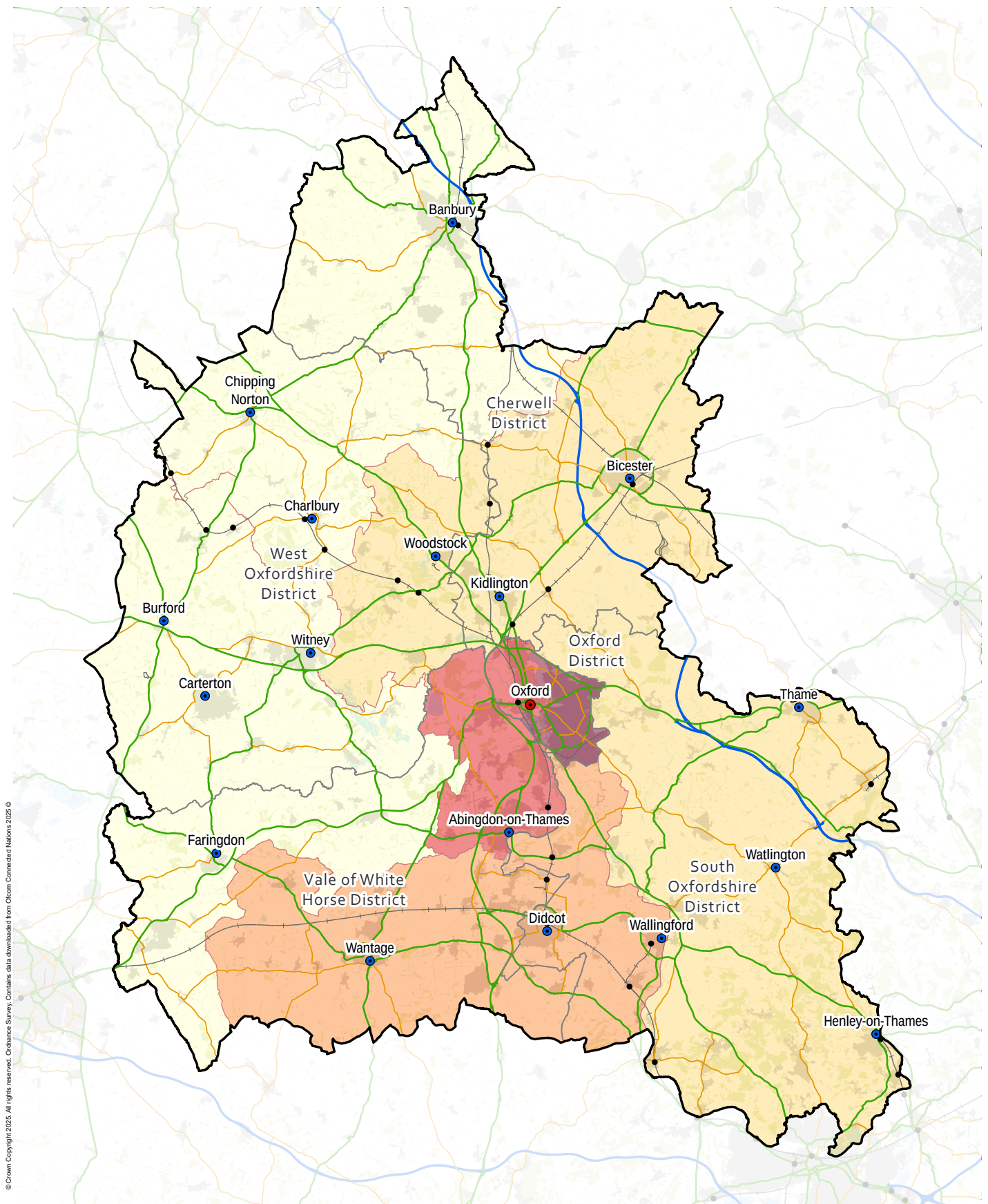
Local Authority	Superfast 30>=30Mbps (SFBB) (% premises)	Gigabit availability (% premises)	Full Fibre (% premises)	Full Fibre National Rank (out of 361)	Below Legal USO** (% premises)
Cherwell	97.8	82.3*	71.7	139	0.1
Oxford City	96.1	75.4*	27	351	0
South Oxfordshire	98.2	77.2*	60	239	0.1
Vale of White Horse	97.8	83.9*	58.9	246	0.1
West Oxfordshire	99.3	90.8	79.2	84	0.1
Oxfordshire	98.5	83.4	62.1	N/A	0.001

Availability of Fixed Broadband Connectivity in Oxfordshire

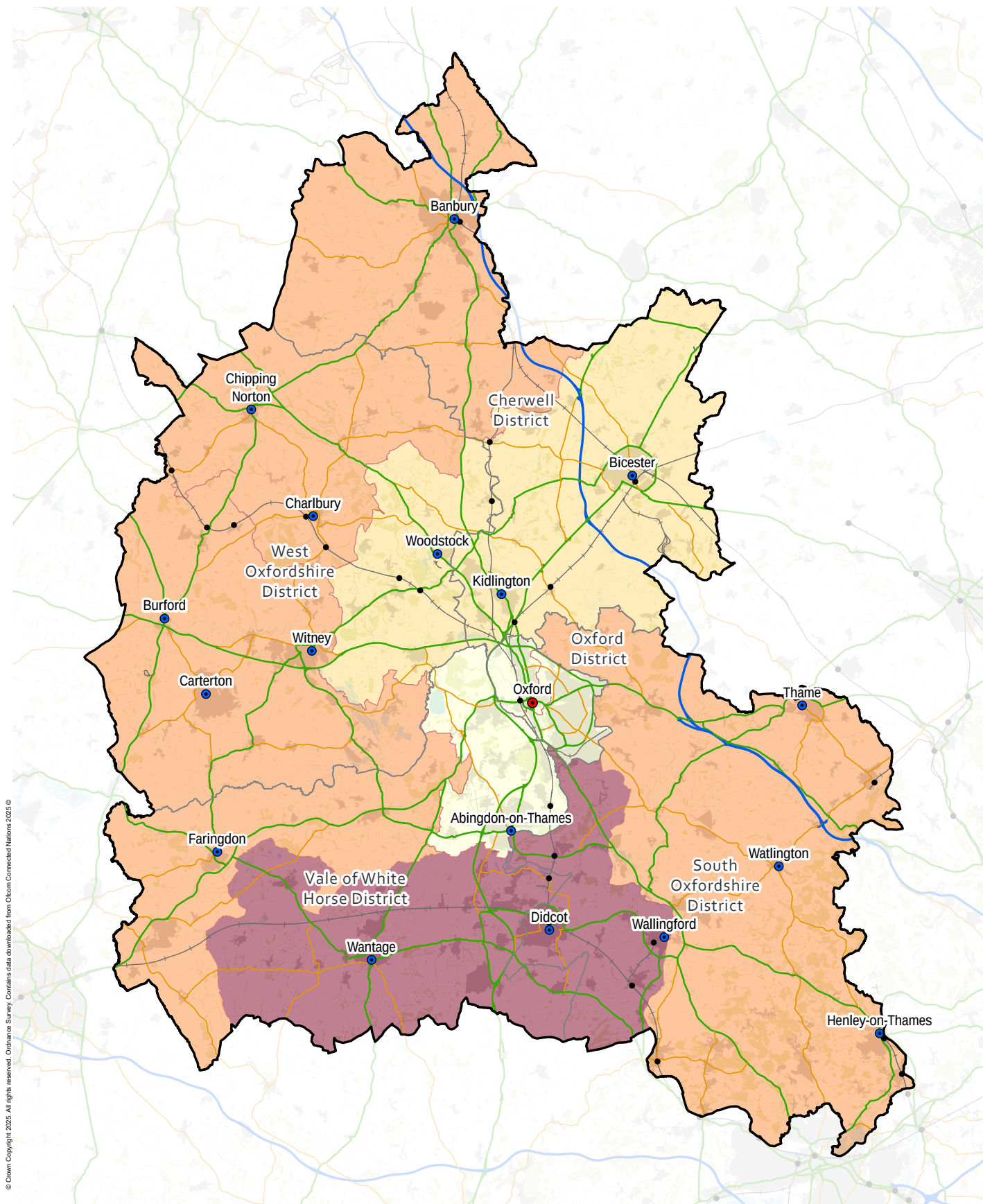
Source: AECOM Analysis of the Ofcom Connected Nations Report (Spring 2025)

*Below national target of at least 85% of gigabit-capable broadband coverage by 2025

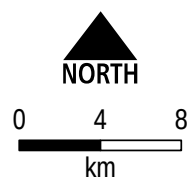
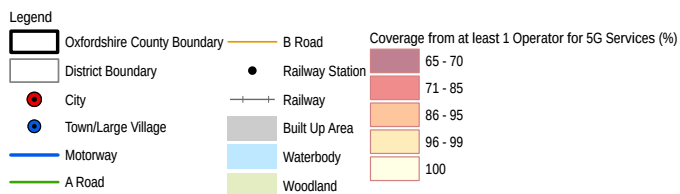
**Percentage of premises with no access to download speeds at or above 10Mbit/s and upload speeds at or above 1Mbit/s from fixed broadband or a Wireless Internet Service Provider (WISP) or Mobile FWA



Availability of full fibre fixed coverage across Oxfordshire
Source: AECOM Analysis of the Ofcom Connected Nations Report (Spring 2025)



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5G Mobile Coverage across Oxfordshire

Source: AECOM Analysis of the Ofcom Connected Nations Report (Spring 2025)

Mobile Coverage

The latest Ofcom's Connected Nations dataset (Spring 2025) shows that over 70% of premises in Oxfordshire have reliable indoor 4G services from all operators, with almost the entire county enjoying reliable outdoor 4G services from all operators.

There are currently no publicly available data on the premises-level coverage or availability of 5G services or future generations of mobile technology. However, Ofcom's geographic-level data on outdoor services indicates that Oxford City has the highest level of reliable 5G coverage from all operators, while the rest of Oxfordshire remains largely underserved with coverage generally below 10%.

It should be noted that district-level coverage data is modelled using signal propagation models which may not fully reflect the actual user experience considering indoor building types and

materials. Current data also only indicates where a reliable signal is expected, without factoring in spectrum availability or local mast capacity.

Oxfordshire County Council has taken a proactive role in enabling 5G uptake through initiatives such as England's Connected Heartland programme, the Smart Infrastructure Pilots Programme and the Small Cells programme, which utilises street furniture and public assets to facilitate mobile network deployment.

Currently, mobile infrastructure is not identified as a key digital infrastructure as part of the current generation of Infrastructure Delivery Plans supporting the Local Plans and is not typically secured through planning obligations. There are also limited financial incentives to achieving full 5G coverage across Oxfordshire under the current operational and commercial model used by network providers.

Local Authority	Reliable signal from at least 1 operator for 4G services (indoor, premises) %	Reliable signal from all operators for 4G services (indoor, premises) %	Reliable signal from at least 1 operator for 4G services (indoor, premises) %	Reliable signal from all operators for 4G services (outdoor, geographic) %	Reliable signal from at least 1 operator for 5G services (outdoor, geographic) % (High Confidence)	Reliable signal from all operators for 5G services (outdoor, geographic) % (High Confidence)
Cherwell	99.75	80.11	100	96.61	92.06	8.05
Oxford City	100	99.89	100	100	100	67.81
South Oxfordshire	99.62	72.07	99.94	93.81	79.15	4.38
Vale of White Horse	99.88	74.87	100	97.72	84.81	9.07
West Oxfordshire	99.37	69.47	96.86	96.86	88.87	0.33

Mobile Coverage across Oxfordshire

Source: AECOM Analysis of the Ofcom Connected Nations Report (Spring 2025)

Data Centres

There are three operational data centres in Oxfordshire at present, including the Cloud LHR Campus and the Amazon AWS LHR Data Centre in Didcot, as well as the M9 Data Centre in Bloxham. Owing to commercial sensitivity, there is no publicly available information on their cumulative power or IT load. However, it is known that the Cloud LHR Campus is one of the largest campuses within the London region, offering over 100MW of IT load capacity.

There are a number of committed and actively promoted data centre developments in Oxfordshire, spatially concentrated within the Science Vale Enterprise Zones particularly at Didcot. If delivered in full, these proposals are expected to provide approximately 40,000 sqm of data centre complex development floorspace for the area. This is in addition to other potential data centres in Oxfordshire, including those intended to support the AI Growth Zone in Culham.

Aside from the Didcot Technology Park Local Development Order (2024) which explicitly allocates up to 110,000 sqm of data centre floorspace with an additional allowance of 20,000 sqm of battery storage floorspace, there are no other specific Local Plan allocations across Oxfordshire for data centre development. Existing Employment Needs Assessments also do not directly identify land requirements for data centres within their respective plan periods.

Strategic Infrastructure Requirements to Support Growth to 2050

Digital infrastructure will be critical in supporting Oxfordshire's economic growth and ambitions as a globally competitive innovation system to 2050.

Based on the reviewed evidence base, key requirements include:

Fixed Broadband

The UK Digital Strategy sets out a national digital infrastructure target of at least 85% gigabit-capable broadband coverage by 2025 and 99% by 2030. Locally, the Oxfordshire Digital Infrastructure Strategy and Delivery Plan sets out the interim targets of achieving 99% superfast broadband coverage and 16% full fibre coverage in Oxfordshire by 2021.

As of Spring 2025, 83.4% of premises in Oxfordshire have access to gigabit-capable service. While this is close to the national 2025 target, it still falls short of the longer-term ambition of 99% coverage by 2030. In terms of full-fibre connectivity, just over 62% of premises in Oxfordshire are currently served, as compared to the long-term ambition of full-fibre connectivity for all homes and businesses.

Achieving full gigabit and full-fibre coverage across Oxfordshire is expected to become increasingly challenging owing to commercial delivery constraints, as there will be increasingly less properties to support the rollout to make it commercially viable. It is expected that pockets of digital deprivation, such as Upper Heyford, are likely to require targeted subsidy to bridge the gap.

In relation to the key growth locations in Oxfordshire, fixed broadband infrastructure is generally less of a strategic infrastructure constraint for committed and planned development. Most current Local Plans already support the provision of or access to high-speed or full-fibre fixed broadband in new major developments. As a result, the delivery of digital infrastructure is now routinely integrated into the development process from the outset, typically through planning conditions or developer agreements.

Mobile Coverage

There are currently no local targets for mobile coverage to 2050, although the Local Transport and Connectivity Plan 2022-2050 supports mobile infrastructure proposals and encourages new developments to integrate 5G infrastructure. At a national level, the UK Wireless Infrastructure Strategy aims to deliver nationwide coverage of standalone 5G to all populated areas by 2030.

The rollout of 5G services will be vital to supporting the Government's ambition for the Oxford-Cambridge Corridor as a globally competitive innovation ecosystem. In addition to enhancing digital infrastructure at innovation hubs such as universities, science parks and business hubs, reliable 5G mobile coverage will also be essential along transport routes, such as East West Rail, to enable mobility and productivity across the region.

Data Centres and Compute Capacity

Planning for data centres is currently site-led, primarily driven by individual development proposals rather than through coordinated infrastructure planning. There is no local evidence base in Oxfordshire that assesses the economic floorspace need for data centres, despite growing interest in the sector. Nationally, the UK Government targets to expand sovereign compute capacity by at least 20 times by 2030.

Within the Science Vale Enterprise Zones alone, the combined load from committed and potential data centre developments is understood to total approximately 673MW, of which at least 341MW is currently expected to be supported by the grid. However, the mechanisms for meeting the remaining energy demand remain unclear at this stage.

At the same time, data centre developments are expected to produce significant quantities of heat as a by-product of their operations. There is growing interest in capturing this heat through a whole energy system, for example by supplying nearby housing developments or large heat users through district heating networks. Exploring opportunities for potential colocation of data centres with heat demand uses may improve overall energy efficiency and support decarbonisation objectives.

Water use is also a key infrastructure consideration. Current proposals within the Enterprise Zones suggest the adoption of closed-loop water cooling systems, which would significantly reduce ongoing water consumption after initial system. However, no comprehensive data is currently available on the projected energy and water usage for other promoted data centre developments across Oxfordshire owing to commercial sensitivity.

Existing Pipeline Infrastructure Investment

There are a number of recent and planned digital infrastructure improvements in Oxfordshire as detailed in the Infrastructure Project List.

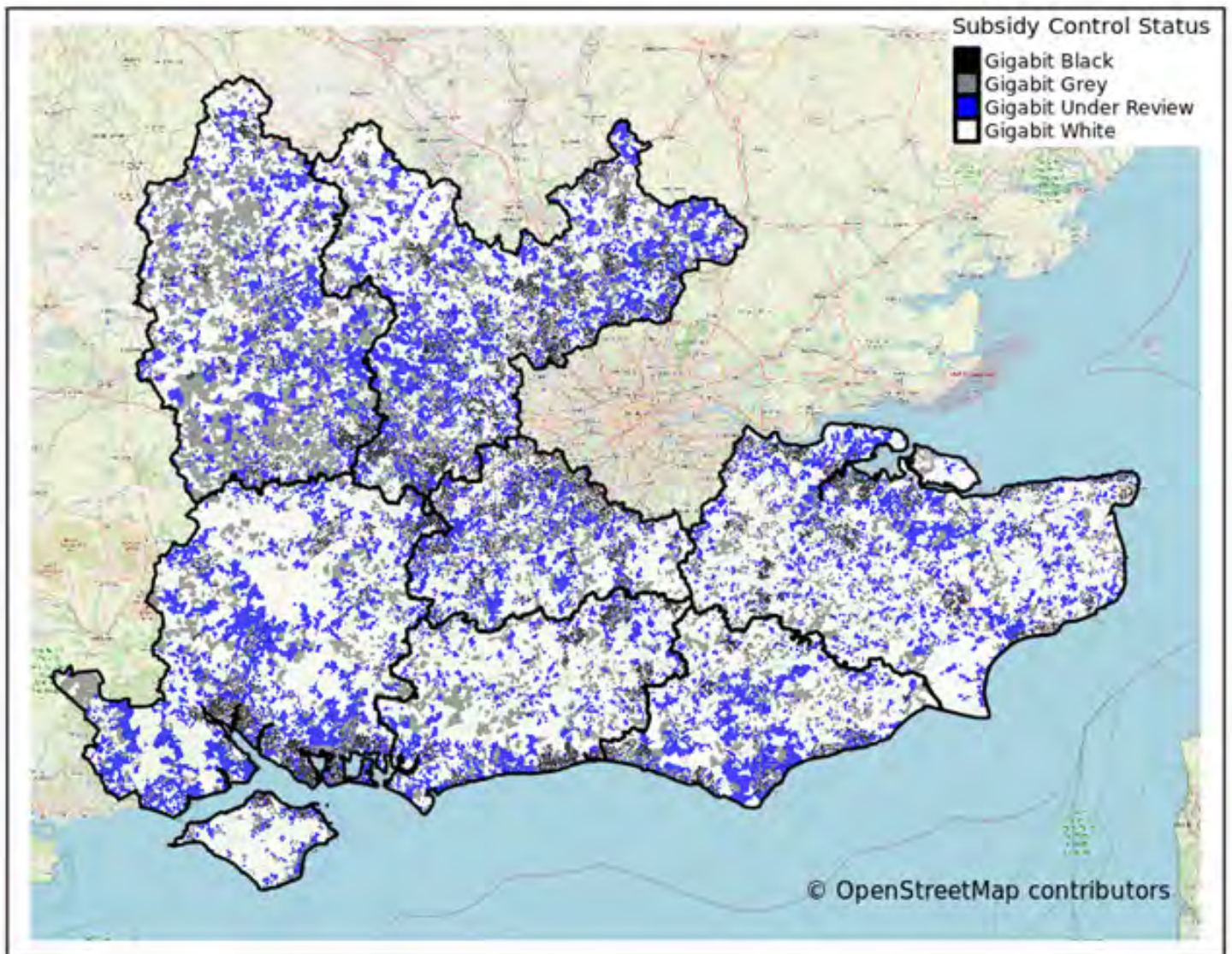
The section below highlights some of the key projects:

Fixed Broadband

To reach the national digital connectivity target, the Government remain active in identifying areas where public intervention may be required to facilitate commercial deployment of gigabit-capable digital infrastructure. The figure overleaf presents the outcome of the latest Open Market Review, in which the proposed intervention areas for Oxfordshire are identified based on research and engagement regarding current and planned broadband infrastructure. Areas in 'white' indicate premises in which there are no qualifying broadband infrastructure and none is likely to be deployed within 3 years.

The most recent subsidy under this programme includes the 2023 Lot 13.01 South Oxfordshire of approximately £17 million and Lot 13.02 of approximately £11 million to be delivered by local suppliers to 11,463 premises. A significant number of premises in Oxfordshire shaded in 'blue' are identified as under review where additional work would be required. The national review takes place three times a year in January, May and September.

Project Gigabit is beginning gigabit rollout to approximately 13,000 premises, most of which already have 'superfast' broadband. Locally, Oxfordshire County Council has also secured funding from Building Digital UK to install full fibre broadband infrastructure across various hard-to-reach public service sites in Oxfordshire as part of the GigaHubs project. A total investment of £7.25m has been used to connect 193 public service sites including schools, GP surgeries, libraries and other public spaces. The project began in March 2022 and was completed in May 2025.



Project Gigabit National Rolling Open Market Review Outcomes (September 2024): White - indicates premises with no gigabit network infrastructure and none is likely to be developed within three years; Grey - indicates premises where a qualifying gigabit infrastructure from a single supplier is available, or is to be deployed within the coming 3 years; Black - indicates premises with two or more qualifying gigabit infrastructure from different suppliers being available, or will be deployed within the coming 3 years; Under Review - indicates premises where suppliers have reported current or planned commercial broadband coverage, but where claimed current gigabit coverage has not been verified, or, in respect of planned build, where evaluators are confident that gigabit infrastructure will be delivered, but some risks to delivery remain, or there are some gaps in evidence.

Source: Building Digital UK

Mobile Network

As part of the Smart Infrastructure Pilots Programme run by the Department for Science, Innovation and Technology (DSIT), Oxfordshire County Council has purchased 15 smart multi-purpose lighting columns from supplier Signify which will be installed for mobile and wireless connectivity services in Oxford City. This also complements the recently completed Small Cells programme in which small cells are set up on 17 lighting columns to fill in the gaps left by macro-cell transmitters at street level to improve coverage and connectivity.

More widely in collaboration with England's Connected Heartland, Oxfordshire County Council is also working to scope, procure and commission a managed private 5G network for the Harwell Science and Innovation Campus. This will provide a secure, business-grade wireless network, offering external and internal coverage for the resident science laboratories, research organisations and start-ups. This project is at investigation stage at present, with engagement underway to capture likely use cases and technical requirements to inform the infrastructure procurement.

In relation to East West Rail, Oxfordshire County Council as part of England's Connected Heartland is also delivery connected trackside private 5G network along East West Rail between Bicester and Bletchley.

The project aims to improve passenger Wi-Fi whilst providing a connectivity solution for neighbouring businesses, farms, and isolated homes in not-spots along the route. This is expected to improve passenger connectivity via onboard Wi-Fi and the capability to offload data collected onboard trains for operational efficiency.

Oxfordshire County Council is currently at exploration stage with regards to the development of a Mobile Digital Twin Platform which will provide robust evidence for intervention against measured parameters of both coverage and capacity, in acknowledgement of the lack of data in mobile network infrastructure. The platform is expected to enable evidence-based discussions with individual Mobile Network Operators such that they can amend the parameters of their 4G/5G radios on macro or micro cell sites. In cases where there will need to be physical new mobile infrastructure installed, funding for this will need to be separately identified and sourced.

Data Centres

There are a number of committed and actively promoted data centre developments in Oxfordshire, spatially concentrated within the Science Vale Enterprise Zones particularly at Didcot. If delivered in full, this is expected to provide about 40,000 sqm of data centre complex development floorspace for the area. This is in addition to other potential data centres in Oxfordshire which seek to support the AI Growth Zone in Culham.

Further Strategic Infrastructure Required to Support Growth

To achieve full coverage of full fibre broadband connectivity in Oxfordshire, further engagement with commercial providers and targeted subsidy may be required to address pockets of digital deprivation within Oxfordshire. Key example areas identified by stakeholders include Oxford City, market towns including Abingdon and Thame, as well as Upper Hayford.

Oxfordshire County Council is currently at exploration stage with regards to the development of a Mobile Digital Twin Platform which will provide robust evidence for intervention against measured parameters of both coverage and capacity. This will enable further identification of where new physical mobile infrastructure may be required to support Oxfordshire as a global innovation ecosystem.

The designation of AI Growth Zones including Culham Campus is expected to increase demand for high performance digital infrastructure in Oxfordshire. This includes reliable gigabit connectivity, managed 5G network and extensive compute and data transfer capacity. This may put additional pressure on the existing fixed broadband and mobile network capacity, and demand for coordinated digital infrastructure planning across knowledge clusters such as science parks, university clusters and data centres.

Emerging proposals for data centres will also require associated infrastructure planning and investment in both water and energy networks. While these requirements are typically addressed on a site-by-site basis through direct engagement with utility providers, a more coordinated approach would provide opportunities to manage cumulative demand and streamline grid and water capacity upgrades.



Energy
Infrastructure



Digital
Infrastructure



Waste
Infrastructure

Waste Infrastructure

Infrastructure Delivery Bodies

Oxfordshire County Council (OCC) is the waste planning authority for the county, responsible for determining all waste planning applications (other than Nationally Significant Infrastructure Projects) and for preparing a Local Plan relating to waste which should identify sufficient opportunities to meet the identified needs of an area for the management of waste, aiming to drive waste management up the Waste Hierarchy. It should ensure that suitable sites and areas for the provision of waste management facilities are identified in appropriate locations. OCC also provides recycling centres for Oxfordshire residents to bring household waste for disposal and recycling.

OCC's Minerals and Waste Local Plan Part 1: Core Strategy, published in 2017, sets out a vision which frames the County's approach to Minerals and Waste Development in Oxfordshire to 2031.

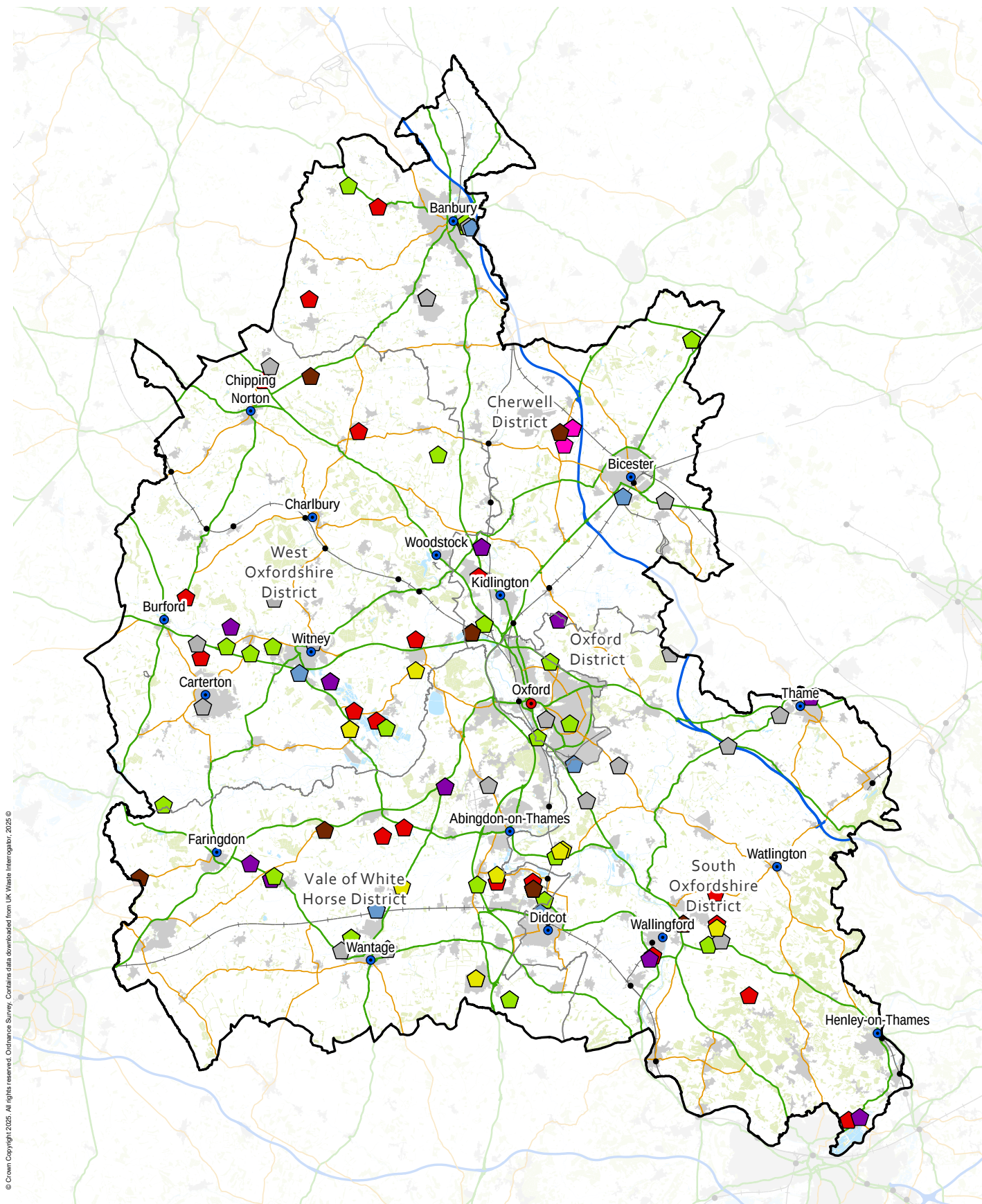
On 20 December 2022, the County Council Cabinet approved a decision to stop work on the Minerals and Waste Local Plan: Part 2 Site Allocations and pursue a new Local Plan, combining Part 1 and Part 2.

In July 2025, it was agreed by Cabinet to cease work on the production of New Minerals and Waste Local Plan, in light of the changes proposed by the Levelling Up and Regeneration Act 2023 to plan making and timescales involved, which is yet to be enacted.

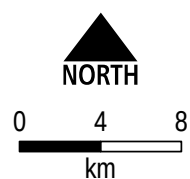
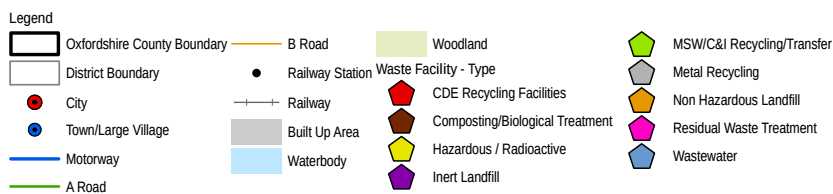
The County Council remain committed to preparing a New Minerals and Waste Local Plan, and will commence as soon as the new process is announced. The Minerals and Waste Development Scheme will be updated to reflect this decision.

The new Plan, upon adoption, will replace the adopted Minerals and Waste Local Plan: Part 1: Core Strategy (2017). However, until this time the Core Strategy remains in place as part of the Development Plan for Oxfordshire until it is replaced by the New Minerals and Waste Plan.

OCC prepares monitoring reports each year, which report on and monitor the Minerals and Waste Local Plan policies. The most recent monitoring report is from 2020 (2020 Authority Monitoring Report, Oxfordshire County Council).



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Existing Waste Facilities across Oxfordshire

Existing Strategic Infrastructure Capacity

OCC operates seven Household Waste Recycling Centres across Oxfordshire:

- Alkerton household waste recycling centre
- Ardley Fields household waste recycling centre
- Dix Pit household waste recycling centre
- Drayton household waste recycling centre
- Oakley Wood household waste recycling centre
- Redbridge household waste recycling centre
- Stanford in the Vale household waste recycling centre

The 2020 AMR report included two non-hazardous waste landfills (Finmere Quarry and Sutton Courtenay) and one energy-from-waste facility (Ardley).

Across Oxfordshire there are also numerous Waste Management Sites. In 2020, Oxfordshire had over 115 waste operations managing a variety of waste streams including household, commercial and industrial, and construction, demolition and excavation waste (CDE). The management facilities range from Metal Recycling, to CDE Recycling facilities through to composting and Anaerobic Digestion to Energy from Waste and Landfill.

Strategic Infrastructure Requirements to Support Growth to 2050

Information on the waste facilities required to support growth to 2050 will be developed by OCC as part of the evidence base supporting the New Minerals and Waste Plan. No other information is available at this stage.

The Planning Inspectorate website indicated that there are no applications for development consent orders for nationally significant waste infrastructure projects in Oxfordshire.

Oxfordshire County Council is the strategic planning authority responsible for identifying and planning for the infrastructure requirements associated with minerals and waste development. This report does not seek to duplicate the role of the Minerals and Waste Local Plan (MWLP), which remains the primary mechanism for setting out these requirements.

Strategic infrastructure need for waste is currently addressed in the Oxfordshire Minerals and Waste Local Plan: Part 1 - Core Strategy. While the Core Strategy does not allocate specific sites, it establishes the county's mineral supply requirements to 2031, alongside waste management targets and projected waste arisings over the same period. It also sets out the policy framework against which all planning applications for strategic minerals and waste infrastructure are assessed.

A new Minerals and Waste Local Plan will be prepared and will provide a comprehensive strategy for future minerals supply and waste management over a minimum 15-year period. This new plan will be underpinned by a robust and up-to-date evidence base, which will include consideration of the Oxfordshire Infrastructure Strategy (OxIS).

The MWLP will identify the Minerals and Waste infrastructure needed to support sustainable minerals and waste development, including future quarry sites to meet aggregate demand and facilities to manage projected waste arisings. It will also support the deliver of wider strategic infrastructure projects - such as transport improvements - by ensuring that the necessary minerals are available and that waste arising from such projects can be managed effectively.

Restoration of Minerals and Waste sites provides opportunities for increased biodiversity and green spaces.

In addition, the MWLP will include policies to safeguard existing minerals and waste infrastructure. These policies will seek to prevent the loss or compromise of essential facilities due to other forms of development, such as housing or commercial schemes. Information on current minerals and waste planning applications can be accessed via the Oxfordshire County Council Planning Register.

4.4 Green Infrastructure



Green
Infrastructure

Green Infrastructure

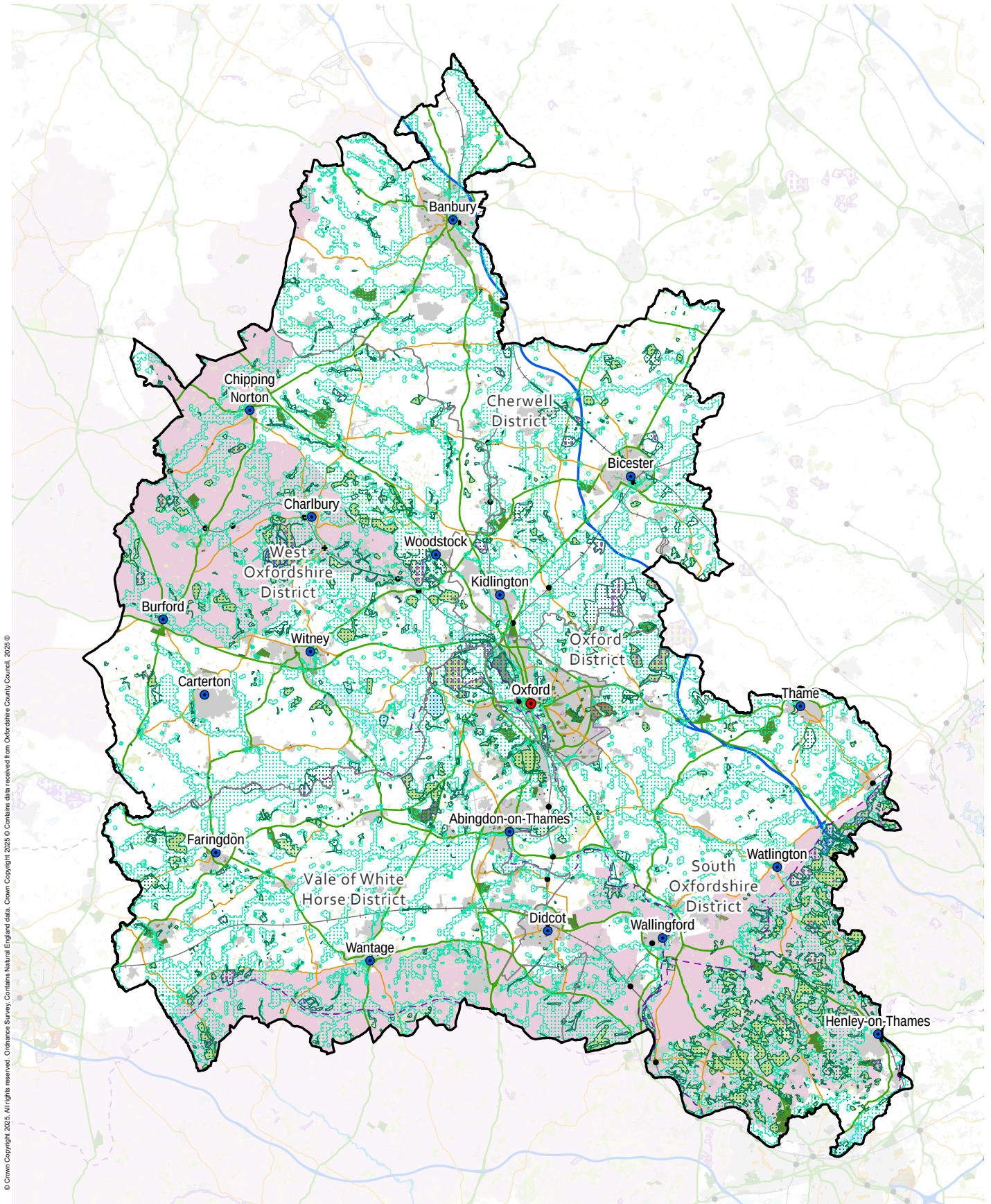
Infrastructure Delivery Bodies

Green Infrastructure consists of a network of multi-functional green and blue spaces and other natural features, urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity (NPPF December 2024). It is important to recognise that nature underpins all life on earth. Without a thriving natural environment, there would be no growth of any kind which is why it is important to consider it as strategic infrastructure.

Examples include woodlands, street trees, parks, play spaces, allotments, cemeteries, community growing spaces, playing fields, road verges, swales, green walls and living roofs, rivers, canals, streams, wetlands, sustainable drainage, active travel and recreational routes, greenways and waterways.

The key organisations responsible for planning and delivering green infrastructure in Oxfordshire include:

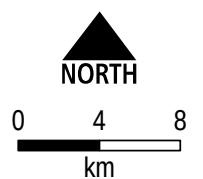
- Oxfordshire County Council (particularly Public Rights of Way)
- City and district councils: (Oxford City, West Oxfordshire, Cherwell, Vale of the White Horse, South Oxfordshire)
- 235 Parish Councils and 15 Town Councils
- National Landscapes Conservation / Management Boards (Chilterns, Cotswolds & North Wessex Downs)
- Berks Bucks & OXON Wildlife Trust (BBOWT)
- English Heritage
- National Trust
- RSPB
- Environment Agency
- Canal and Rivers Trust
- National Highways
- Natural England including National Trails (The Ridgeway & Thames Path)
- Charities including Earth Trust, Woodland Trust, Wild Oxfordshire, Banbury Ornithological Society (BOS) and Trust for Oxfordshire's Environment
- Private estates – Blenheim, Rousham, Broughton Castle



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Legend

- | | | | | | |
|-----------------------------|-----------------|---|------------------------------|--|-----------------------|
| Oxfordshire County Boundary | B Road | LNRS Existing areas of particular importance to biodiversity | National Nature Reserve | National Landscapes | Play Space |
| District Boundary | Railway Station | LNRS Areas that could become of particular importance to biodiversity | Local Nature Reserve | Allotments Or Community Growing Spaces | Playing Field |
| City | Railway | National Trail | Country Park | Bowling Green | Public Park Or Garden |
| Town/Large Village | Built Up Area | Site of Special Scientific Interest | Special Area of Conservation | Cemetery | Religious Grounds |
| Motorway | Waterbody | Ancient Woodland | | Golf Course | Tennis Court |
| A Road | Woodland | | | Other Sports Facility | |



Key existing Green Infrastructure assets across Oxfordshire

In addition to these key organisations, large areas of the county are managed for agriculture with farm managers acting as custodians of the countryside delivering a range of green infrastructure features and benefits.

The draft Oxfordshire Local Nature Recovery Strategy is currently under development to be issued mid-Autumn 2025.

With regards to National Landscapes:

- Cotswolds: Published an undesignated Management Plan with a designated one to follow
- Chilterns: Current plan has been extended until the end of March 2025. This is likely to be reviewed and updated in line with Government reforms and new requirements.
- North Wessex Downs: Management Plan is being reviewed at present in a view to publish in late 2025

Existing Strategic Infrastructure Capacity

A study funded by the Leverhulme Centre for Nature Recovery investigated the distribution of freely accessible green space in Oxfordshire in relation to socio-economic status. Utilising Natural England's Accessible Greenspace Standards, the Oxfordshire's Greenspace-Deprived Neighbourhoods (2024) concluded that a large proportion of Oxfordshire does not meet any of the Accessible Greenspace Standards. These areas are predominantly rural neighbourhoods, although these were generally not deprived neighbourhoods.

There was also no publicly accessible greenspace in Oxfordshire large enough to meet the sub-regional Accessible Greenspace Standard, although Blenheim Park accessible by Public Rights of Way (PRoW) can be considered of this scale.

Of the 407 neighbourhoods in Oxfordshire, 33 were identified as a concern, with 16 considered priority neighbourhoods. These were exclusively within urban areas, with clusters in Bicester, Banbury and Oxford, especially the woods of Barton & Sandhills, Littlemore, Northfield Brook and Blackbird Leys.

In rural areas, the study concluded access to accessible greenspace was increased by the PRoW network although this was severely limited for those with mobility issues. In urban areas, it is difficult to increase accessible greenspace due to constraints of land use, so enhancing and connecting existing greenspace is essential.

Strategic Infrastructure Requirements to Support Growth to 2050

The Green Infrastructure Framework created by Natural England aims to support better planning for good quality green infrastructure. It recognises the multiple benefits green infrastructure delivers and the range of aspects to be considered when planning future growth.

Natural England promotes the Environmental Benefits for Natural Tool within the Green Infrastructure Framework as a tool to better understand the impact of proposed land use change on the services nature provides within their project area. The tool highlights the project impact on proposed changes across 18 different ecosystem services, ranging from flood management, to cooling and shading, air quality and recreation. Currently this tool is focused on the project level and would require a series of major assumptions regarding the nature of the development to consider the relative changes to ecosystem services at this strategic level.

Identifying future green infrastructure requirements at this strategic level is therefore typically focused on accessible greenspace, nature recovery and formal outdoor sports and play provision. Natural England advocates the development of an area-wide standard as part of a Green Infrastructure Strategy. In the absence of

a county wide strategy, the table on the next page provides a summary of some of the green infrastructure requirements and some of the priority areas where green infrastructure is needed to support growth to 2050 summarised from recent reports.

This is not an exhaustive list, and some examples have been added to existing pipelines projects/initiatives.

Green Infrastructure delivery projections could be estimated, however a joined-up approach is required to determine the strategic deliverables in line with the criteria and policy set by each LPA, which may vary in its calculations to quantify GBI requirements.

Local Authority	Paragraph No.	Source	Commentary
OCC	n/a	Oxfordshire Local Nature Recovery Strategy	Oxfordshire's Conservation Target Areas (CTAs) - report by Wild Oxfordshire still under development to be issued mid-Autumn 2025
OCC	n/a	Oxon Green Futures	104 projects and green investment opportunities across Oxfordshire
Cherwell	4.15	Cherwell Infrastructure Delivery Plan 2024	Banbury and Bletchington below provision of 2.4ha per 1000 population, including accessibility
Cherwell	4.153	Cherwell Infrastructure Delivery Plan 2024	There is justification for additional open space and sports facilities to meet the projected population growth within Cherwell.
Cherwell	4.154	Cherwell Infrastructure Delivery Plan 2024 - Policy CSD12	At least 20% biodiversity net gain will be sought in the Nature Recovery Network Core and Recovery zones, and the strategic allocations in this Plan. OCC tree policies include a requirement to achieve at least 30% canopy cover on strategic development sites
South Oxfordshire	5. GI priority areas for investment	Green Infrastructure Strategy and Open Space Study 2024	Identifies GI priority areas including South Oxford Fringes, Thame Clay Vale, Corallian Ridge, Central Thames Valley, Upper Slopes and Wessex Downs Scarp, Chalk Escarpment and Foothills and Chilterns Wooded Plateau.
South Oxfordshire and Vale of White Horse	Box 3.6, Box 3.7, Box 3.8	NAT01.4A South and Vale Green Infrastructure Strategy 2017. Priority landscape scale corridors with key opportunities for strategic GI enhancement, linkage and creation, including CTAs, Urban Green Grids and Strategic Green Access Links	1. Isis Valley Blue Corridor 2. Thames Valley Blue Corridor 3. Ock Valley Blue Corridor 4. Thame Valley Blue Corridor 5. Chilterns Scarp & Woods Green Corridor A 6. North Wessex Downs Scarp Green Corridor 7. North East Oxford Green Corridor 8. Faringdon to Oxford Green Corridor
South Oxfordshire and Vale of White Horse	Section 3.6 and Box 3.8	NAT01.4A South and Vale Green Infrastructure Strategy 2017. Urban Green Grids - Strategic GI Areas	1. Western Vale 2. Abingdon on Thames & Oxford fringe 3. Wheatley & Thame 4. Science Vale 5. Wallingford 6. Chiltern Escarpment
West Oxfordshire		West Oxfordshire IDP 2016 and updated West Oxfordshire Baseline IDP Report 2025	The Wychwood Project, Lower Windrush Valley Project, Windrush in Witney Project

In the absence of comprehensive forecasts across the OxIS timeframe to 2050, a theoretical calculation has been applied based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Medium Growth Scenario Infrastructure Requirement by 2050	Formal outdoor playing fields (ha)	Natural & Semi-Natural Greenspace (ha)	Amenity greenspace (ha)
Cherwell	66	98	38
Oxford City	39	58	23
South Oxfordshire	66	100	39
Vale of White Horse	51	77	30
West Oxfordshire	60	90	35
Oxfordshire	282	423	164

Theoretical Green Infrastructure Requirements based on OxIS Growth Scenarios

*Based on indicative benchmarks of 1.2 hectares of formal outdoor playing fields, 1.8 hectares of natural and semi-natural greenspace, and 0.7 hectares of amenity greenspace per 1,000 population.

Existing Pipeline Infrastructure Investment

The existing pipeline infrastructure investment includes:

Oxon Green Futures

- Oxfordshire's Green Investment Pipeline and Prospectus Interim Report identifies 104 projects and green investment opportunities across Oxfordshire. It identifies 4 investment-ready projects including:
 - Evenlode Landscape Recovery
 - Oxfordshire Nature Recovery Fund (ONReF)
 - Low Carbon Hub - Solar Rooftop Pipeline
 - Green Construction Skills Centre

** Note not all Oxon Green Futures projects are for green infrastructure, some are for energy projects*

Oxfordshire County Council

- Oxford Greenways
- Donnington Playing Fields cycle path
- Oxford Burial Meadow
- Thames River Valleys
- RSPB's Futurescapes initiatives
- Oxfordshire's Conservation Target Areas (CTAs)

Oxford City

- Oxford Greenways
- Donnington Playing Fields cycle path
- Oxford Burial Meadow
- The Oxford Flood Alleviation Scheme
- Barton Area Action Plan
- Linear Park along Bayswater Brook

West Oxfordshire

- Salt Cross Garden Village

- Extension of Carterton Country Park
- Deer Park Wood, Witney
- Reprofile banks North of Bruern Abbey
- Woodland improvements at Dean Common Community Woodland, Chadlington
- Wychwood Forest Trust
- Lower Windrush Valley Project
- Windrush in Witney Project
- Country Park at Brize Meadows
- Kilkenny Country Park

Cherwell

- Provision of 43.6 Ha of general green space according to standards assessed for 7500 dwellings
- Green infrastructure network with connected wildlife corridors, including within the residential area, and the improvement of the existing network including within the Lower Cherwell Conservation Target Area and to the Meadows West of the Oxford Canal Local
- Green infrastructure corridor (c.8 ha) incorporating a pedestrian, wheelchair and all- weather cycle route along PR6a's eastern boundary
- New community woodland (7.8 ha) to the north west of PR9 developable area and to the east of Dolton Lane
- Green infrastructure network with connected wildlife corridors, including within the developable area. The improvement of the existing network including hedgerows between the proposed Community
- Protection and enhancement of existing wildlife corridors, including along Frogwelldown Lane District Wildlife Site and Dolton Lane, and the protection of existing hedgerows and trees
- Establishing an urban edge park around

the outskirts of Bicester, by protecting the existing network of green spaces and securing new open space and linear route provision linked with public footpaths/ cycleways, to create a circular route with connections to the town centre and the countryside beyond

- Elmsbrook Forest School/Pocket Park
- A nature conservation area on c. 12.2 ha of land to the east of the railway line, south of the Oxford Canal and north of Sandy Lane
- New publicly accessible Local Nature Reserve (c. 29 ha) based on Rowel Brook at Land East of the A44
- Extension to Cutteslowe Park (c.11ha) including land set aside for the creation of wildlife habitats and for nature trail/ circular walks accessible from the new primary school

- Cotswold - Ash tree dieback
- Cotswold - Glorious Cotswold Grasslands
- Cotswold - Cotswold Champions Programme

- Berks Bucks & Oxon Wildlife Trust (BBOWT) - Reconnecting Bernwood, Otmoor and the Ray (RBOR)
- Freshwater Habitats Trust - Ock and Thame Farmers: Freshwater and Floodplain Restoration Project
- North East Cotswold Farmer Cluster CIC - Everlode Landscape Recovery
- Thames Water - South East Strategic Reservoir Option (SESRO) - Abingdon Reservoir

Vale of White Horse

- The restoration of the Wilts and Berks Canal
- Country Park
- SANG and Green infrastructure at Dalton Barracks

South Oxfordshire

- Didcot Garden Town
- National Landscape Projects:
 - Chilterns - Chilterns Chalk Streams Project
 - Chilterns/North Wessex Downs - Mend the Gap Programme
 - Chilterns/Cotswold - Access for All
 - North Wessex Downs/Cotswold - Farming in Protected Landscapes
 - North Wessex Downs - Nature Recovery Plan

Some of the known challenges and risks associated with delivering the existing pipeline infrastructure investments include:

- Funding
- Landowner agreement
- Land availability
- Dependence on private cars
- Requirement for improved active travel routes
- Air and water quality issues
- Under-performing blue corridors
- Flood risk and converse water availability - drying up waterbodies
- Woodland cover - below regional and national average

Further Strategic Infrastructure Required to Support Growth

Mapping all GBI assets and requirements as set out by the districts across the county will enable an analysis of gaps and opportunities.

4.5 Water



Flood Risk
Management



Water Supply



Wastewater
Treatment

Flood Risk Management

Infrastructure Delivery Bodies

The Environment Agency provide a strategic overview of flood risk from all sources of flooding across Oxfordshire. They are responsible for managing flood risk from Main Rivers, which includes the delivery, inspection and maintenance of flood alleviation measures.

Ensuring regulatory compliance with the Flood and Water Management Act (2010), Oxfordshire County Council, in their role as Lead Local Flood Authority (LLFA), are responsible for developing, maintaining, applying and monitoring a strategy for local flood risk management, including flood risk from surface runoff, groundwater and ordinary watercourses. The five Oxfordshire District Councils, in their role as planning authorities, play an important role in plan making, through steering vulnerable development away from areas of flood risk and safeguarding land for flood alleviation

measures, including through the provision of nature based solutions (NBS) and natural flood management (NFM).

Thames Water is responsible for managing their own infrastructure to reduce flood risk from both water supply and sewerage (foul and surface water) connections. They are increasingly looking at co-delivery of NBS to reduce pressure on flooding from their assets through a catchment-based approach to remove surface water from the drainage system.

National Highways are responsible for managing the effectual drainage of surface water from motorways and major A roads as well as maintaining drainage systems across their strategic road network: this includes looking at NBS to manage outfalls for flood risk and water quality. National Highways are also looking strategically at where their linear infrastructure can act as secondary flood defences.

Riparian land owners are those that own land or property next to a river, stream or ditch. Riparian land owners have certain rights, duties and responsibilities which

they are legally obliged to fulfil. These apply equally to local authorities when they are the landowner. The aim of these responsibilities is to help manage flood risk and protect the environment. Further information on the role of Riparian Land Owners can be found in the EA's document '[Owning a watercourse](#)'.

Private developers are responsible for providing SuDS based surface water drainage infrastructure within their development to reduce the risk of flooding from surface water.

Relevant Existing and Emerging Strategies

The National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England outlines a comprehensive approach to managing flood and coastal erosion risks. Two clear goals from this are to make more of England resilient to flooding by 2100 and to help people and wildlife adapt to climate change impacts, including flooding and sea level rise. Linked to this, the strategy encourages greater use of NBS to enhance flood and coastal resilience, support nature recovery and align with broader environmental goals. The strategy encourages fostering a more collaborative partnership between the government local authorities, businesses and communities, particularly for the delivery of integrated NBS. It also commits to mainstreaming NBS and NFM through supporting local delivery through funding, integrating NBS into flood management investment decisions and promoting NBS/NFM co-benefits.

January and March 2025 saw the update of the National Flood Risk Assessment (NaFRA2) which improves on the first iteration. The mapping outputs are driven by updated hydrology, greater granularity and greater resolution. As a result, there is an increased number of areas now considered to be at risk of flooding from Main Rivers. Statistics now show that although the total number of properties at risk remain stable there is an 88% increase in the number of properties now classified to have a high chance of flooding from rivers or sea. The new mapping also shows there to be a 43% increase in the number of properties at risk of surface water flooding. These changes are likely to influence a development's location, design and planning decisions.

If enacted in England, Schedule 3 of the Flood and Water Management Act 2010 would make SuDS compulsory and establish a framework for the adoption of SuDS with LLFAs designated as the sustainable drainage approval body (SAB). The previous government were consulting on the enactment of Schedule 3; however, the current government is reviewing whether the same outcomes can be achieved through planning policy change. In the interim, Defra have released updated national SuDS standards which remain non-statutory, but enhance expectation on SuDS delivery, in particular the use of NBS solutions and integrated systems which can also serve as water re-use sources.

The Thames River Basin District Flood Risk Management Plan (FRMP) 2021 to 2027 outlines several key measures and objectives for managing flood risk across the River Basin District. Although there is no specific focus on the five council areas, some key measures the FRMP looks to implement are to enhance existing flood defences, provision of NFM and increased community engagement and strengthened emergency responses.

Existing Strategic Infrastructure Capacity

Oxfordshire county covers an area of 2,605 km² and is situated almost entirely within the Thames River Basin District (96.6%). Small areas drain to the Anglian (2.6 %) and Severn (0.8 %) River Basin Districts. The main Rivers include: the River Thames, River Cherwell, River Ray, River Evenlode, River Windrush, River Ock and River Thame.

Flood risk management infrastructure varies significantly in scale and type ranging from NBS at a catchment level to hard engineered structures which reduce the risk of flooding to land. NFM covers measures which work with or mimic natural processes, for example through slowing the flow of water (often within the catchment) or reconnecting rivers with their floodplains to increase flood storage. Engineered structures can include raised banks, raised land, embankments, flood walls, or flood attenuation areas and

they can also include features which were designed and built for an unrelated purpose, but which provide a flood defence function; such features are designated as flood risk management assets under the Flood and Water Management Act 2010.

Flood management infrastructure ownership and maintenance is varied. In many cases the owners and maintainers are private riparian landowners. In these instances, the Environment Agency or other Risk Management Authority (RMA) under the Flood and Water Management Act may have permissive powers for works to flood defence management assets (or may directly maintain them) in order to provide effective flood risk management. In some cases, assets may be owned and maintained directly by the RMA such as the Environment Agency, LLFA or Internal Drainage Boards (IDBs).

Funding arrangements for flood risk management vary across the different RMAs, which in turn influence the scale, type and delivery of flood risk management measures. In particular, local authorities at present do not receive a direct Flood Defence Grant in Aid allocation and instead fund their statutory flood risk management functions through a combination of partnership and developer contributions.

In cases where structures have been designed specifically as a flood defence, they will be categorised according to the Standard of Protection (SoP) they provide.

This is based on the return period of the flood event they provide protection against (e.g. 100-year flood event). The effective SoP may decrease due to deterioration in condition or increases in flood risk due to climate change. Therefore, formal structural defences are also given a rating based on a grading system for their condition. The grading system used by the Environment Agency has 5 grades from 'Very good' to 'Very poor'.

The main source of flood risk to each of the districts is notably from fluvial sources associated with the Thames, Ock, Ray and Cherwell. Urban development has led to an increase in impermeable surfaces resulting in increased risk from surface water flooding; multiple flood incidents have been recorded in Oxford, Abingdon-on-Thames, Witney and Wheatley.

There is evidence of groundwater flooding in the south, where underlying deposits of chalk are prevalent. A summary of flood risk sources across Oxfordshire is provided in

Appendix 3.

The Oxford Rivers and Sea (RS) Flood Risk Area (FRA) spans across large parts of Oxford along the River Thames to the west and along the River Cherwell to the east. Settlement areas along Thames tributaries including Boundary Brook, Littlemore Brook and Northfield Brook also form part of the Oxford RS FRA. The FRA is located across Oxford City, Vale of White Horse District, South Oxfordshire District Council Areas.

Fluvial flood risk within the Oxford RS FRA is currently managed through a series of approaches, including development planning and adaptation, flood risk assets (both NFM and structures), flood warning systems, and flood risk modelling. Through regular channel maintenance and the deployment of temporary defences, the Environment Agency can reduce the risk of flooding to a large proportion of the properties at highest risk of flooding. The Environment Agency operates and maintains a sluice gate and overflow pipes at Hythe Bridge Street in Oxford City.

The table overleaf lists significant existing flood defences in each of the five districts within Oxfordshire, as well as which flood risk management policies are relevant to that district as identified by the Thames Catchment Flood Management Plan (CFMP). Information on existing flood defences has been supplied by Oxfordshire's flood risk documents, including district-specific Strategic Flood Risk Assessments (SFRAs), the Preliminary Flood Risk Assessment (PRFA) and the Local Flood Risk Management Strategy (LFRMS).

The Thames Catchment Flood Management Plan (CFMP) divides the Thames basin into Sub-Areas, each Sub-Area has an assigned policy. The Sub-Area policies relevant to Oxfordshire are detailed in Table 1.44 of the Plan. There is a small area within Cherwell which is covered by the Great Ouse CFMP, this is included in the table.

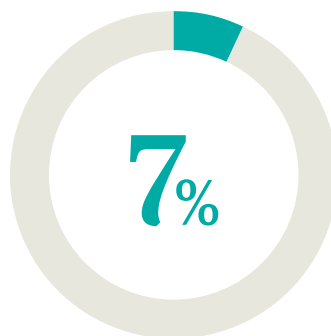
District	Flood Risk Management Strategy	Significant Existing Flood Defence
Cherwell	Areas of low to moderate flood risk; risk of flooding is currently managed appropriately (Ouse catchment) Areas of low to moderate flood risk; provision of flood protection through attenuation (Thames catchment)	Major defences in Banbury with a standard of protection (SoP) of 1:200 year Kidlington 1:100 year SoP
West Oxfordshire	Areas of low to moderate flood risk; provision of flood protection through attenuation (Thames catchment)	Embankments, revetments and flood walls to a 1:100 year SoP Flood bunds at Black Bourton
Vale of White Horse	Areas of low to moderate flood risk; provision of flood protection through attenuation, with further action required to keep pace with climate change (Thames catchment)	13 raised informal embankments Storage areas at Farmoor Reservoir and Tinsley Park
South Oxfordshire	Areas of low to moderate flood risk; provision of flood protection through attenuation, with further action required to keep pace with climate change (Thames catchment) Areas with moderate to high flood risk, with further action to reduce flood risk required	6 raised informal embankments
Oxford City	Areas with moderate to high flood risk, with further action to reduce flood risk required	Demountable barriers at Hinksey Park and Osney Island

Key flood risk and drainage assets in Oxfordshire

Strategic Infrastructure Requirements to Support Growth to 2050

Based on the current infrastructure provision, by 2050 Thames Water has forecast that, across the region, **7% of properties will be at risk of hydraulic flooding internally** from the sewerage system for up to a 1 in 50-year storm. The need for additional or improved flood defences will be met through a combination of measures by the relevant risk management authorities, in addition to measures taken by private landowners, depending on the type and ownership of the individual flood defence.

The Local Plans for the 5 district/city councils require all development to be directed to areas at lowest risk of flooding by applying the Sequential and Exception Tests, in line with national guidance, and also require all development to incorporate appropriate surface water drainage. This should ensure that all sites are located outside the floodplain, by preference, or that flood defences are improved by developers if required and arrangements are made for their long-term management and maintenance. However, there are currently no statutory requirement for RMAs to reduce flood risk from existing areas.



7% of properties will be at risk of hydraulic flood internally from the sewerage system for up to 1 in 50-year storm

The Environment Agency budget for maintenance of flood defences is provided by central government. Flood and Coastal Risk Management (FCRM) Allocation Principles were agreed by the Environment Agency Board on the 7th of October 2020. These include an investment of £5.4bn to better protect properties and infrastructure nationally by 2026 / 27. This is being done through a broad range of resilience actions, alongside protection measures which will better protect over 336,000 properties and reduce flood and coastal erosion risk by 11% nationally.

Existing Pipeline Infrastructure Investment

– **Oxfordshire Flood Alleviation Scheme:**

Plans for delivery of the Oxford Flood Alleviation Scheme are at an advanced stage and there is a commitment from the Environment Agency in partnership with Oxfordshire County Council, Oxford City Council and Vale of White Horse District Council for its delivery. Necessary approvals and consents are required for the scheme to go ahead but once complete, the scheme will become one of the largest flood alleviation schemes across the UK. This £150m scheme aims to reduce flood risk to people's existing homes and local businesses as well as reduce disruption to key transport corridors in the city and is designed to provide some resilience to the future impacts of extreme weather events from climate change. It will involve the construction of a new stream and the lowering of the floodplain to the west of Oxford to divert water away from more densely populated areas within Oxford.

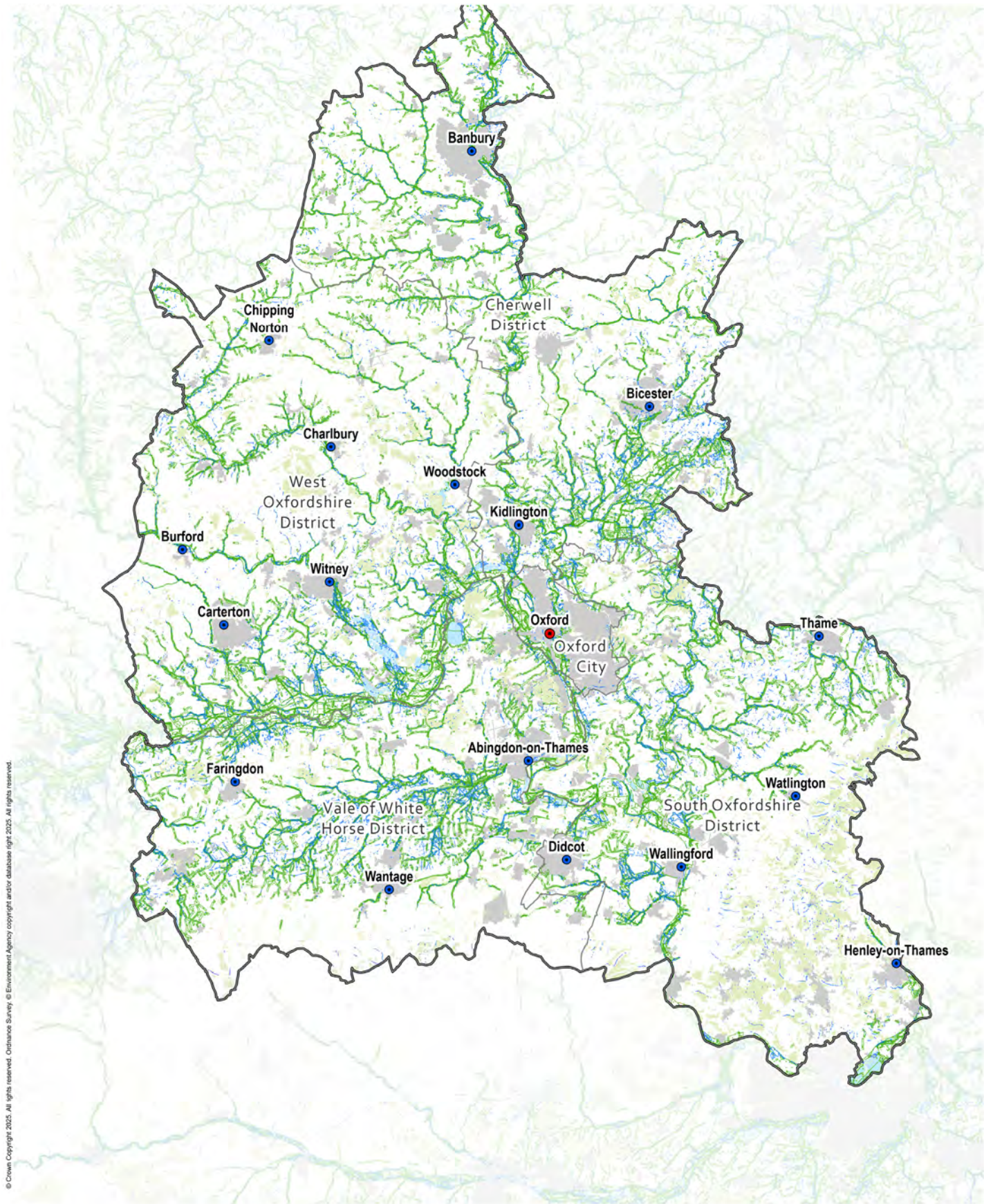
- As a key part of the Landscape Recovery Scheme and Nature Recovery Network, Oxfordshire is identifying opportunities to implement NBS approaches to make catchments more resilient to climate change, in particular through the use of NFM. This is using land management techniques to recreate natural processes with the aim of slowing flow, creating more natural storage and delivering wider water and environmental benefits. Modeling and mapping exercises have been completed for the Evenlode, Windrush and Cherwell which identify the range of NBS opportunities which are present in the catchments. A nationally derived NFM data set is also available which

demonstrates the range of NFM solutions which could be available.

– **Lye Valley Catchment Flow Reduction and Florence Park SuDS:**

This opportunity involves taking a catchment wide approach for the areas of Lye Valley and Florence Park, which are hydraulically linked. There is potential to deliver both schemes together in partnership with Oxfordshire County Council and Oxford City Council. The Lye Valley catchment flow reduction scheme aims to reduce flow to prevent erosion of a water-dependent and water-quality sensitive Site of Special Scientific Interest and extensive Local Wildlife Site in the Lye Valley. For the area of Florence Park, investigations will be undertaken and potential modelling to identify solutions to reduce the risk of surface water and foul flooding identified in the Cowley area of Oxford. This is a residential area where future investigation could identify opportunities with a variety of stakeholders. These opportunities include collaborative potential for SuDS with amenity and environmental benefits, such as providing water butts in schools and helping residents explore how they can be more resilient to the impacts of climate change.

- A number of short-term measures have already been completed, including maintenance and engineering improvements, provision of demountable flood barriers for Osney Island and Hinksey Park and development of a multi-agency flood plan. Furthermore, £2.5m has been spent on removing silts and gravels from the water channels, increasing the capacity of structures like culverts and providing temporary defences.



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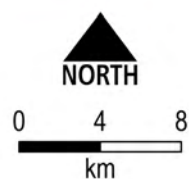
Legend

- Oxfordshire County Boundary
- District Boundary
- City
- Town/Large Village
- Waterbody
- Woodland
- Built Up Area

Working with Natural Processes (WWNP)

- Floodplain Reconnection Potential
- Floodplain Woodland Potential

- Riparian Woodland Potential
- Runoff Attenuation Features (1% AEP)
- Runoff Attenuation Features (3.3% AEP)



Potential Areas for Working with Natural Processes in Oxfordshire (Source: Environment Agency)

- The River Basin District Plan for the Thames Basin District outlines a number of objectives which the Environment Agency hope to achieve by 2027. These, however, are not physical activities, rather they revolve around stakeholder consultation, development of the strategic vision for flood risk management and developing a programme of flood risk management capital schemes etc. The latter will be of use once developed in 2027 and should be consulted when published.
- Additional partnership working opportunities, as noted in the table below have been identified.

Flood risk management schemes are heavily reliant on local and/or national government funding to progress through all relevant optioneering and planning stages. As funding is not guaranteed, this could have consequences on the design, programme and planning if a site or works is or was reliant on flood management measures to be implemented before, during or after construction.

The Abingdon Flood Alleviation Scheme was previously put on hold, but there is now a potential opportunity to deliver it as part of the SESRO plans. This is included in the draft policy IN7 of the South and Vale Joint Local Plan.

With the latest NaFRA2 updates, more homes now have a high probability of experiencing fluvial (river) flooding and there has been a **43% increase in properties at risk of surface water flooding**. For proposed developments that were not previously within the floodplain, this could impact design and planning of the sites.

If implementation of Schedule 3 happens, SuDS will become mandatory in all developments and will be subject to increased scrutiny under an appointed SuDS Approval Body.

Opportunities	Partners
River Coin at Fairford Floodplain Restoration and NFM	Farming and Wildlife Advisory Group South West (FWAG SW)
NFM on River Churn	FWAG SW
Oxford/Abingdon/Wallingford Bathing Waters	FWAG SW
Florence Park Water Butt and Educational Opportunity	Oxford City Council and Thames Water
Florence Park Road	Oxford City Council

Partnership Working Opportunities

Further Strategic Infrastructure Required to Support Growth

Under current guidelines, sustainable drainage infrastructure will be required on a site-wide basis. This will significantly reduce the risk of greater surface water flood risk as result of individual developments. On a more strategic scale, however, it is recommended that Oxfordshire County Council in conjunction with Thames Water and Local Planning Authorities take a proactive approach and seek to address the existing surface water flood risk by insisting on the use of the newly adopted national standards for SuDS for all developments and implementing strategic area wide sustainable solutions via an NBS approach. This would require a good understanding of Local Plans (i.e. areas where growth is proposed), areas where the existing surface water drainage network is at or under capacity and using local catchment knowledge.

Thames Water's Drainage and Wastewater Management Plan includes strategies to increase drainage capacity in defined schemes to 2050 through surface water management and upsizing, and in emerging schemes in catchments susceptible to emerging growth.

It is often the case that the responsibility for maintaining Sustainable Drainage Infrastructure is not well defined and the maintenance regime itself is not quite as comprehensive as it should be. Therefore, a system to record and monitor such assets would be beneficial across the County to help ensure the level of protection they provide is maintained.



Flood Risk
Management



Water Supply



Wastewater
Treatment

Water supply

Infrastructure Delivery Bodies

Thames Water Utilities Limited (TWUL) is responsible for planning and delivering potable water supply infrastructure throughout the five local authority areas. They manage the water supply for the region, ensuring residents have access to clean drinking water. TWUL is regulated (economically) by the Government Department Ofwat*; TWUL is also regulated by the Drinking Water Inspectorate for drinking water compliance and the Environment Agency for water resources management and environmental performance.

**In July 2025, the Government announced that Ofwat is to be replaced by a single water regulator responsible for the entire water system. The new regulator will take on water-related functions from Ofwat, the Environment Agency, Natural England, and the Drinking Water Inspectorate, with the aim of ending complexity in infrastructure delivery.*

The Environment Agency produces Abstraction Licensing Strategies (ALS) as part of their Catchment Abstraction Management Strategies (CAMS) which is used to regulate abstraction of water from the environment. The study area falls within the following ALS areas:

- Kennet and Vale of White Horse ALS, covering an area of approximately of 1,800km²
- Cherwell, Thame and Wye ALS, covering an area of approximately 1700 km²
- Thames ALS, covering an area of approximately 2700 km²

These set out whether there is capacity for additional abstraction from rivers or aquifers within the study area and categorise water available for licensed abstraction whilst ensuring a minimum flow for the watercourse to achieve good status under the Water Directive Framework (WFD).

Relevant Existing and Emerging Strategies

Recent changes to the Planning and Infrastructure Bill aims to half the statutory pre-consultation period for major infrastructure projects in order to accelerate national growth. This could benefit delivery of large water supply infrastructure schemes which meet the criteria of Nationally Significant Infrastructure Projects (NSIP).

TWUL are hoping for government interventions from 2035 (e.g. amendments to the building regulations) with regards to the aspiration of developers meeting the 110 litres per person per day (l/p/d) water consumption target set out in the National Framework for Water Resources. Such interventions would help steer TWUL's infrastructure investment strategy.

The Government's 25-year Environmental plan (2018) sets out goals for improving the environment over the next 25 years. One of the main goals includes to achieve clean and plentiful water. There are two objectives pertinent to water supply. Firstly, the reduction in the damaging abstraction of water from rivers and groundwater ensuring there is enough water to support environmental standards. Secondly, supporting Ofwat's* ambitions in minimising the amount of water lost by leakage.

The National Framework for Water Resources (2025) describes the next steps that need to be taken in England to tackle the predicted long-term deficit in water supply across all sectors:

- Regional water resource groups in England (working with individual water companies) will develop water resource plans which cover all sector uses (not just public water supply) and facilitate delivery of collaborative, cross-sector solutions
- Regulators will work together to evaluate and facilitate the delivery of strategic supply options
- Support a local tier of water resource planning through Water Abstraction Groups and Catchment Partnerships

The Water Abstraction Plan (2021) sets out how the Government plans to reform water abstraction management to protect the environment and improve access to water. The Environment Agency are the regulatory driver behind this and will:

- Use the Water Industry National Environmental Programme (WINEP) to make sure water companies take a leading role in addressing unsustainable abstraction
- Review and adjust as necessary more than half of time limited licences to protect the environment now and in future
- Adjust all permanent licenses shown to be seriously damaging
- Revoke unused licenses
- Regulate all significant abstractions that have been exempt historically
- Update all abstraction license strategies by 2027, capturing agreed solutions to environmental pressures

The Environment Act (2021) is a comprehensive piece of legislation in the UK aimed at protecting and enhancing the natural environment. The Act includes provisions to ensure clean and plentiful water for all and introduces measures to reduce demand for water. In particular, the Act enables the revocation or variation of permanent abstraction licences where the change is necessary to protect the environment or where the licence is consistently underused; this may affect water available to service proposed growth.

In 2023 the Department for Environment, Food & Rural Affairs (Defra) launched the Integrated Plan for Delivering Clean and Plentiful Water which aims to transform the management of the water system, clean up the water environment, and create a sustainable supply of water. Some of the key aims of this plan are to improve the overall management of water resources to ensure efficiency and sustainability and to ensure a reliable and sustainable supply of water for future generations. It outlines key actions which include an increase in investment in water infrastructure and technology focusing on the challenges posed by climate change, population growth, and an ageing infrastructure.

Existing Strategic Infrastructure Capacity

The TWUL region is split into six water resource zones (WRZ). A WRZ describes an area within which the abstraction and distribution of water to meet demand is largely self-contained and all customers experience the same risk of supply failure and the same level of service. TWUL undertake the Water Resource Management Plan (WRMP) planning process for each WRZ to ensure the provision of a secure supply of water to customers in that zone.

Oxfordshire is located in the Swindon and Oxfordshire (SWOX) WRZ which is TWUL's second largest WRZ in population and the largest by geographical area. The zone can be split into three 'sub-zones' which have major transfers between them:

- South Oxfordshire (area stretching from Goring to Chinnor): supply sources are from groundwater only (mainly chalk aquifer sources); produces more water than is needed for local demand
- North Oxfordshire (Oxford, Banbury, Witney, Farringdon): supply sources from surface water only – abstraction from the River Thames into Farmoor Reservoir, treated at Farmoor and Swinford WTWs; can produce more water than is needed for local demand, but during drought, output is managed to conserve reservoir storage
- Swindon & Cotswolds: supply sources groundwater only, mainly from Cotswolds Oolitic Limestone sources and chalk sources; produces less water than is needed for local demand (this sub-zone lies largely outside of Oxfordshire)

A number of distribution improvements have been made in recent years and the main movement of treated water within the WRZ is northwards and westwards.

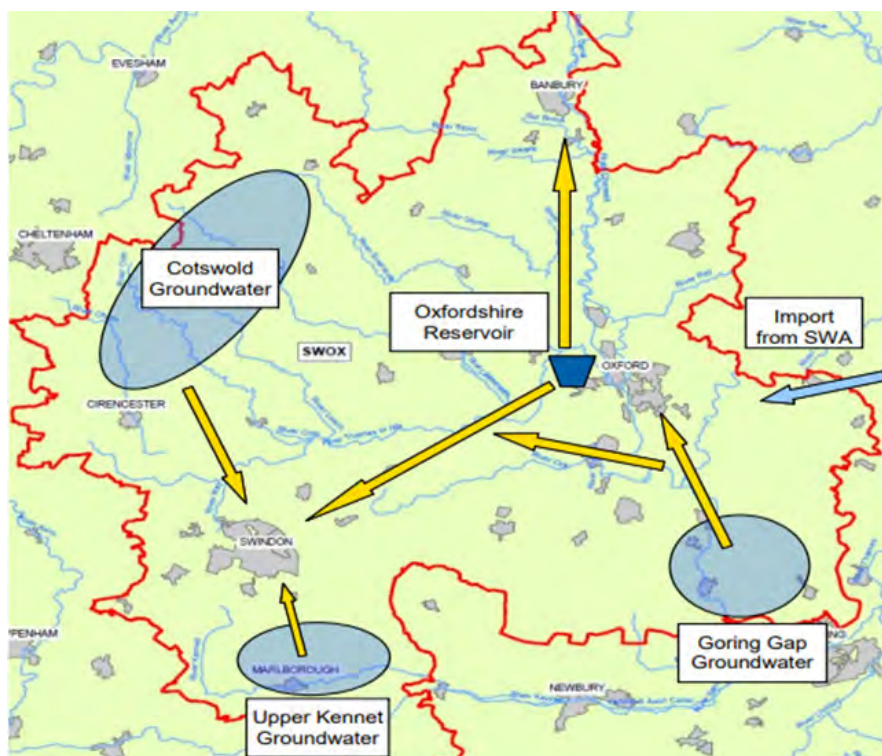
Key sources and distribution are as follows:

- The 'Gatox' mains transfer water from the chalk in the Goring Gap towards Oxford and Swindon.
- Farmoor reservoir provides water north to Bicester and Banbury and west to Swindon.
- The Oolites of the Cotswolds serve the local demand to the west of the WRZ (not in Oxfordshire).
- Chalk groundwater serves the Upper Kennet Valley (not in Oxfordshire)
- Water is received from the Slough, Wycombe and Ashbury WRZ to serve local demands on the eastern border of the WRZ.

TWUL's current WRMP focuses on two key scenarios for estimating supply and demand balances both now and in the future:

- Dry Year Annual Average (DYAA) - average water demand during a dry year, which is a year with below-average rainfall that can lead to increased water usage and stress on water resources; and,
- the Dry Year Critical Period (DYCP) - the period during a dry year when water demand is at its highest and water resources are most stressed.

In the baseline year (2025) prior to considering Local Plan growth, TWUL have a surplus of supply in the SWOX WRZ with a 24 MI/d surplus in the DYAA scenario and a 12 MI/d surplus in the DYCP.



Oxfordshire Water Resources

A summary of the local abstraction capacity from rivers and aquifers indicates the Kennet and Vale of White Horse, Cherwell, Thame and Wye, and the Thames ALS areas are defined as having restricted water available for licensing during high flow (Q30) conditions. However, the waterbodies do not have any water available for licensing during medium flow (Q50), low flow (Q70) and very low flow (Q95) conditions. This is because, flow in the River Thames is required to be maintained to support the environment, navigation, recreation and existing licences, including strategically important abstractions for public water supply.

The watercourses within the identified ALS catchment areas are all tributaries of the Thames and as such the licensing strategy needs to take into account the river flow requirements of the Lower River Thames.

Given the available evidence and the importance of the Thames for water resources, a bespoke licencing strategy has been devised which is applicable to the identified ALS areas.

Strategic Infrastructure Requirements to Support Growth to 2050

Using Local Plan projections available in 2023/24, TWUL predict an increase in dwellings in the SWOX WRZ of 141,000 by 2050 (from a baseline of 2025). This creates an increase in total demand for water in the SWOX WRZ of 30MI/d by 2050 which would exceed the baseline surplus identified in the previous section; this would result in a supply-demand deficit by 2050.

Worsening the impact are two factors:

- TW moving to a more resilient regulated planning model meaning more water is required to ensure supplies in a more extreme drought (moving from 1 in 100 year planning to 1 in 200 year planning); and
- The fact that water available for use (WAFU) to meet demand in the WRZ will decrease from the current baseline due to both the effects of climate change (reducing the amount of water in rivers and aquifers) and due to the need for some existing water abstractions to be reduced to support environmental improvements.

This combined effect further worsens predicted deficits beyond just that caused by population growth.

TWUL's current WRMP has adopted a multi-tier approach to fully quantify the future supply-demand and all the factors at play. For the purposes of this study, TWUL's preferred pathway has been used to inform the supply-demand balance.

Using the preferred pathway, and without the implementation of measures, there will be a supply-demand deficit of -90 MI/d by 2045 within the SWOX WRZ in the DYAA scenario, and a deficit of -87 Mld in the DYCP scenario. This worsens further to the longer term projections to 2075.

Working with WRSE, TWUL have set out the need for a twin-track approach to balancing supply and demand by 2050. This approach requires both demand management (to reduce existing demand) and provision of new water supply sources at a strategic scale (serving more than one water company) and local scale.

Combined, these measures need to ensure an additional 90 MI/d of water is made available to meet demand in the wider SWOX WRZ based on TWUL's estimates of population growth, climate change impacts and reductions in their allowable abstractions.

It is considered that further information from TWUL and spatial growth info would be required to estimate direct projections to 2050. This is because Thames Water do not break down data further than the WRZ in their published data.

	2026	2030	2045	2075
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WRMP24 (MI/d)	+24	+9	-90	-101
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WRMP24 - Preferred Pathway Baseline Supply-Demand Balance for SWOX WRZ DYAA

	2026	2030	2045	2075
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WRMP24 (MI/d)	+12	-7	-87	-103
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WRMP24 - Preferred Pathway Baseline Supply-Demand Balance for SWOX WRZ DYCP

Existing Pipeline Infrastructure Investment

Demand management is TWUL's largest component for the SWOX WRZ, particularly in the short term (2025 – 2030). As part of this TWUL will continue its progressive metering programme with an additional 12,000 households to have new meters installed in AMP 8 achieving a total penetration of 90%. TWUL will also reduce leakage by 5.3 MI/d in the SWOX WRZ during AMP8 and use media campaigns, temporary use bans and non-essential use bans to aid demand reduction.

Through the medium term (2030 – 2045), TWUL will finish most of the metering efforts achieving 94% penetration. It will also introduce a financial incentive-based tariff scheme from 2035. Other key actions include providing additional leakage reductions, promoting water efficiency, continuing with media campaigns, and implementing temporary use bans and non-essential use bans.

In the long term (2045 – 2075), TWUL will continue to drive down leakage and continue media campaigns and bans.

Within both the medium and long term periods, TWUL's demand management programme will rely on government intervention on both minimum standards on white goods and the introduction of amendments to building regulations for new dwellings.

With regards to supply management in the short term (2025 – 2030), TWUL's current supply would be sufficient for the 1 in 100-year level of service. However, there will be a need to undertake design and construction of the Moulshford groundwater source to ensure its output will be available by 2033 prior to adopting a 1 in 200-year resilience model. This would entail the construction of an abstraction borehole in unconfined Chalk north of Streatley on the west bank of the River Thames. Water abstracted from the borehole will be treated at the existing Cleeve Water Treatment Works located on the eastern side of the River Thames.

Within the medium term (2030 – 2045), TWUL would need to begin using the Moulshford groundwater source. The South East Strategic Reservoir (SESRO) is planned subject to DCO consent with an aimed delivery date by 2040. The new SESRO reservoir will be located in the Upper Thames catchment, south west of Abingdon in Oxfordshire. The reservoir will be filled with water from the River Thames in winter, when there is plenty of water in the river, and when river levels drop, or demand for water increases, water would be released from the reservoir back into the river for re-abstraction downstream. Implementation of the new SESRO would create a surplus; providing resilience for neighbouring WRZs. If the 110 l/p/d target looks as though it will not be achieved, TWUL may need to develop additional treatment assets to treat water from SESRO.

In 2035, TWUL will need to appraise all of its investigations to determine the future license reductions that will be necessary at TWUL's existing sources. TWUL will need to assess what population growth has occurred at this point and the success of the current demand management schemes.

Within the long term (beyond 2045) and where more adverse conditions may transpire, the Oxford Canal Transfer from Duke's Cut to Farmoor infrastructure may be developed. The scheme includes a 15Ml/d conveyance option from the Oxford Canal to Farmoor Reservoir, with abstraction from a point approximately 800m north of Duke's Cut on the Oxford Canal, discharging into the River Thames for subsequent re-abstraction at the existing Farmoor Reservoir intake. It has been assumed that, as the transfer will only be used in periods of low flow, no works will be required to upgrade the existing intake structure or treatment facilities at Farmoor Reservoir.

The existing pipeline is based on several assumptions subject to change given they are linked to non-stationary factors such as climate change, and population growth. There is also uncertainty around the timescales for delivery of the SESRO scheme; delivery programmes for such large scale infrastructure can be significant delayed due to various factors, including protracted planning timelines.

Meeting the future demand also relies on demand management throughout the planning period and requires elements of raising public awareness and public uptake in financial incentive-based tariffs as well as government intervention in regulation and policy. It is possible that lack of uptake in these strategies and lack of governmental action could mean additional resilience is required within the SWOX WRZ within the medium to long term.

Further Strategic Infrastructure Required to Support Growth

Owing to the connectivity of WRZs, spatial growth options within a WRZ do not materially influence investment required in water resource management; however, all growth within Oxfordshire is in an area classified by the Environment Agency to be under severe stress, and significant investment is required by TWUL in particular to meet the dual challenge of population growth alongside supply-side reductions in WAFU due to climate change and environmental improvement need. Additionally, the number of dwellings planned for within TWUL's WRMP (and taken from Local Plan information as of 2023) is likely to be below the revised trajectories now being considered.

TWUL have some flexibility in the medium and long-term plan with regards to delivering additional WAFU, with most flexibility related to the use of SESRO which could be used to provide more water locally to the SWOX WRZ and this would be reviewed in future 5-yearly WRMPs as housing delivery and projections change. However, the size of the predicted supply-demand deficit, and the likely difference in planned housing (between the current WRMP and latest trajectories) demonstrates that need for new development to invest in water efficiency measures to support the demand reduction; this is required for TWUL to be able to continue to ensure adequate supply of water and to be in-keeping with the government strategy to reduce water demand by 2050. Setting planning policy which requires per capita consumption to be limited will assist TWUL in balancing future supply and demand.

It should also be noted that although TWUL will provide residential development with potable water where development areas are allocated under the Local Plan, TWUL may no longer routinely meet potable water demand for non-residential growth where there is no legislative requirement to do so. Non-residential growth should consider investment in water management to move towards a water neutral position such that demand for mains water is minimised; this would take the form of ensuring water efficiency is maximised, considering the use of rainwater harvesting or recycling and considering whether some uses of water can be sourced directly from the environment rather than mains supply.

TWUL have recently seen an increase in the number of applications for data centres. Data centres can require a large volume of water for cooling, and so potential sustainable water sources other than from the potable water supply, which it may not be possible to rely on, and the lack of water should also influence planning decisions.

In addition to water efficiency, the requirement for investment in water distribution infrastructure is influenced by the locality and scale of growth, as both water company and developer investment in new water supply mains and pumping stations may need to be higher where growth is concentrated.



Flood Risk
Management



Water Supply



Wastewater
Treatment

Wastewater treatment

Infrastructure Delivery Bodies

Oxfordshire County Council as Waste Planning Authority are the determining Authority for any waste water planning applications.

Thames Water Utilities Limited (TWUL) is responsible for the public sewer systems throughout Oxfordshire, with the exception of some highway drains which may be the responsibility of Local Authorities or the Highways Agency and small communities and individual rural properties which are served by small private package treatment plants or septic tanks.

TWUL is regulated (economically) by the Government Department Ofwat* who oversee the long-term resilience of wastewater infrastructure. TWUL is also responsible for building, operating and maintaining wastewater treatment facilities, referred to as, Sewage Treatment Works

(STWs). TWUL's wastewater operations are also regulated by the Environment Agency (EA) for environmental performance.

Water companies are legally required under the Water Industry Act to serve customers by investing in and providing new strategic wastewater infrastructure and treatment facilities as necessary to provide for housing granted planning permission. They manage this through the Asset Management Plan (AMP) business planning process which is now supported by the statutory requirement to produce Drainage and Wastewater Management Plans (DWMP).

The EA is responsible for regulating wastewater treatment works, by issuing permits and assessing the quality of treated effluent against compliance limits. In particular, the EU Urban Waste Water Treatment Directive, transposed into UK law, prescribes minimum standards for wastewater collection and treatment in urban areas with a population equivalent of over 2,000, with more advanced treatment required in places with a population equivalent over 10,000 in sensitive areas.

The Water Framework Directive (WFD) Regulations also require watercourses to meet set water quality conditions which affect how wastewater discharges are regulated. The Environment agency manage this by setting standards for treated wastewater effluent being discharged into the environment through the issue of a permit to discharge at all STWs under the requirements of the Environmental Permitting Regulations. These permits limit the volumes which can be discharged and set quality standards which must be complied with. This process limits how much development a STW can serve before a new permit to discharge is required.

The five Oxfordshire councils (in their role as planning authorities) work in partnership with Thames Water to identify future infrastructure needs through the planning process.

Relevant Existing and Emerging Strategies

The Government's 25-year Environmental plan (2018) sets out goals for improving the environment over the next 25 years. One of the main goals induces to achieve clean and plentiful water. There are two objectives pertinent to waste water: firstly reaching or exceeding objectives for rivers, lakes, coastal and groundwaters that are specially protected whether for biodiversity or drinking water as per or River Basin Management Plans; secondly, minimising harmful bacteria in designated bathing waters and continuing to improve the cleanliness of our waters by 2030.

The Environment Act (2021) is a comprehensive piece of legislation in the UK aimed at protecting and enhancing the natural environment. The Act includes provisions to ensure clean and plentiful water for all. The Act:

- places a duty on water companies to secure a reduction in adverse impacts of discharges from storm overflows on the environment; growth proposed in Local Plans significantly influences how these reductions can be achieved.
- makes drainage and sewerage planning a statutory duty through the requirement for water companies to produce Drainage and Wastewater Management Plans.

In 2023 the Department for Environment, Food & Rural Affairs (Defra) launched the Integrated Plan for Delivering Clean and Plentiful Water which aims to transform the management of the water system, clean up the water environment, and create a sustainable supply of water. One of the key aims is to implement measures to reduce pollution and enhance water quality. It outlines key actions which include an increase in investment in water infrastructure and technology focusing on the challenges posed by climate change, population growth and an ageing infrastructure.

The Government's 2023 Storm Overflows Discharge Reduction Plan (SODRP) sets out a medium and long term plan to reduce discharges from the sewer system to acceptable levels.

Existing Strategic Infrastructure Capacity

Oxfordshire is located within the Oxfordshire, Swindon, Wiltshire, Gloucestershire and Warwickshire Thames Regional Flood and Coastal Committee (TRFCC) area. The Catchment Strategic Plan for the TRFCC area is detailed as part of Thames Water's Drainage and Wastewater Management Plan (DWMP).

Thames Water has identified the following 4 key issues with regards to capacity of the existing wastewater treatment infrastructure network:

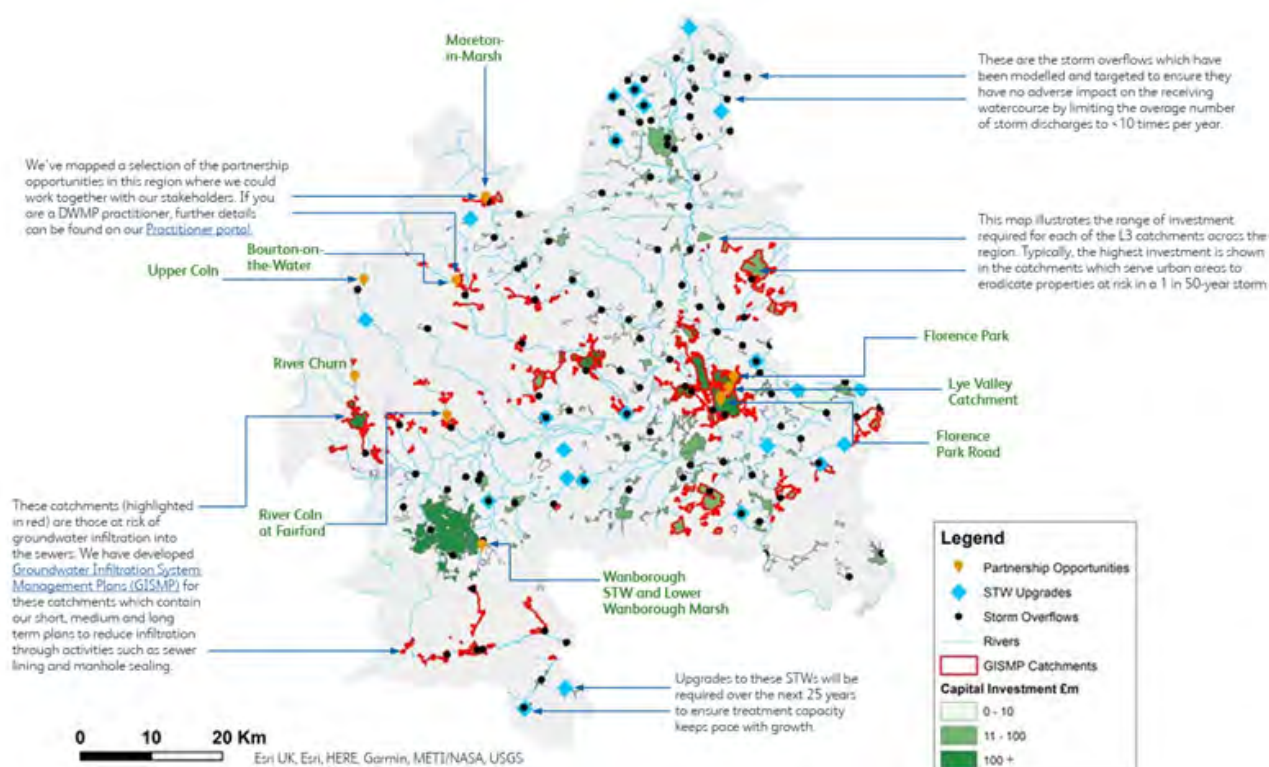
- Population Growth: population in the Thames Water region is expected to increase by more than 2 million people by 2045;
- Climate change: Impacts of climate change are expected to increase, with more extreme weather expected. This includes droughts, heatwaves and summer rainstorms becoming 20% more extreme;
- Loss of green space: Loss of green and impermeable areas to housing, transport infrastructure, and many other uses. This reduces the ability of rainwater to soak into the ground, and runs into sewers and rivers more quickly, increasing the risk of flooding.
- Water Quality: Of the 501 waterbodies in the River Thames basin, 94% are at less than good ecological status. 32% of the reasons for not achieving good status are down to water company activities, the remainder are principally attributed to activities such as urban and transport, and agricultural and rural land management.

In addition, historically Oxfordshire's wastewater infrastructure have not been improved at pace required to meet the County's growth and environmental needs. Evidence from local authority planning processes has highlighted ongoing capacity constraints and delay in key infrastructure project delivery.

Based on the level of current provision, by 2050 Thames Water has forecast that, across the region, growth and climate change would impact on storm overflow performance with 44% of STW catchments having an average storm discharge rate >10 storm discharges per annum per overflow to rivers including the Upper Thames, Ock and Windrush.

The TWUL DWMP indicates that there will be an increase in internal and external sewer flooding by 2050 for all STW catchments during a 1 in 30 and 1 in 50 year which will also result in an increase in storm overflow incidents without the implementation of the measures within the DWMP. With the implementation of the DWMP measures and the proposed works/investments the number of internal and external flooding events is expected to be 0 with the total number of annual overflow instances predicted to be <=10.

Therefore, there is an evident need for long-term planning and the implementation of the DWMP, to protect the TRFCC/TWUL areas and support its future growth. In addition, the permit compliance of Thames Water's treatment works for 47 catchments could be at risk leading to a detriment in river water quality.



25-year plan from Thames Water for Oxfordshire, Swindon, Wiltshire, Gloucestershire and Warwickshire

Source: Thames Water Drainage and Wastewater Management Plan 2025-2050

Strategic Infrastructure Requirements to Support Growth to 2050

The initial risk-based screening for TRFCC area, published by Thames Water in December 2019, found that 77% of STW catchments (99% of population served) were vulnerable to the risks of growth and climate change and warranted long-term planning.

Thames Water intends to implement a number of measures across the TRFCC catchment to mitigate the future pressures on pipes, treatment works, and the natural environment to move towards long-term resilience.

These include;

- Undertaking a programme of sewer lining and manhole sealing, targeting as a priority the areas of high infiltration risk that leads to unwanted flows in sewerage systems and that currently take up valuable capacity
- Optimising existing connections between catchments and STWs to transfer flows in stressed areas to catchments with available capacity
- Surface water separation and the installation of features to collect, store and/or infiltrate surface water from buildings and impermeable areas, such as driveways and car parks as part of enhancing the surface water sewerage system. This option also looks to reinforce

the fundamental basis of the sewerage systems being separate by addressing property misconnections of surface water into the foul sewer network or foul to surface water.

- Providing vulnerable homes with active and passive sewer flood protection measures such as flood proof doors, self-sealing bath/shower systems (non-return valves) and installation of household pumping stations
- Managing the impact of surface water on the sewerage system through the identification of network improvements to address deficiencies in the sewerage network capacity, specifically in areas with deliverability constraints and a high risk of sewer flooding now or in the future. This includes the construction of large attenuation sewers, new surface water and foul water sewers.
- Improvements and expansions to existing STWs including through the implementation of a range of different technologies identified to enhance performance, through either retrofitting or new-build options. This will include the use of more intensive wastewater treatment processes which have the capacity to meet future demands and the construction of flood bunds to protect our assets from high river level.

Further information would be required from Thames Water about the specific STW catchment areas and associated growth for each catchment to enable a RAG rating exercise to be undertaken. This would identify which STWs may require further upgrades based on specific spatial growth strategies in line with the Local Plans for each Council area, rather than the previous growth figures provided to inform the Thames Water DWMP.

Existing Pipeline Infrastructure Investment

A partnership between the Environment Agency and Oxford City Council has secured the infrastructure needed to allow for the development of around 18,000 new homes in and around Oxford.

Following a rigorous process to find a solution to unlock the new homes, the EA, Oxford City Council and Thames Water have agreed a scheme which can provide the capacity needed at the Oxford Sewage Treatment Works to allow for the occupation of development from 2027, in line with local plans. It is expected that the project will be delivered in full by 2030. The major upgrade at Oxford STW, costed at more than £130m, will provide a significant increase in treatment capacity, larger storm tanks and a higher quality of treated effluent going to the river. This is expected to address population forecasts to 2041, however there are currently no plans to consider further improvements needed for the 2041-2050 time period.

In addition to the proposed works for Oxford STW, Thames Water has clear infrastructure plans for the next 5 years including the Bicester Sewage Treatment Works and other smaller treatment plants upgrades.

Other known STW Upgrades and infrastructure projects (or proposed solutions from the DWMP) have been presented in the table overleaf and will allow development growth across the Oxfordshire area in the short to medium term.

District	Area	Project/Proposed Solution	Phasing (Short term: 2024-2027; Medium term: 2028-2031; Long term: 2031-2042)	Delivery Partner
Vale of White Horse	Appleton	Undertake sewer lining to target infiltration hotspots and implement surface water management and network improvements in the catchment.	Short-long term	Thames Water and Environment Agency
Cherwell	Banbury	Banbury Sewage Treatment works (STW) upgrade programme to increase capacity from 266 to 490 litres per second, reducing the need for untreated discharges in wet weather and providing a higher quality of treated effluent going to watercourses.	Short to Medium term. The treatment capacity upgrades are forecast to be completed in 2026 and the effluent quality upgrades are forecast to be completed in 2025. They expect to meet government targets for storm overflows by 2030	Thames Water
	Banbury	Banbury 1 Canalside, Relocating or realigning of twin foul rising main	Short-long term	Thames Water and Environment Agency
	Banbury	Banbury 4 - Bankside Phase 2. Extension and enlargement of Bankside Phase 1 connections and pumping station if required.	Short-long term	Utility Provider/ Private Sector developer
	Kidlington	Cassington STW upgrade to improve its ability to treat the volumes of incoming sewage and reduce need for untreated discharges in wet weather.	Short term	Thames Water/ Developers
West Oxfordshire	Witney	Undertake sewer lining to target infiltration hotspots; implement surface water management and network improvements in the catchment; implement property level protection to protect properties from sewer flooding	Short-long term	Thames Water, Environment Agency, Property owners

Thames Water identified the following challenges to delivering infrastructure improvements for wastewater:

- Population growth uncertainties
- Water quality pressures which may limit increases in treatment permit headroom
- Incomplete mapping of surface water systems e.g. sewer, highway or land drainage and the extent of their hydraulic surface water sewerage network models
- Location of property level misconnections
- Pipe materials e.g. pitch fibre sewers impacting asset health
- Ownership and maintenance of SuDS
- Aligning the rural/urban mix in Oxfordshire to balancing grey/green engineering solutions with the need for traditional storage, predominantly in urban areas

Development can detrimentally impact water quality by:

- Increasing the volume in wastewater requiring treatment and discharge to surface waters. This can increase the levels of phosphorus, ammonia and organic matter in receiving watercourses.
- Increasing pollutants in surface water runoff from development surfaces, including roads and pavements. Rainwater draining from development roads and pavements can carry many pollutants, including metals, vehicle emissions, silt, oil, microplastics and household chemicals.
- Decreasing typical flows in watercourses due to increased abstraction for water supply, leading to increased concentration of pollutants.

Further Strategic Infrastructure Required to Support Growth

Thames Water's DWMP includes strategies to increase drainage capacity in defined schemes to 2050 through treatment process technologies and protection from high river levels, surface water management, network improvements, sewer lining, individual property protection and upsizing, and in emerging schemes in catchments susceptible to emerging growth. Between 2025-2050, up to £23 billion will be spent across the TRFCC area by Thames Water to manage future risks, including new permits and increases in STW capacity across 95 TWs, managing surface water from the network and sewer re-lining.

In the medium term:

- Further development of Thames Water's catchment-level planning to reduce the risk of hydraulic sewer flooding by removing surface water that is entering foul sewer system and enhance our surface water sewerage systems
- Invest in sewage treatment works to ensure compliance in line with predicted population growth within each of the 5 District/City Council areas.

In the long term:

- Continue to provide sewer network improvements to meet growth and climate change drivers

4.6 Social Infrastructure



Secondary
Education



Special
Education
Needs and
Disabilities



Further
and Higher
Education

Secondary Education

Infrastructure Delivery Bodies

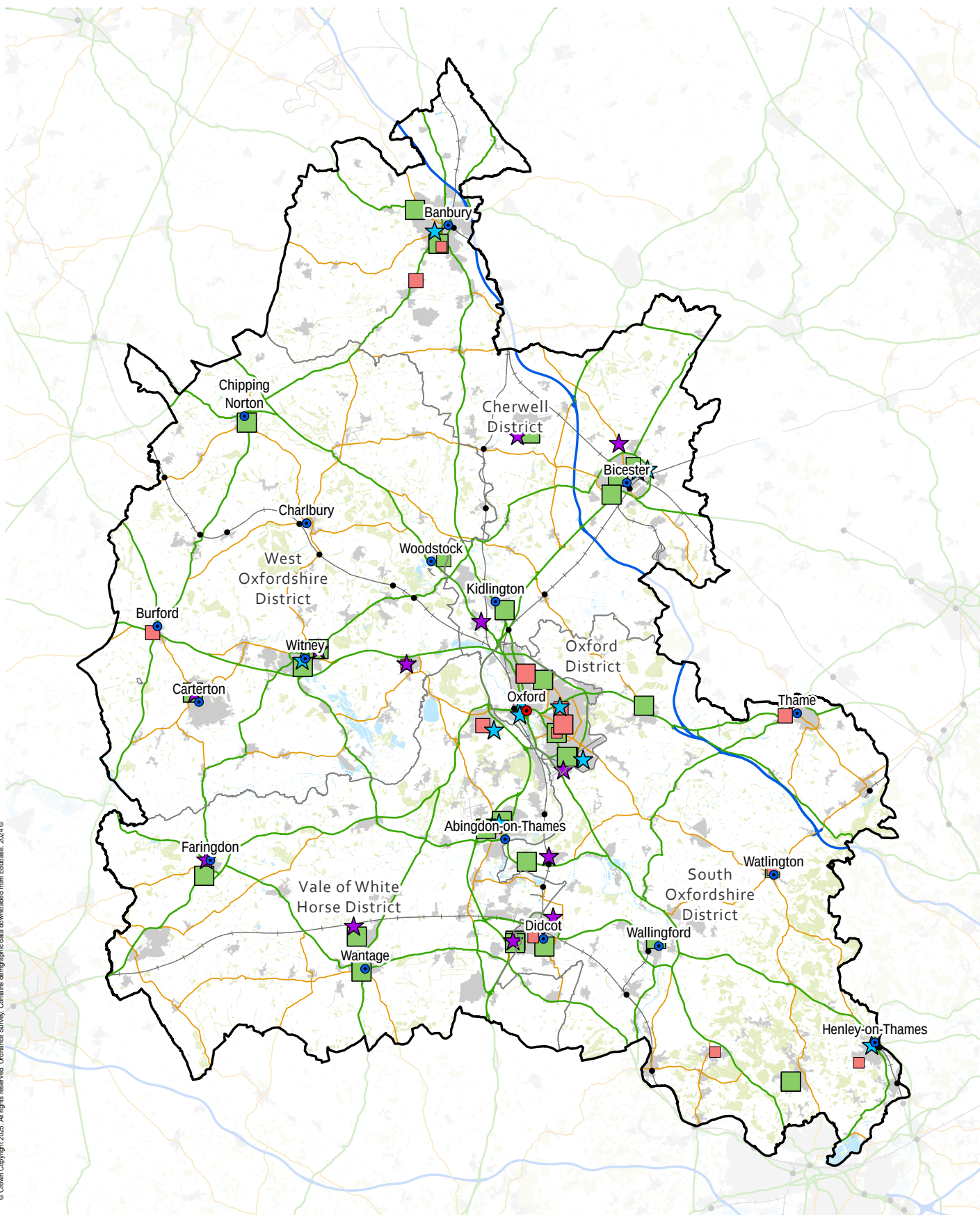
Oxfordshire County Council (OCC) is responsible for the overall planning for secondary education provision as the Local Education Authority. OCC has statutory responsibilities for ensuring sufficient school places and coordinates education infrastructure delivery, including through informing Local Plans and developer contributions to fund school expansions or new facilities.

Oxfordshire County Council regularly updates its Pupil Place Plan, which sets out the expected demand for, and supply of, school places across Oxfordshire. The latest version covers the period 2023/24 to 2027/28. OCC has also provided separate Education Topic Papers to inform the growth locations of emerging Local Plans.

OCC works in collaboration with academy trusts who manage academies in Oxfordshire. As of January 2024, 98% of secondary provision across England is delivered and managed by academies. Academies are not accountable to OCC and receive their budget directly from the Department for Education. The Department for Education is responsible for children's services and education, including early years, schools, higher and further education policy, apprenticeships and wider skills in England. In addition, there are several independent schools within Oxfordshire that are fully responsible for managing and delivering their own education infrastructure.

Subject to the outcomes of the upcoming local government reorganisation, the arrangements for planning and delivering secondary education may change, particularly in terms of the responsible authorities and the defined school planning areas which will need to be further considered.

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Legend

Oxfordshire County Boundary	Railway Station	Railway	Secondary Surplus/Deficit Capacity	-9 - 10	Proposed New/Expanded Schools
District Boundary	Motorway	Built Up Area	-443 - -100	11 - 50	Secondary Education; SEND
City	A Road	Waterbody	-99 - -50	51 - 100	Further and Higher Education
Town/Large Village	B Road	Woodland	-49 - -10	101 - 1,500	

NORTH

0 4 8

Existing and Planned Strategic Education Infrastructure

Existing Strategic Infrastructure Capacity

As of January 2024, there are 41 state sector mainstream schools providing secondary education within Oxfordshire. St John's CE All-Through School at Grove is scheduled to open for secondary phase in September 2025 to meet rising demand from the new Wellington Gate and Grove Airfield housing developments.

Oxfordshire has a total surplus of 7,307 secondary education places across the County as of January 2024, according to the latest Pupil Places Plan.

However, there are considerable geographical differences across the region in terms of capacity as shown in the table overleaf.

Currently, the sub-areas of Cumnor, Eynsham, Henley and Woodcote have deficits in secondary education places, while other sub-areas have surplus capacity in the short-term. This is owing to changes in population demographics including lower population densities or birth rates. Education place requirements are also driven by school performance and other metrics within sub-learning communities. It is expected that strategic housing growth will need to be supported by new strategic secondary education infrastructure, to be advised through the Local Plan preparation process.

At secondary school level, Oxfordshire is a net importer to the extent of around 1.3% of the school population for Key Stages 3 and 4, but a net exporter of sixth form students by around 3.7% of the school population. Cross-boundary movements are observed with West Northamptonshire, Warwickshire, Gloucestershire, West Berkshire, Swindon, Reading and Buckinghamshire. For example, a recent new school in Reading is expected to relieve education pressure in South Oxfordshire with natural churn, which in the past has taken in a significant number of students from Reading. Another key cross-boundary need is from Buckinghamshire which remains to have a selective education system, meaning that many pupils remain to travel to Oxfordshire for secondary education, particularly in Thame.

Learning Communities	Relevant Local Authority	Total Pupil Numbers (January 2024)	School capacity (January 2024)	Surplus/ deficit of places
Abingdon	Vale of White Horse, South Oxfordshire	3,164	3,762	+598
Banbury	Cherwell	2,956	3,597	+641
Bicester	Cherwell	3,258	3,783	+525
Bloxham	Cherwell	1,563	1,580	+17
Burford	West Oxfordshire	1,457	1,459	+2
Carterton	West Oxfordshire	681	918	+237
Chipping Norton	West Oxfordshire, Cherwell	1,005	1,462	+457
Cumnor	Vale of White Horse, Oxford City	1,294	1,250	-44
Didcot	Vale of White Horse, South Oxfordshire	3,618	4,821	+1,203
Eynsham	West Oxfordshire	1,347	1,300	-47
Faringdon	Vale of White Horse	1,409	1,550	+141
Henley	South Oxfordshire	918	900	-18
Kidlington	Cherwell	832	1,221	+389
Oxford	Oxford City	7,710	8,795	+1,085
Sonning Common	South Oxfordshire	464	980	+516
Thame	South Oxfordshire	2,289	2,290	+1
Wallingford	South Oxfordshire	1,406	1,515	+109
Wantage	Vale of White Horse	1,702	2,415	+713
Watlington	South Oxfordshire	738	850	+112
Wheatley	South Oxfordshire	1,139	1,350	+211
Witney	West Oxfordshire	2,367	2,804	+437
Woodcote	South Oxfordshire	621	591	-30
Woodstock	Cherwell, West Oxfordshire	1,086	1,138	+52
Total		43,024	50,331	+7,307

Secondary Education Capacity (as of January 2024)

Source: Pupil Places Plan, Oxfordshire County Council

Strategic Infrastructure Requirements to Support Growth to 2050

Demand for secondary school places has been growing strongly in recent years as children born in earlier birth booms matured. Current pupil projections show an 8.4% predicted rise in secondary pupil numbers between 2022/23 and 2027/28.

Based on the current demographic projections, it is expected that a temporary lull will be experienced in the short term until growth resumes later in the decade. This is uneven across Oxfordshire with areas such as Cherwell experiencing recent growth in birth rates as opposed to areas such as West Oxfordshire with falling birth rates. The table overleaf illustrates the detailed secondary education pupil projections in the short term by Local Authority.

In addition, areas such as Didcot, Bicester, and Wantage are experiencing rapid housing growth attracting young families, while areas with less housing growth such as the south of Oxfordshire or Oxford City are seeing falling pupil populations.

In the longer term, there is expected to be significant further growth due to high levels of housing growth planned for Oxfordshire.

Year 7						
	22/23	23/24	24/25	25/26	26/27	27/28
Cherwell	1546	1529	1492	1490	1597	1587
West Oxfordshire	1368	1418	1412	1356	1379	1426
Vale of White Horse	1378	1354	1389	1448	1475	1492
South Oxfordshire	2018	1985	1989	1976	2046	2066
Oxford City	1335	1270	1237	1240	1214	1253
Year 8						
	22/23	23/24	24/25	25/26	26/27	27/28
Cherwell	1509	1573	1556	1520	1517	1622
West Oxfordshire	1329	1392	1437	1430	1379	1402
Vale of White Horse	1264	1380	1356	1390	1446	1476
South Oxfordshire	1875	2046	2017	2022	2008	2080
Oxford City	1249	1346	1285	1255	1259	1234
Year 9						
	22/23	23/24	24/25	25/26	26/27	27/28
Cherwell	1491	1541	1604	1587	1553	1552
West Oxfordshire	1324	1341	1400	1443	1440	1393
Vale of White Horse	1189	1292	1403	1380	1412	1468
South Oxfordshire	1802	1877	2051	2018	2026	2016
Oxford City	1173	1263	1356	1297	1269	1275
Year 10						
	22/23	23/24	24/25	25/26	26/27	27/28
Cherwell	1543	1508	1557	1616	1598	1567
West Oxfordshire	1303	1325	1338	1396	1439	1441
Vale of White Horse	1227	1144	1239	1344	1326	1353
South Oxfordshire	1992	1853	1935	2107	2077	2090
Oxford City	1283	1163	1246	1338	1284	1257
Year 11						
	22/23	23/24	24/25	25/26	26/27	27/28
Cherwell	1464	1551	1518	1563	1622	1608
West Oxfordshire	1283	1299	1314	1328	1390	1435
Vale of White Horse	1154	1231	1150	1244	1346	1330
South Oxfordshire	1849	1988	1856	1935	2106	2080
Oxford City	1064	1292	1174	1257	1349	1299
Year 12						
	22/23	23/24	24/25	25/26	26/27	27/28
Cherwell	573	577	612	610	622	648
West Oxfordshire	618	684	693	698	710	736
Vale of White Horse	652	655	693	651	702	761
South Oxfordshire	798	792	830	809	828	900
Oxford City	762	698	837	774	830	887
Year 13						
	22/23	23/24	24/25	25/26	26/27	27/28
Cherwell	462	511	515	576	574	587
West Oxfordshire	612	576	635	644	653	661
Vale of White Horse	618	585	591	622	587	631
South Oxfordshire	678	713	706	740	721	738
Oxford City	656	594	552	671	616	660

In the absence of comprehensive forecasts across the OxlS timeframe to 2050 a theoretical calculation has been applied based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Existing Pipeline Infrastructure Investment

A number of new schools providing secondary education are planned at present in relation to major housing developments, including:

- New secondary schools at Culham (South Oxfordshire), Grenoble Road (South Oxfordshire), Land East of A4 Begbroke (Cherwell), North West Bicester (Cherwell), North West Grove (Vale of White Horse) and North East Didcot (Vale of White Horse)
- Expansion of Bartholomew School in Eynsham, Woodgreen School related to development at Witney, Heyford Park School and Carterton Community College

Medium Growth Scenario Infrastructure Requirements	Additional Secondary School Places	Additional Secondary School Form Entries	Additional Secondary Schools
Cherwell	4,213	28	3
Oxford City	3,193	21	2
South Oxfordshire	4,107	27	3
Vale of White Horse	3,533	24	2
West Oxfordshire	3,635	24	2
Oxfordshire	18,681	125	12

Medium Growth Scenario Infrastructure Requirements for Secondary Education

Further Strategic Infrastructure Required to Support Growth

There are currently no available projections estimating the need for secondary education infrastructure beyond 2027/28. However, AECOM's analysis based on industry benchmarks and Growth Scenarios to 2050 identifies a cumulative need for 12 to 13 new 10-form entry (FE) secondary schools in the long term (Approach 1: Product of additional dwellings x Pupil). When using population projections (Approach 2), the long-term need reduces to 1 to 2 new 10FE secondary schools by 2050, although a temporary lull in demand is expected in the short to medium term.

New or expanded schools are typically delivered or fully funded through developer contributions. However, the main barriers to delivery often relate to phasing and coordination. Education sites within strategic developments are frequently intended to serve multiple adjacent schemes, meaning delays in the preferred site can impact short-term provision in surrounding parcels.

Looking ahead to 2050, key infrastructure challenges may also stem from the condition of existing school buildings, especially where relocation is required. These situations often present financial and land-related difficulties, as they are typically not supported directly through developer contributions.

Beyond the physical location of schools, supporting transport infrastructure, particularly safe walking and cycling infrastructure, is also critical to enabling a healthy, inclusive and accessible education environment to 2050.



Secondary
Education



Special
Education
Needs and
Disabilities



Further
and Higher
Education

Special Education Needs and Disabilities

Infrastructure Delivery Bodies

Oxfordshire County Council (OCC) and the NHS Buckinghamshire, Oxfordshire and Berkshire West Integrated Care Board (BOB ICB) are jointly responsible for planning and commission of services for children and young people with special education needs and/or disabilities (SEND) across Oxfordshire. Oxfordshire County Council has the statutory responsibility to meet the needs of children and young people with SEND under the requirements of the Children and Families Act 2014.

Oxfordshire County Council has developed a Local Area SEND Strategy for children and young people aged 0-25 years who have special education needs and/or disabilities. The latest strategy sets out the vision and key priorities for improving the outcomes achieved and lived experiences of children and young people aged 0-25 with SEND from 2022 to 2027. A Sufficiency Delivery Strategy is also produced in March 2023 which considers the demand for, and supply of, specialist SEND school-based provision.

Similar to secondary education, the Department for Education is responsible for children's services and education, including early years, schools, higher and further education policy, apprenticeships and wider skills in England.

Existing Strategic Infrastructure Capacity

For Social, Emotional and Mental Health (SEMH) and Autism Spectrum Disorder (ASD) needs, Oxfordshire currently has 6 special schools, 5 of which are concentrated around Oxford City, and a further 10 resource bases across Oxfordshire.

For other types of SEND, there are 8 Community Special Schools serving 8 out of 9 special school planning areas in Oxfordshire, and a further 4 resources across Oxfordshire. Didcot and Wallingford currently does not have a community special school. The table below illustrates the current net capacity of special schools by local authority, although there is no available data on the individual remaining surpluses/deficits.

Local Authority	SEND Capacity (2023)
Cherwell	228
West Oxfordshire	110
Vale of White Horse	230
South Oxfordshire	88
Oxford City	600
Total	1256

Net Capacity of Special Schools

Source: Pupil Places Plan, Oxfordshire County Council

As of January 2024, approximately 0.9% of primary pupils, 2.1% of secondary pupils and 1.5% of sixth form pupils attend special schools. However, the special school population has been growing faster than population in recent years, indicating other drive factors including the change in threshold for children qualifying for an EHCP, a shortage of specialist provision and current hidden shortage at mainstream schools.

The number of pupils with Education, Health and Care Plans (EHCPs) has grown significantly faster than the overall population at both the Oxfordshire and national level. Between 2020 and 2024, EHCPs maintained by Oxfordshire has risen by 60% from 4,017 in 2020 to 6,420 in 2024.

In Oxfordshire, there has been a sharp decline in the percentage educated in state-funded special schools, from 41.2% in 2016 to 32.4% in 2022. This indicates that the supply of state-funded provision has not expanded as quickly as the demand for special schools with the deficit being increasingly met through the Independent and Non-Maintained sector, a situation which is particularly severe in Oxfordshire.

As a result, there has been an increased dependence on independent and non-maintained schools due to a shortage of suitable maintained school places, with over 300 places being bought from independent and non-maintained schools annually.

Strategic Infrastructure Requirements to Support Growth to 2050

Recent data from the Oxfordshire SEND Sufficiency Delivery Strategy (2023) projects that there will be a total of 5,907 pupils with EHCPs in Oxfordshire by 2027 (excluding the FE factor).

Factoring existing and planned infrastructure capacity, it forecasts a deficit of 609 places by 2027 which will need to be met from independent and non-maintained special schools or out of county. This illustrates that additional special school places will be needed to meet the growth in demand and to reduce dependence of other provision.

Geographically, it is expected that this would be most needed in areas of high housing growth which attract young families, particularly at Didcot, Bicester and Wantage.

In the absence of comprehensive forecasts across the OxIS timeframe to 2050 a theoretical calculation has been applied based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Provision	2023	2024	2025	2026	2027
A: Projected need for special school places (maintained, non-maintained and independent)	1719	1804	1889	1974	2059
B: OCC maintained special school places - existing schools	1332	1332	1332	1332	1332
C: Indicative opening profile for Bloxham Grove Academy (tbc)	0	40	60	80	100
D: OCC maintained special school places - no further action [=B+C]	1332	1373	1395	1412	1450
E: Deficit (to be met from INMSS or out of county, unless additional places provided, or demand patterns change) [=A-D]	387	431	494	562	609

Special School Places Provision Projection (2023-2027)

Source: Oxfordshire SEND Sufficiency Delivery Strategy 2022/23-2026/27, Oxfordshire County Council (March 2023)

Existing Pipeline Infrastructure Investment

Oxfordshire County Council has secured additional specialist places since 2023, including Bloxham Grove (SEMH/ASD, 118 places, January 2024) and a new special school in Faringdon (SEMH/ASD, 118 places, 2026/2027).

Oxfordshire County Council is currently identifying an academy sponsor for a new SEMH/ASD special school to meet needs in the south-east of Oxfordshire. A potential site is identified in Harwell at present.

Further Strategic Infrastructure Required to Support Growth

There are currently no available projections of special school places required to 2050. However, AECOM analysis based on industry benchmarks and theoretical Growth Scenarios indicates a potential overall need of 1,954 places to 2050 (Approach 1, based on product of additional dwellings x product) or net 333 additional places (Approach 2, based on population projections).

Medium Growth Scenario Infrastructure Requirement by 2050	Additional SEND Places	Additional SEND All through Specialist Provision
Cherwell	421	2
Oxford City	319	2
South Oxfordshire	410	2
Vale of White Horse	353	2
West Oxfordshire	363	2
Oxfordshire	1,865	10

Medium Growth Scenario Infrastructure Requirements for SEND



Secondary
Education



Special
Education
Needs and
Disabilities



Further
and Higher
Education

Further and Higher Education

Infrastructure Delivery Bodies

The Department for Education is responsible for children's services and education, including early years, schools, higher and further education policy, apprenticeships and wider skills in England.

Further education refers to provision for children aged 16 years and over who have completed compulsory schooling. Under the Education and Skills Act 2008, young people in England are required to remain in education or training until the age of 18. This can include staying in school, enrolling in a further education college, or pursuing a vocational qualification or training programme such as an apprenticeship. Oxfordshire County Council oversees the strategic planning and delivery of education services in Oxfordshire, including further education.

Funding for further education has undertaken several reforms in recent years. At present, the Education and Skills Funding Agency (ESFA) allocates funding to colleges and sixth forms for teaching 16-to-19-year-olds through a national funding formula. It also funds 19+ adult education through the Adult Skills Fund, with additional funding for Skills Bootcamps. The ESFA closed in March 2025 and was integrated into the Department for Education.

Higher education is voluntary and refers to post-18 education at degree level and beyond, typically delivered in a university setting. The Office of Students (OfS) oversees higher education provision in England. Higher education institutions play a key role in Oxfordshire's global research and innovation ecosystem.

Locally, further education institutions and universities set their own policies and delivery strategies, for example:

- Abingdon and Witney College
- City of Oxford College
- Banbury and Bicester College
- The Henley College
- University of Oxford, which produces a Strategic Plan 2018-2024 and an Estate Strategy 2024-2029 regularly
- Oxford Brookes University, which produces a University Strategy 2035 in 2020

While beyond infrastructure planning for further and higher education in Oxfordshire, the Oxfordshire Local Skills Improvement Plan also seeks to improve the skills framework and support locally working in collaboration with employers.

Existing Strategic Infrastructure Capacity

Existing higher education facilities in Oxfordshire include University of Oxford (over 26,000 students across 39 colleges) and Oxford Brookes University (over 17,000 students across 3 campuses). They play a critical role in Oxford's globally competitive innovation ecosystem.

Oxfordshire also has a strong inter-regional relationship with University of Buckingham, Open University Campus in Milton Keynes, Reading University, Banbury University and High Wycombe University. Many students are also likely to leave home and move long distance to other universities across the UK.

There are over 30 schools that provide sixth form education in Oxfordshire. Further education facilities include Abingdon and Witney College, City of Oxford College, Banbury and Bicester College and the Henley College.

There are a number of training programmes available for post-16 education from providers such as Pegasus Theatre, SOFEA, Synolos, Velocity Football, BASE and Yellow Submarine, as well as apprenticeship opportunities across the county.

Strategic Infrastructure Requirements to Support Growth to 2050

There is no available data with regards to the strategic infrastructure to support growth to 2050 for further education. However, AECOM analysis based on industry benchmarks and the theoretical growth scenarios shows an indicative need of 9,392 sixth form places and 6,801 further education and college places to 2050. For adult learning, it is estimated that approximately 1,250 adult learning places and 2,912 sqm of adult learning space would be required in the long term to 2050.

Strategic infrastructure need for higher education is typically driven by university strategies rather than local housing and economic growth. There are further opportunities to harness the role of University of Oxford and Oxford Brookes University with regards to their role in enhancing Oxfordshire's globally competitive innovation ecosystem, including investments for university spinouts and connections with Oxfordshire's Knowledge Spine as well as the Oxford-Cambridge Corridor.

In the absence of comprehensive forecasts across the OxlS timeframe to 2050 a theoretical calculation has been applied based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Medium Growth Scenario Infrastructure Requirement by 2050	FE / College Places	Adult Learning Places	Adult Learning Space (sq m)
Cherwell	1,464	273	600
Oxford City	1,110	161	400
South Oxfordshire	1,427	277	600
Vale of White Horse	1,228	213	500
West Oxfordshire	1,264	250	600
Oxfordshire	6,493	1,174	2,735

Medium Growth Scenario Infrastructure Requirements for Further Education
Source: AECOM Analysis

Existing Pipeline Infrastructure Investment

Existing planned and proposed infrastructure investments in Oxfordshire include:

- A new adult learning centre in Witney, West Oxfordshire
- New premises for an adult learning centre at Berinsfield, South Oxfordshire
- University of Oxford has recently undertaken major redevelopment plans at Radcliffe Observatory Quarter, Park Hospital / Old Road Campus, Tinbergen redevelopment, Science Area and Begbroke Science Park. Student housing is being developed at Court Place Gardens.
- Oxford Brookes is constructing two new buildings at its Headington Hill site. The university is also developing the Clive Booth Student Village.
- Engagement with stakeholders shows that there are emerging plans for a further education facility at Kidlington.

Further Strategic Infrastructure Required to Support Growth

There are no known strategies which address the strategic infrastructure requirement to support growth to 2050. However, AECOM analysis based on industry benchmarks and theoretical Growth Scenarios indicates a potential overall need of 6,493 FE/college places, 1,174 adult learning places, and an additional 2,735 sq m of adult learning space.

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4.7 Health and Social Care



Primary
Healthcare
and Public
Health



Acute
Healthcare



Mental
Healthcare



Social Care



Emergency
Services

Primary Healthcare and Public Health

Infrastructure Delivery Bodies

The key primary healthcare infrastructure delivery bodies in Oxfordshire include:

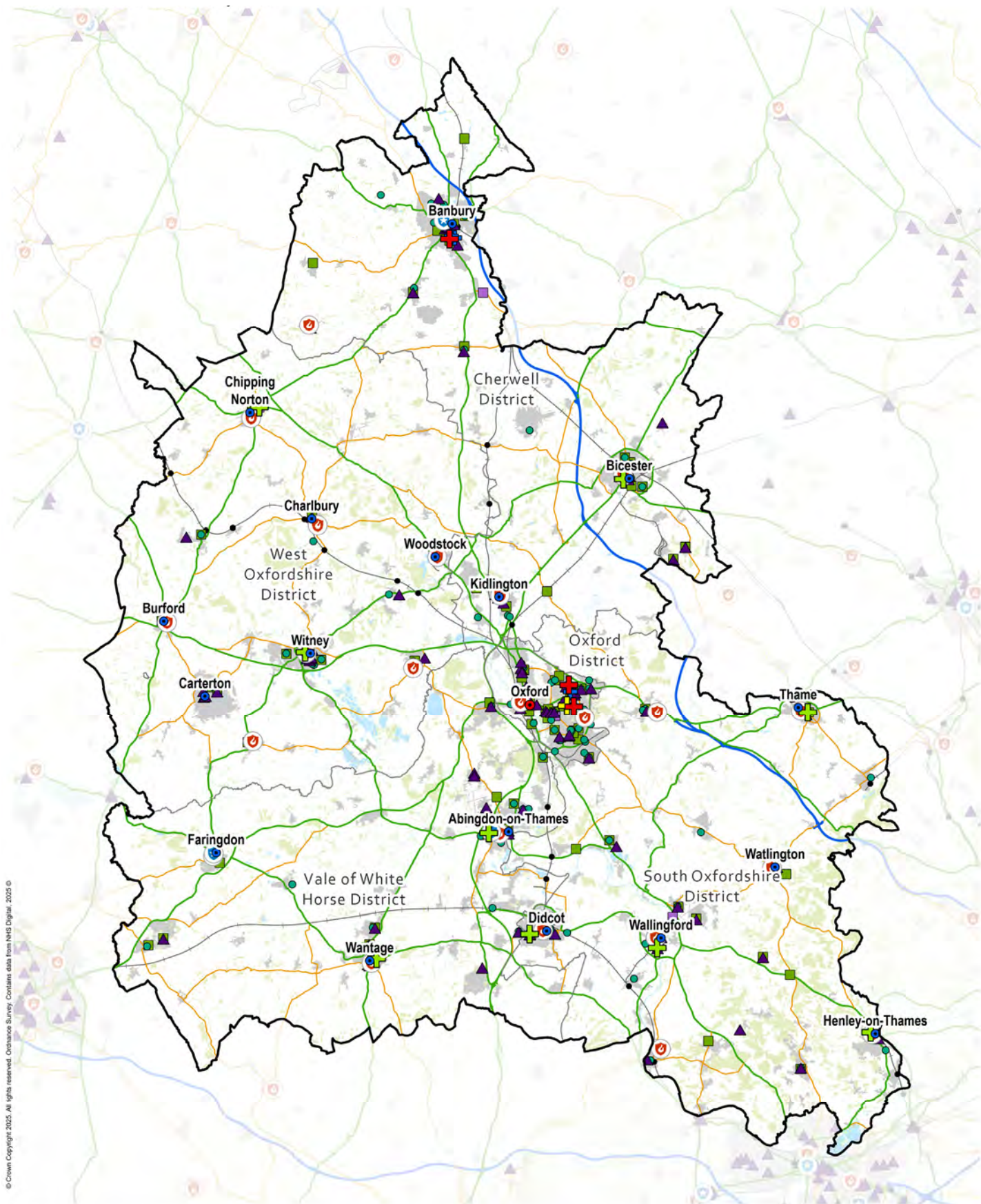
- Oxford Health NHS Foundation Trust is responsible for many health facilities across the county including mental health services, learning disability services and community health services. Some of these facilities are of a strategic scale via its community base network. Oxford Health NHS Foundation Trust is responsible for overseeing the county's community hospitals and primary healthcare hubs. Although, many responsibilities are delegated to individual GPs and Primary Care Networks (PCNs).
- Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System (BOB ICS) is responsible for NHS strategic planning at a regional level. This comprises the Integrated Care Board (ICB), the statutory body that makes budgeting allocations, and the Integrated Care Partnership (ICP), a committee that also brings in representatives from local authorities and other partners. The BOB ICS covers a large region of central southern England.

Oxfordshire has 64 GP practices and 21 Primary Care Networks which are higher order groups of GPs that work together to provide primary care services. Data is not currently readily available in terms of the amount of GP floorspace in the county.

The Oxfordshire Place Based Partnership (PBP) is a forum for senior leaders of healthcare and social care organisations in Oxfordshire. The PBP was established in 2022 and meets monthly. The membership of this forum includes representation from Oxfordshire County Council, Healthwatch Oxfordshire, all of the local authorities, the ICB, Oxford Health NHS Foundation Trust, Oxford University Hospitals NHS Foundation Trust, PCNs, and Oxfordshire Community and Voluntary Action.

The Secretary of State for Health and Social Care The Rt Hon Wes Streeting MP recently announced that the Government plans to bring the powers of NHS England back into the Department of Health and Social Care (DHSC). This will result in a significant reorganisation of the NHS at the national level, and will be the most radical reform of the organisation since the 2012 reforms. It is unclear the impact that this will have on health planning at the regional level.

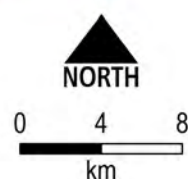
Oxfordshire falls within NHS England South East in terms of regional healthcare management. Unless further reforms are announced, the role of ICSs should continue and potentially their scope of powers may



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Legend

Oxfordshire County Boundary	Motorway	Built Up Area	Dentist	Primary Care Facility
District Boundary	A Road	Waterbody	Acute General Hospital	Emergency Services
City	B Road	Woodland	Community Hospital	Fire Station
Town/Large Village	Railway	Hospice	Mental Health Hospital	Police Station
Railway Station		Pharmacy	Private Hospital	



Strategic Health Infrastructure across Oxfordshire

*A small number of facilities in the south-western corner of the county, near Watchfield (Vale of White Horse), fall under the commissioning responsibilities of the Bath and North East Somerset, Swindon and Wiltshire (Bath and North East Somerset, Swindon and Wiltshire) Integrated Care Board (ICB)

increase. It is anticipated that DHSC will take on full responsibility for health decisions at the national level, and this is likely to require more decisions to be taken directly by the Secretary of State on key funding and strategic decisions. It is also likely there will be a transition period whilst NHS England is gradually abolished, given the scale of the organisational changes.

The BOB ICP agreed its Integrated Care Strategy in March 2023. This sets out the priorities for the ICS and is a high level policy document. The Joint Forward Plan was published in June 2023 and Local Transformation Plan for Oxfordshire in 2022.

Oxfordshire County Council has a public health team and a Health and Wellbeing Board. The Health and Wellbeing Strategy for 2024 – 2030 is based on Oxfordshire's Joint Strategic Needs Assessment (JSNA).

Oxford Health NHS Foundation Trust published an annual plan, the latest for 2024-2025, and a Trust Strategy for 2021-2026.

Existing Strategic Infrastructure Capacity

A now fairly outdated report, the Oxfordshire Primary Care Estates Strategy 2020-2025, which was written before the CCG was abolished, states that pressures to provide additional primary care facilities are most keenly felt in Oxford City, Bicester, Didcot and Wantage. Due to additional housing growth, facilities are also expected in Kidlington, Yarnton, Abingdon, North Oxford, Wallingford, Eynsham and Banbury. It states these additional facilities would be heavily reliant on CIL/S106 funding or NHS England capital funding, but does not provide detailed costing or funding routes.

Oxford Health NHS Foundation Trust plans to create a network of Oxford City healthcare hubs, noting that there is a need to boost capacity in Oxford City. The organisation is delivering a hub for community health services, dentistry and primary care at Jordan Hill (Kidlington), East Oxford Health Centre and Blackbird Leys (SE Oxford). This will involve the relocation of existing services, developing plans for a brand new Blackbird Leys hub and consolidating various old estates. The strategic vision of the Trust is to consolidate services into hubs where possible to achieve efficiencies and renew older facilities.

Strategic Infrastructure Requirements to Support Growth to 2050

The evidence base reviewed is mostly planning for short term needs within a time horizon of only a few years and does not contain requirements for up to 2050.

In the absence of comprehensive forecasts across the OxIS timeframe to 2050 a theoretical calculation has been applied, based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Existing Pipeline Infrastructure Investment

New primary healthcare hubs are being delivered at Jordan Hill in Kidlington, East Oxford Health Centre and Blackbird Leys in SE Oxford. These will consolidate many of the primary healthcare services in these populous areas of Oxford's suburbs and surroundings.

Further Strategic Infrastructure Required to Support Growth

Oxford City continues to experience high levels of primary healthcare demands, hence the pressure to provide new primary healthcare hubs at three locations around the city and its outskirts. Additional population growth will require additional primary healthcare hubs.

Medium Growth Scenario Infrastructure Requirement by 2050	Primary Healthcare Space (sq m)	Community Pharmacies
Cherwell	5,600	11
Oxford City	3,300	6
South Oxfordshire	5,700	11
Vale of White Horse	4,400	9
West Oxfordshire	5,100	10
Oxfordshire	24,200	47

Medium Growth Scenario Infrastructure Requirements for Primary Healthcare



Primary
Healthcare
and Public
Health



Acute
Healthcare



Mental
Healthcare



Social Care



Emergency
Services

Acute Healthcare

Infrastructure Delivery Bodies

The key acute healthcare infrastructure delivery bodies in Oxfordshire include:

- Oxford University Hospitals NHS Foundation Trust is the key delivery body in the study area. The trust runs four major hospitals in Oxfordshire. These comprise the John Radcliffe Hospital (one of the largest hospitals in South East England with significant teaching capabilities, regional level specialist treatments and a designated major trauma centre for the entire Thames Valley area), Churchill Hospital and Nuffield Orthopaedic Centre, all of which are located in the city of Oxford, and Horton General Hospital in Banbury within Cherwell District serving the north of the county.
- Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System (BOB ICS) is responsible for NHS strategic planning at a regional level. This comprises the Integrated Care Board (ICB) – the statutory body that makes budgeting allocations, and the Integrated Care Partnership (ICP), a committee that also brings in representatives from local authorities and other partners. The BOB ICS covers a large region of central southern England.
- The Oxfordshire Place Based Partnership

(PBP) is a forum for senior leaders of healthcare and social care organisations in Oxfordshire. The PBP was established in 2022 and meets monthly. The membership of this forum includes representation from Oxfordshire County Council, Healthwatch Oxfordshire, all of the local authorities, the ICB, Oxford Health NHS Foundation Trust, Oxford University Hospitals NHS Foundation Trust, PCNs, and Oxfordshire Community and Voluntary Action.

- Oxfordshire also contains a number of private hospitals and major clinics, including The Cherwell Hospital and The New Foscote Hospital which are both in Banbury, Nuffield Health Oxford The Manor Hospital and BUPA Health Centre Oxford. These provide a limited service to those electing to choose private healthcare treatment, but for the purposes of this study, only NHS hospitals are considered in the assessment of acute healthcare provision, as private clinics do not contribute to capacity at a strategic level.

The BOB ICP agreed its Integrated Care Strategy in March 2023. This sets out the priorities for the ICS and is a high level policy document. The Joint Forward Plan was published in June 2023 and Local Transformation Plan for Oxfordshire in 2022.

Oxford University Hospitals NHS Foundation Trust has a 2020-2025 strategy.

Existing Infrastructure Capacity

Oxfordshire is reliant on three major NHS hospitals. John Radcliffe Hospital in the Headington area of Oxford, the most important for the county because it contains a major trauma unit and a wider range of specialist treatments, Churchill Hospital also in the Headington area of Oxford, and Horton General Hospital in Banbury. The Nuffield Orthopaedic Centre is a major specialist facility and is located next to the Churchill Hospital. Secondary provision is heavily concentrated in east Oxford, where a very large amount of land and infrastructure devoted to health is located.

These hospitals are closely associated with local universities, including the University of Oxford and Oxford Brookes. Some parts of the county are located significant distances from Oxford and Banbury, meaning that residents may use hospitals outside of the county, especially areas of South Oxfordshire often use Reading Hospital and areas of the west of the county may use Great Western Hospital in Swindon. The county only has one major trauma unit at the John Radcliffe Hospital in Oxford.

Community Hospitals provide an essential network for outlying parts of the county, with facilities in key settlements such as Abingdon, Bicester, Didcot, Thame, Wallingford, Wantage and Witney. These are the most important primary care hubs in the county.

Strategic Infrastructure Requirements to Support Growth to 2050

The evidence base reviewed is mostly planning for short term needs within a time horizon of only a few years, and does not contain requirements for up to 2050.

In the absence of comprehensive forecasts across the OxIS timeframe to 2050 a theoretical calculation has been applied based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Medium Growth Scenario Infrastructure Requirement by 2050	Acute Healthcare General Beds	Acute Healthcare Floorspace (sq m)
Cherwell	100	16,100
Oxford City	59	9,500
South Oxfordshire	102	16,300
Vale of White Horse	78	12,500
West Oxfordshire	92	14,700
Oxfordshire	432	69,100

Medium Growth Scenario Infrastructure Requirements for Acute Healthcare

Existing Pipeline Infrastructure Investment

Oxford University Hospitals NHS Foundation Trust was planning to redevelop Horton General Hospital in Banbury. Given the catchment of the hospital extends into Warwickshire and Northamptonshire, this will involve joint working with other ICBs, such as Coventry and Warwickshire ICB and Northamptonshire ICB. However, in 2023, a bid for up to £370 million to entirely rebuild the hospital was rejected by the Government's New Hospital Programme. It is now unclear if the project can go ahead and this is considered very unlikely without central Government backing. This was the core pillar of Oxford University NHS Foundation Trust's 2020-2025 strategy. Many local health partners were deeply disappointed at the funding decision as this was a critical strategic project.

The lack of funding for the renewal or rebuild of Horton General Hospital is a major headline challenge, because the NHS had identified that the hospital was in need of renewal of its facilities. Without central Government funding, this facility may continue to deteriorate as it ages, leading to significant maintenance and retrofit costs.

A large-scale extension to the John Radcliffe Hospital was recently approved by planning officers. This extension was planned because of a shortage of theatre spaces at the hospital. The extension is 7,541 sqm and comprises a new surgical hub. Construction is anticipated to take place within the next three years according to planning documents.

Oxford City Council also recently approved an application for a major extension to the Clinical Biomanufacturing Facility at Churchill Hospital, which is a centre for academic research and clinic drug development. This will enable additional staff numbers at the facility and incorporate further laboratory space.

Whilst there have been minor upgrades to John Radcliffe Hospital and Churchill Hospital planned, there are no concrete plans to upgrade Accident and Emergency capacity in the county or increase the number of hospital beds. Therefore any population increases could have an adverse effect on the performance of existing hospitals in the county.

Further Strategic Infrastructure Required to Support Growth

Secondary / acute healthcare is heavily concentrated in Oxford and Banbury, yet other key settlements in the county are growing rapidly, such as Abingdon, Bicester and Didcot where there is no secondary / acute healthcare provision. Whilst the Community Hospitals provide a strategic level of primary healthcare facility, provision for acute care is overwhelmingly reliant on three hospitals in Oxford and one hospital in Banbury.

Given the geography of the county, some parts of Oxfordshire are likely to in effect export needs to surrounding counties. This is particularly the case for the south east of the county, where settlements like Henley-on-Thames and Sonning Common are in close proximity to Reading Hospital, and for the south west of the county, where settlements like Faringdon and Watchfield are close to the hospital in Swindon. These areas lack a close by secondary / acute facility within Oxfordshire, requiring up to an hour's drive to the nearest respective hospitals in Oxford in some cases.

Some areas of the county experience inward demand from surrounding areas. Notably, Banbury hospital serves a catchment which extends into rural areas of Northamptonshire and Warwickshire. Banbury is a key service centre for isolated rural settlements outside of Oxfordshire because of its location in the far north of the county.

There are no identified investment plans to increase the number of bed spaces at the county's four hospitals. In addition, the main key plank of hospital investments, the rebuilding of the Horton General Hospital in Banbury is currently unfunded and shelved.



Primary
Healthcare
and Public
Health



Acute
Healthcare



Mental
Healthcare



Social Care



Emergency
Services

Mental Healthcare

Infrastructure Delivery Bodies

The key mental healthcare infrastructure delivery bodies in Oxfordshire include:

- Oxford Health NHS Foundation Trust is responsible for many health facilities across the county including mental health services, learning disability services and community health services.
- Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System (BOB ICS) is responsible for NHS strategic planning at a regional level. This comprises the Integrated Care Board (ICB) – the statutory body that makes budgeting allocations, and the Integrated Care Partnership (ICP), a committee that also brings in representatives from local authorities and other partners. The BOB ICS covers a large region of central southern England.

- The Oxfordshire Place Based Partnership (PBP) is a forum for senior leaders of healthcare and social care organisations in Oxfordshire. The PBP was established in 2022 and meets monthly. The membership of this forum includes representation from Oxfordshire County Council, Healthwatch Oxfordshire, all of the local authorities, the ICB, Oxford Health NHS Foundation Trust, Oxford University Hospitals NHS Foundation Trust, PCNs, and Oxfordshire Community and Voluntary Action.

The BOB ICP agreed its Integrated Care Strategy in March 2023. This sets out the priorities for the ICS and is a high-level policy document. The Joint Forward Plan was published in June 2023 and Local Transformation Plan for Oxfordshire in 2022.

Oxfordshire County Council has a public health team and a Health and Wellbeing Board. The Health and Wellbeing Strategy for 2024-2030 is based on Oxfordshire's Joint Strategic Needs Assessment (JSNA).

Oxford Health NHS Foundation Trust published an annual plan, the latest for 2024-2025, and a Trust Strategy for 2021-2026.

Beyond formal healthcare provision, wider infrastructure such as active mode infrastructure and green infrastructure, can also have a significant impact on mental health and wellbeing, contributing to broader health outcomes.

Existing Strategic Infrastructure Capacity

Oxford Health NHS Foundation Trust notes that major investments are being taken to improve capacity in the region. Among these include £500 million towards a major new mental health hospital at Warneford Park. This facility will include a research and innovation hub, with a focus on mental health and brain sciences. The organisation expects planning documents to be submitted in Spring 2025. Elsewhere, the Keystone hubs are a key strategy to provide mental health and wellbeing services across the county – these are located at Abingdon, Banbury, Blackbird Leys and East Oxford, Oxford, Kidlington, Wantage, Wallingford and Witney and continued expansion is being considered where possible.

Strategic Infrastructure Requirements to Support Growth to 2050

The evidence base reviewed is mostly planning for short term needs within a time horizon of only a few years, and does not contain requirements for up to 2050.

In the absence of comprehensive forecasts across the OxIS timeframe to 2050 a theoretical calculation has been applied based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Medium Growth Scenario Infrastructure Requirement by 2050	Mental Healthcare Beds	Community and Mental Health services (sq m)
Cherwell	17	2,600
Oxford City	10	1,600
South Oxfordshire	17	2,700
Vale of White Horse	13	2,100
West Oxfordshire	15	2,400
Oxfordshire	72	11,300

Medium Growth Scenario Infrastructure Requirements for Mental Healthcare

Existing Pipeline Infrastructure Investment

Key planned and proposed strategic investments include the new mental health hospital at Warneford Park, a £500 million investment in the county's mental health services and in teaching.

Warneford Hospital is subject to the planning application process and is a renovation of a Grade II listed building so there are heritage constraints.

Further Strategic Infrastructure Required to Support Growth

Warneford Hospital is the key current investment. Further engagement with providers is required to understand whether there are any other proposals in the pipeline.



Primary
Healthcare
and Public
Health



Acute
Healthcare



Mental
Healthcare



Social Care



Emergency
Services

Social Care

Infrastructure Delivery Bodies

Oxfordshire County Council provides adult social care and children's social care services in the county, involving a network of third party providers. OCC has prepared an adult social care strategy, a Day Opportunities and Transport Strategy, the Live Well Oxfordshire Support and Care Guide for Adults 2025 and a Commissioning Strategy for Children We Care For.

OCC's Live Well Oxfordshire Website provides an overview of social care provisions for older persons and adults with disabilities.

Existing Strategic Infrastructure Capacity

Existing social care infrastructure capacity across Oxfordshire includes:

- Seven Community Support Services centres
- 47 day service / community service providers
- 141 care / nursing homes
- 36 supported housing schemes (extra care & sheltered)
- 8 Children/ family centres
- 628 children in fostering or residential placements (as at 2020/2021)
- 5 residential placement homes with 26 beds for young people aged 12-18, of which:
 - 1 children's home (as at 2020/2021)
 - Two children's assessments homes (provision registered with Ofsted) (as at 2020/2021)
 - Two homes for children aged 16+ offering move on accommodation for children who are preparing to transition to independent living (unregistered provision) (as at 2020/2021)
- 3 residential schools (as at 2019)

OCC also has access to up to 15 beds as part of the Cross Regional Contract (CRC), for which it is the lead commissioner. The contract offers a therapeutic model of care for children with more complex needs and includes education provision at an inclusive price. Currently there are 8 homes located in Bucks, Herts, Oxfordshire and Milton Keynes. One of the homes is in Oxfordshire, though OCC does not have exclusive rights to these beds. There is an option to purchase additional beds within the contract which the Start Well Commissioning team are exploring.

Strategic Infrastructure Requirements to Support Growth to 2050

There is currently no information available with regards to the anticipated strategic infrastructure needs for Oxfordshire up to 2050. For instance, the Commissioning Strategy for Looked After Children only forecasts demand to 2025.

In the absence of comprehensive forecasts across the OxIS timeframe to 2050 a theoretical calculation has been applied based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Medium Growth Scenario Infrastructure Requirement by 2050	Nursing Home Bed Places	Residential Care Bed Places	Extra Care Bed Places
Cherwell	440	635	244
Oxford City	229	331	127
South Oxfordshire	405	586	225
Vale of White Horse	286	414	159
West Oxfordshire	408	590	227
Oxfordshire	1,769	2,555	983

Medium Growth Scenarios - Social Care (A)

Medium Growth Scenario Infrastructure Requirement by 2050	Adult Social Care Centres	Children and Family Centres	Children Social Care Beds
Cherwell	1	2	224
Oxford City	0	0	170
South Oxfordshire	1	3	218
Vale of White Horse	1	1	188
West Oxfordshire	1	3	193
Oxfordshire	3	9	992

Medium Growth Scenarios - Social Care (B)

Existing Pipeline Infrastructure Investment

In 2021, OCC was planning the provision of an additional new residential provision for young people, expected to have 4 beds, to be registered for SEMH provision, which is more specialist than the existing home.

The County Council recommended approval of investment of £5.0m in the Resonance Supported Homes Fund in 2021 for the delivery of supported living accommodation units for adults with learning disabilities and/or autism (to purchase and provision of 25 units of accommodation in Oxfordshire).

Further engagement is required to identify up to date planned and proposed strategic infrastructure investments or improvements in Oxfordshire. It is also required to identify challenges or risks associated with delivering the existing pipeline infrastructure investments.

Further Strategic Infrastructure required to Support Growth

Further engagement is required to identify more up to date information on provision and gaps in infrastructure provision that need to be addressed to support growth in Oxfordshire up to 2050.



Primary
Healthcare
and Public
Health



Acute
Healthcare



Mental
Healthcare



Social Care



Emergency
Services

Emergency Services

Infrastructure Delivery Bodies

The key emergency services infrastructure delivery bodies in Oxfordshire include:

- Oxford University Hospitals NHS Foundation Trust runs four major hospitals in Oxfordshire. These comprise the John Radcliffe Hospital (one of the largest hospitals in South East England with significant teaching capabilities, regional level specialist treatments and a designated major trauma centre for the entire Thames Valley area), Churchill Hospital and Nuffield Orthopaedic Centre, all of which are located in the city of Oxford, and Horton General Hospital in Banbury within Cherwell District serving the north of the county. The hospitals work closely with the South Central Ambulance Service.
- Buckinghamshire, Oxfordshire and Berkshire West Integrated Care System (BOB ICS) is responsible for NHS strategic planning at a regional level. This comprises the Integrated Care Board (ICB), the statutory body that makes budgeting allocations, and the Integrated Care Partnership (ICP), a committee that also brings in representatives from local authorities and other partners. The BOB ICS covers a large region of central southern England.
- The Oxfordshire Place Based Partnership (PBP) is a forum for senior leaders of healthcare and social care organisations in Oxfordshire. The PBP was established in 2022 and meets monthly. The membership of this forum includes representation from Oxfordshire County Council, Healthwatch Oxfordshire, all of the local authorities, the ICB, Oxford Health NHS Foundation Trust, Oxford University Hospitals NHS Foundation Trust, PCNs, and Oxfordshire Community and Voluntary Action.
- South Central Ambulance Service provides emergency ambulance services for Oxfordshire. They cover a large part of southern England. They have been recently rated inadequate by the Care Quality Commission due to poor response

times and critical incidents. The OCC / the ICB has limited influence on the level of service from the ambulances because it is reliant on central Government funding allocation, so tends to be the responsibility of DHSC to take a view on the service level agreements with SCAS.

- Oxfordshire County Council (OCC) manages fire and rescue services but there is no available document setting out planned investments or upgrades. There are currently 25 fire stations, 34 fire engines and 681 staff stationed in Oxfordshire according to this document: Oxfordshire Fire and Rescue Service, Community Risk Management Plan 2022-26. There is meant to be an annual service plan forthcoming but this has not yet been published.

The Secretary of State for Health and Social Care The Rt Hon Wes Streeting MP recently announced that the Government plans to bring the powers of NHS England back into the Department of Health and Social Care (DHSC). This will result in a significant reorganisation of the NHS at the national level, and will be the most radical reform of the organisation since the 2012 reforms. It is unclear the impact that this will have on health planning at the regional level. Oxfordshire falls within NHS England – South East in terms of regional healthcare management. Unless further reforms are announced, the role of ICSs should continue and potentially their scope of powers may

increase. It is anticipated that DHSC will take on full responsibility for health decisions at the national level, and this is likely to require more decisions to be taken directly by the Secretary of State on key funding and strategic decisions. It is also likely there will be a transition period whilst NHS England is gradually abolished, given the scale of the organisational changes.

The BOB ICP agreed its Integrated Care Strategy in March 2023. This sets out the priorities for the ICS and is a high level policy document. The Joint Forward Plan was published in June 2023 and Local Transformation Plan for Oxfordshire in 2022.

Oxfordshire County Council has a public health team and a Health and Wellbeing Board. The Health and Wellbeing Strategy for 2024-2030 is based on Oxfordshire's Joint Strategic Needs Assessment (JSNA).

Oxford University Hospitals NHS Foundation Trust has a 2020-2025 strategy.

Existing Strategic Infrastructure Capacity

Further engagement is required with SCAS and OCC to understand the key issues with ambulance and fire and rescue services.

Strategic Infrastructure Requirements to Support Growth to 2050

There is currently no evidence base to identify a anticipated strategic infrastructure need for Oxfordshire up to 2050 for emergency services.

Emergency services needs could be estimated based on population projects using established industry best practice standards.

In the absence of comprehensive forecasts across the OxIS timeframe to 2050 a theoretical calculation has been applied based upon the medium growth scenario of housing and population change by 2050. This is generated through the application of planning benchmarks and will need to be tested with stakeholders to refine moving forward.

Existing Pipeline Infrastructure Investment

There is currently no information available on the planned and proposed strategic infrastructure investments or improvements in Oxfordshire.

There is currently no information available on the challenges or risks associated with delivering the existing pipeline infrastructure investments.

Further Strategic Infrastructure Required to Support Growth

There is currently a lack of information available on gaps in infrastructure provision that need to be addressed to support growth in Oxfordshire up to 2050, however SCAS has been rated inadequate by the Care Quality Commission.

Medium Growth Scenario Infrastructure Requirement by 2050	Police Station	Fire Station	Ambulance Station
Cherwell	0.4	0.8	0.6
Oxford City	0.2	0.4	0.3
South Oxfordshire	0.4	0.8	0.6
Vale of White Horse	0.3	0.6	0.4
West Oxfordshire	0.3	0.7	0.5
Oxfordshire	1.6	3.2	2.4

Medium Growth Scenario Infrastructure Requirements for Emergency Services

05

Stage 1 Project Schedule

5.1 Stage 1 Project Schedule

This chapter provides a summary of infrastructure investment required to support the level of social and economic growth ambitions for Oxfordshire. It includes a focus on regional, county-wide and locally significant major strategic projects.

A draft Strategic Infrastructure Project Schedule has been compiled as part of the Stage 1 technical work. This provides a working list of all strategic infrastructure projects identified as required to support the assessed scale of housing and economic growth to 2050.

The following sources, detailed in Appendix 1, represent examples of the inputs to this draft infrastructure project schedule:

- OxIS 2025 Project Team Stage 1 Baseline Evidence Review
- OxIS 2025 Project Team Stage 1 Stakeholder Engagement
- Local Plan Infrastructure Delivery Plans
- England’s Economic Heartland (EEH) Transport Strategy, Connectivity Studies and Investment Prioritisation Framework
- Oxfordshire Local Transport and Connectivity Plan
- Draft Oxfordshire Local Nature Recovery Strategy
- Draft Oxfordshire Green Investment Pipeline and Prospectus
- Oxfordshire Digital Infrastructure Strategy and Delivery Plan
- Oxfordshire County Council Pupil Place Plan
- Thames Water Drainage and Wastewater Management Plan

This Strategy considers a comprehensive scope of infrastructure topics, which do not all have existing evidence with regards to identified infrastructure projects to support growth as far ahead as 2050. The Stage 1 draft Project Schedule represents a work in progress and will be refined in collaboration with project stakeholders as the work progresses.

The purpose of the Project Schedule is to provide OxIS with an evolving evidence base that can be interrogated and improved moving forward, and as a key component of the prioritisation exercise at Stage 2.

The Project Schedule aims to record the following information for each project:

- Infrastructure type
- Description of project
- Spatial Impact
- Geography and location
- Direct link with Strategic Development Sites
- Project status
- Timing of Requirement
- Estimated Project Costs
- Secured Funding
- Estimated Potential Funding
- Delivery responsibilities
- Mapping Information
- Source Information

It is acknowledged, however, that in some cases a theoretical approach will be needed to estimate the scale and timing of infrastructure requirements, particularly beyond 2040.

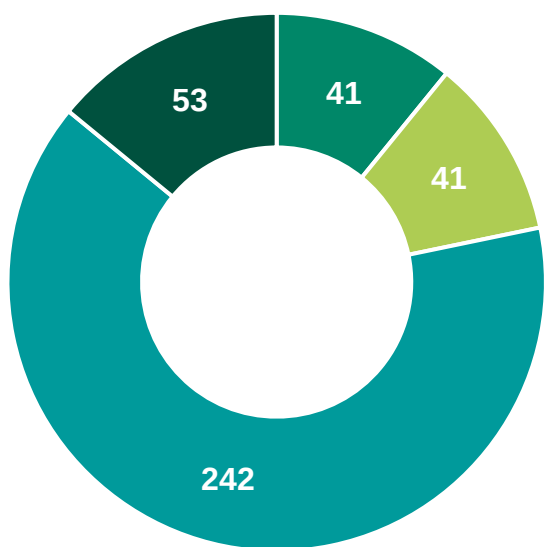
For this purpose, OxIS is able to utilise theoretical demand modelling based on the identified growth scenarios, applying established best practice planning benchmarks. While this will not yield tangible, defined projects for consideration, it will help indicate the potential scale of infrastructure investment required and identify areas where further work is needed.

At the conclusion of Stage 1, the OxIS Project Schedule records 377 strategic infrastructure projects across all infrastructure sectors and sub-topics, with a predominance of transport-related projects, alongside notable green infrastructure and electricity distribution investments.

Spatially, the majority of strategic infrastructure projects are associated with specific local authorities within Oxfordshire, with Cherwell and Oxford City showing the highest number of recorded projects. There is also a significant proportion of 'larger than local' projects, focusing on Oxfordshire-wide and sub-regional geographies.

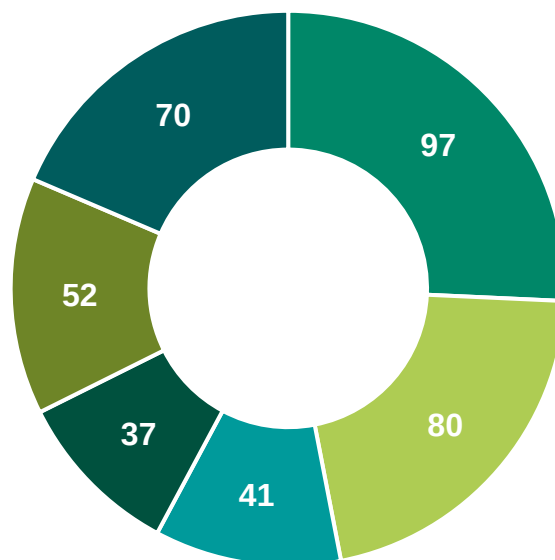
377

Identified Strategic Infrastructure Projects as part of the draft Stage 1 Project Schedule



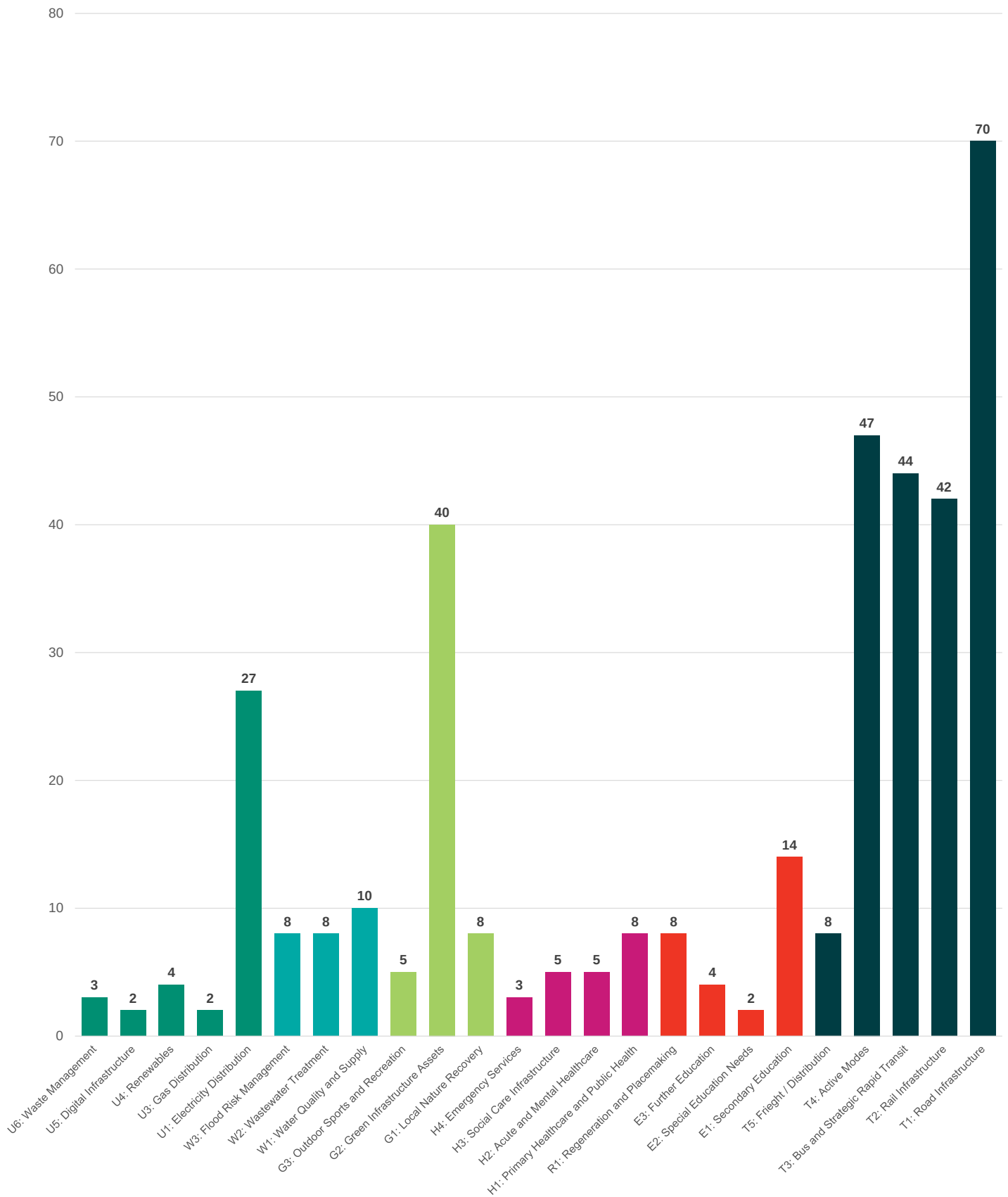
- Larger than Oxfordshire
- Oxfordshire-wide
- District /City Level
- Strategic Site

Spatial Impact of identified Strategic Infrastructure Projects
Source: AECOM Analysis



- Cherwell
- Vale of White Horse
- Oxford City
- West Oxfordshire
- South Oxfordshire
- Larger than Local

By Local Authority Location of identified Strategic Infrastructure Projects
Source: AECOM Analysis



Draft Identified Strategic Infrastructure Projects by Infrastructure Sub-Topic
Source: AECOM Analysis

5.2 Highlighting Major Strategic Infrastructure Projects

Chapter 4 of this Strategy has presented detailed analysis of the existing and future infrastructure requirements to support growth across Oxfordshire. The OxIS Project Schedule is a working draft document, collating information on key infrastructure projects across all geographies and topic areas.

Stage 2 of the project will seek to refine this Project Schedule and focus attention on priority projects for Oxfordshire, whether they are locally, sub-regionally or regionally significant.

This section highlights a selection of strategic projects currently identified within the draft Project Schedule, focusing on major local or sub-regional projects, as well as regionally or nationally significant projects. It is important to note that this section and the strategic projects presented are not prioritised or favoured schemes for OxIS as Stage 2 of the Strategy will develop an updated approach towards prioritisation in collaboration with project partners.

A considerable number of infrastructure projects have been identified across Oxfordshire for each infrastructure topic. The following examples illustrate some of the major local and sub-regional schemes (i.e. those affecting more than one local authority within the county).

TRANSPORT



Highways



Rail



Bus, Coach
and Strategic
Rapid Transit



Active
Modes

Highways:

- M40 Junction 10 Padbury Roundabout Improvements
- M40 Junction 10 proposed OxSRFI Improvements
- A34 Lodge Hill Interchange
- Didcot and surrounding area infrastructure improvements
- Frilford and Marcham Improvements
- A40 Improvements
- Didcot Northern Perimeter Road
- Watlington Relief Road

Rail:

- East West Rail, with services running between Oxford and Cambridge, and potential service extensions onwards to East Anglia and to Bristol.
- Junction upgrades to Oxford North Junction, the Didcot Area and the North Cotswolds Line.
- An additional east-side through platform at Oxford Station and the delivery of 'Oxford Phase 2' enhancements
- Cowley Branch Line improvements, including the delivery of new stations at Oxford Science Park and Oxford Business Park.
- An additional platform at Didcot Parkway and Hanborough Stations.

- A new station and loop extension at Grove – Wantage and Grove Station
- An upgrade to four tracks at Oxford Radley and double tracking on the North Cotswold Line.
- Proposed Oxfordshire Strategic Rail Freight Interchange (OxSRFI)

Bus, Coach and Strategic Rapid Transit:

- Between Towns Road/Oxford Road/ Hollow Way junction improvements
- Cowley Road pinch point scheme
- HIF1 Didcot Garden Town Housing Infrastructure Scheme
- HIF2 A40 Corridor programme includes the delivery of a new P&R site at Eynsham, an extension of the dual carriageway around Witney, new bus lanes and junction improvements
- Connecting Oxfordshire – Traffic Filters with bus priority is a scheme involving the trial of six traffic filters in and around Oxford
- New transport hubs – Carterton and Benson Marina.
- Securing the future for network growth by increasing bus depot capacity in Oxford

Active Modes:

- Oxfordshire Strategic Active Travel Network
- Bicester London Road Active Travel Scheme
- Didcot Central Corridor
- Middleton Stoney Road Active Travel scheme
- Witney High Street and Market Square enhancements scheme

ENERGY & UTILITIES



Energy Infrastructure



Digital Infrastructure



Waste Infrastructure

- Upgrade and major reinforcement works of the Cowley Grid Supply Point
- Upgrade to East Claydon Grid Supply Point
- Proposed Oxford Heat Network
- Extension of North West Bicester district heating network
- Provision of a new combined heat and power plant at Canalside (Cherwell)
- Culham AI Growth Zone

WATER



Flood Risk Management



Water Supply



Wastewater Treatment

- Oxfordshire Flood Alleviation Scheme
- South East Strategic Reservoir Option (SESRO) - Abingdon Reservoir
- Development of Oxford Canal - Transfer from Dukes Cut to Farmoor
- Banbury Sewage Treatment Works upgrade
- Oxford Waste Water Treatment Works (WWTW) upgrade

GREEN INFRASTRUCTURE



Green Infrastructure

- The Oxfordshire Nature Recovery Fund (ONReF)
- Everlode Landscape Recovery
- Lower Windrush Valley Project
- Reconnecting Bernwood, Otmoor and the Ray (RBOR) - Berks Bucks & Oxon Wildlife Trust (BBOWT)

SOCIAL INFRASTRUCTURE



Secondary Education



Special Education Needs and Disabilities



Further and Higher Education

- Universities of Oxford and Oxford Brookes - major redevelopment plans
- Expansion of Carterton Community College
- Multiple new Secondary schools to support Strategic Sites
- Faringdon Special Free School

HEALTH AND SOCIAL CARE



Primary Healthcare and Public Health



Acute Healthcare



Mental Healthcare

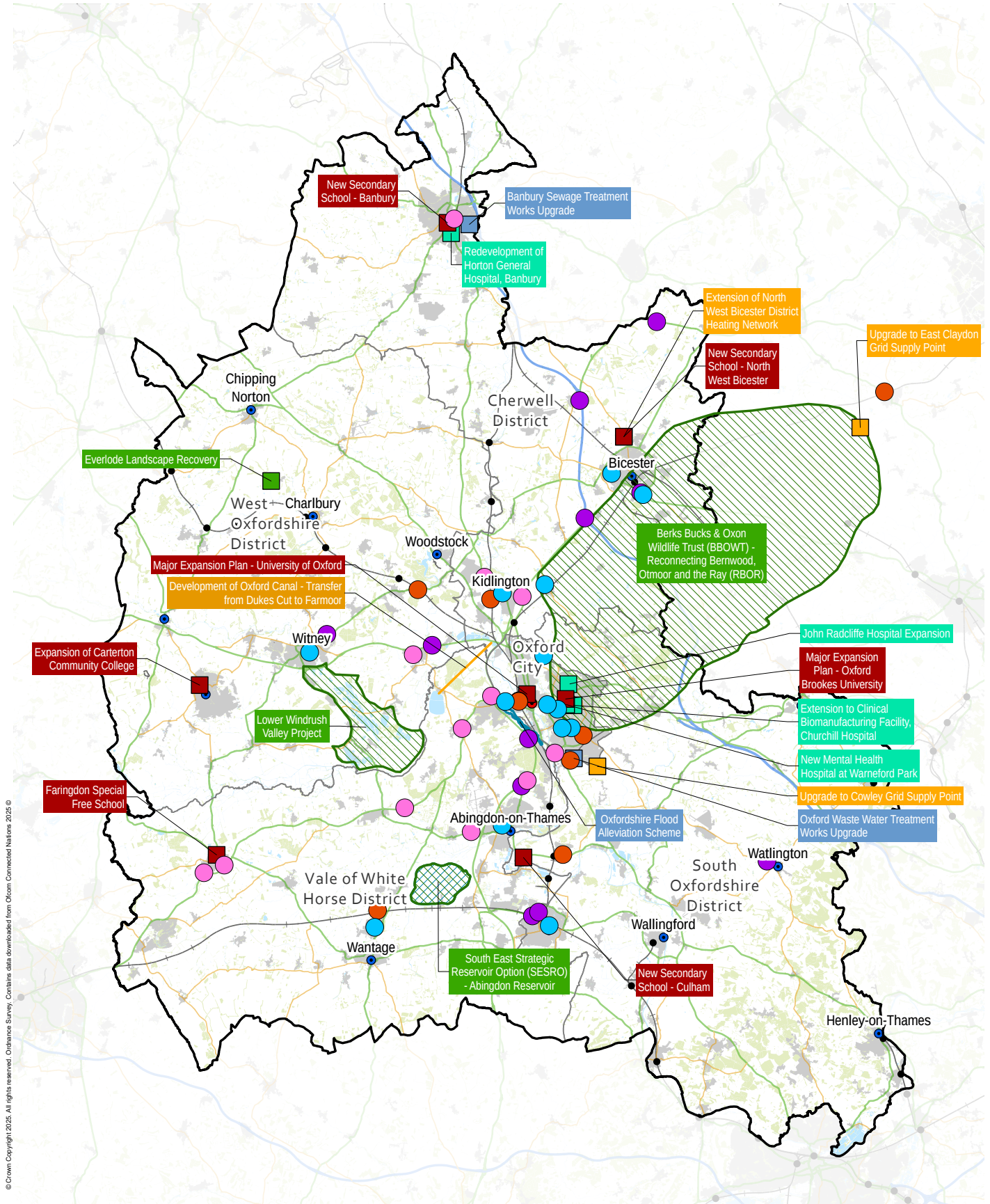


Social Care



Emergency Services

- Redevelopment of Horton General Hospital, Banbury
- John Radcliffe Hospital Expansion
- Extension to Clinical Biomanufacturing Facility, Churchill Hospital
- New Mental Health Hospital at Warneford Park



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Legend

- Oxfordshire County Boundary
- District Boundary
- City
- Town/Large Village
- Railway Station
- Motorway
- A Road
- B Road
- Railway
- Waterbody
- Woodland
- Built Up Area
- Active Mode Transport Project
- Bus and Strategic Rapid Transport Infrastructure Project
- Rail Infrastructure Project
- Road Infrastructure Project
- Energy Project (Linear)
- Energy Project
- Education Project
- Healthcare Project
- Green Infrastructure Project
- Water Project
- Green Infrastructure Project (Indicative Area)
- Water Project (Indicative Area)

Scale

0 4 8 km

North

Example Major Strategic Infrastructure Projects

5.3 Stage 1 Project Costs and Funding

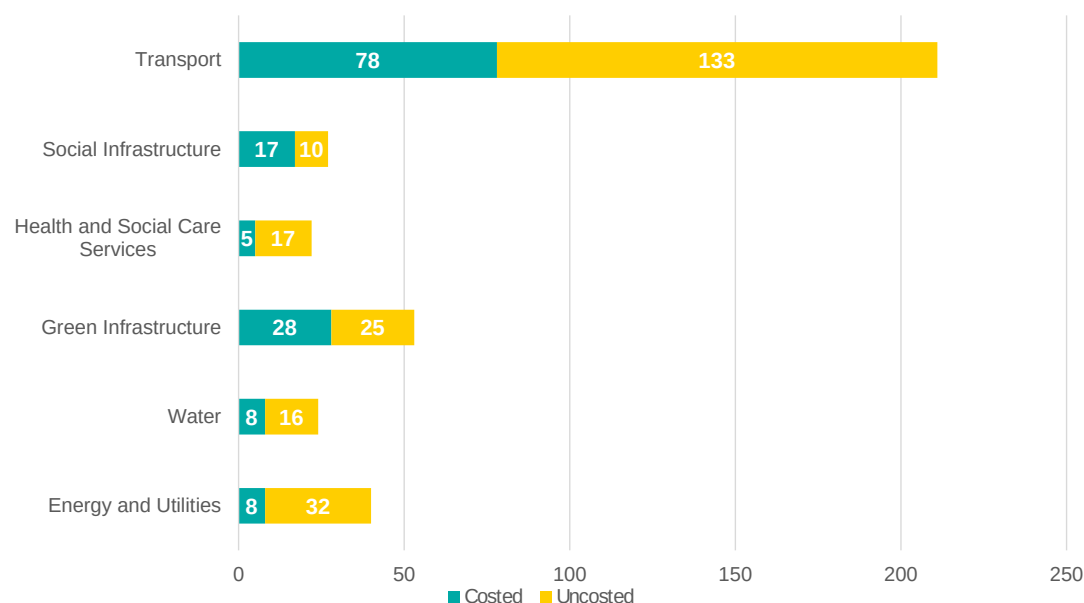
The Stage 1 draft Project Schedule has collated all identified projects by area, infrastructure type and delivery timeframe. For each project, a delivery cost estimate has been recorded where this currently exists. However, not all projects have associated cost estimates at this stage. This will be addressed in Stage 2 through further engagement with stakeholders and/or the application of cost estimation methodologies using benchmark indicators.

Of the 377 identified projects in the draft Project Schedule, 144 (38%) have associated cost estimates.

AECOM has undertaken benchmark modelling for a number of infrastructure topics where alternative project lists are not yet sufficiently developed across all areas and geographies. Benchmark modelling enables an estimation of potential investment needs based on forecast levels of housing and economic growth. Where a robust project list can be agreed as an alternative to theoretical modelling this will be utilised instead.

It is also acknowledged that each local authority is developing a robust and more detailed local assessment of infrastructure requirements to support their respective Local Plan, which identifies specific infrastructure projects to meet growth up to 2040-2042, rather than to 2050. Stage 2 of this project will look to incorporate the latest Infrastructure Delivery Plan (IDP) project lists in place of, or alongside, theoretical modelling.

A number of infrastructure topics remain uncoded, as indicated by 'TBC' references. Where possible, these will be addressed as the project progresses through Stage 2.



Number of costed and uncoded strategic infrastructure projects in draft Stage 1 Project Schedule

Where a project has a record of identified secured funding, this has been captured as part of the draft Project Schedule. For a number of infrastructure topics such as utilities, cost estimates are not expected to indicate a funding gap, as delivery would typically be covered through a combination of service provider funding and developer contributions. Stage 2 of the project will review the potential funding levels for each of the infrastructure topics in more detail.

The Stage 1 draft Project Schedule identifies a total indicative infrastructure cost of **approximately £9 billion to support growth between 2025 and 2050**.

In comparison, a **limited £1.4 billion of secured funding** has been identified to date. As noted, this funding analysis is ongoing and is likely to increase through further research and consideration of potential funding sources and delivery responsibilities.

Transport investment represents the most significant area of infrastructure requirement identified at this stage, primarily driven by investment in the rail network, including the East West Rail project. Strategic and local roads, as well as strategic rapid transit infrastructure, also account for considerable financial requirements.

Beyond transport, significant costs are associated with potable water supply (largely linked to SESRO Abingdon Reservoir), as well as health and social care particularly to meet the needs of an ageing population.

It is acknowledged that the indicative costs currently account only for identified projects, and are likely to increase following further modelling undertaken through parallel workstreams, including the Oxfordshire Local Area Energy Plan (OxLAEP).

Infrastructure Topic	Stage 1 Costs	Stage 1 Funding
Transport	£3,192,000,000	£1,260,686,000
Energy and Utilities	£391,000,000	£7,250,000
Green Infrastructure	£369,000,000	-
Water	£2,894,000,000	£176,080,000
Social Infrastructure	£838,000,000	£340,000
Health and Social Care	£1,410,000,000	-
Total	£9,094,000,000	£1,444,356,000

Summary of Stage 1 Project Schedule Infrastructure Costs and Funding
Source: AECOM Analysis based on draft Stage 1 Project Schedule

TRANSPORT



Highways

Project List

£612,000,000



Rail*

Project List

£2,162,000,000



Bus and SRT

Project List

£263,000,000



Active Modes

Project List

£155,000,000

ENERGY & UTILITIES



Electricity

Theoretical + Project

£214,000,000



Gas

Project List

TBC



Renewable Energy

Project List

£67,000,000



Digital Infrastructure

Theoretical + Project

£108,000,000



Waste Infrastructure

Project List

£3,000,000

GREEN INFRASTRUCTURE



Local Nature Recovery

Theoretical + Project

£166,000,000



Green Infrastructure

Theoretical + Project

£61,000,000



Outdoor Sports

Theoretical + Project

£142,000,000

WATER



Water Supply*

Theoretical + Project

£2,380,800,800



Wastewater

Theoretical + Project

£313,000,000



Flood Risk

Theoretical + Project

£200,605,000

SOCIAL INFRASTRUCTURE



Secondary Education

Theoretical Modelling

£415,000,000



SEND

Theoretical Modelling

£172,000,000



Further & Higher Edu

Theoretical Modelling

£226,000,000



Placemaking

Project List

£26,000,000



Primary Healthcare

Theoretical Modelling

£186,000,000



Acute and Mental

Theoretical Modelling

£373,000,000



Social Care

Theoretical Modelling

£823,000,000



Emergency Services

Project List

£28,000,000

£0 100 200 300 400 500 600 700 800 900 1,000

** Most of this cost is driven by East West Rail which will deliver cross-border benefits beyond Oxfordshire.*

** Most of this cost is driven by the potential new Thames Water Reservoir near Abingdon (SESRO). The government will confirm if SESRO is to go ahead through the Development Consent Order (DCO) process.*

MILLIONS

000 1,100 1,200 1,300 1,400 1,500 1,600 1,700 1,800 1,900 2,000 2,100 2,200 2,300 2,400 2,500

06

Barriers to Infrastructure Delivery

6.1 Barriers to Infrastructure Delivery

The delivery of Infrastructure projects will be challenged through a range of barriers and hurdles.

This strategy will consider the potential risks to delivery to ensure robust mitigation steps can be put into place to support the implementation of the strategy. As the project schedule is further developed through Stage 2 including a framework for prioritisation, the risks identified here and necessary mitigation steps will be taken into consideration.

At this stage in the project, the overarching risks and barriers to strategic infrastructure delivery have been identified for further consideration and discussion with stakeholders.

This chapter is then concluded with a draft risk matrix for further development in stage 2 as part of the project prioritisation framework. The matrix can be used to assess and compare the deliverability of infrastructure projects within the strategy.

Policy Uncertainty

Shifting National Policy Priorities:

- Changes in government or political leadership often lead to altered infrastructure priorities
- Inconsistency in long-term commitments (e.g., cancellation of HS2 Phase 2) reduces investor confidence

Planning System Constraints:

- The current planning framework is often slow and complex, with lengthy approvals and appeals processes
- Inconsistent application of planning policies between local authorities leads to delays and uncertainty

Regulatory Compliance and Environmental Assessments:

- New environmental legislation (e.g., Biodiversity Net Gain, Nutrient Neutrality) adds complexity
- Potential conflict between development and climate adaptation/resilience goals

Financial and Economic

Public Sector Funding Constraints:

- Constrained local authority budgets limit capacity for upfront infrastructure investment
- Uncertainty around future funding mechanisms (e.g., UK Infrastructure Bank, Levelling Up Fund) can delay or deter projects

Inflation and Cost Overruns:

- High inflation in materials, labour, and land acquisition increases project costs and jeopardises viability
- Delays due to inflation lead to further cost escalation, impacting project scope and deliverability

Private Investment Risk:

- Investors may be deterred by lack of clarity around returns or policy instability
- Rising interest rates can reduce the attractiveness of infrastructure as an investment class

Implementation

Skills and Labour Shortages:

- Shortage of skilled professionals in engineering, planning, environmental science, and construction
- Post-Brexit immigration rules have reduced access to skilled labour, particularly in construction and utilities

Supply Chain Disruptions:

- Ongoing global and geopolitical instability (e.g., Ukraine conflict, Red Sea shipping routes) can disrupt supply chains for materials and components
- Domestic logistical issues, including rail and port capacity, may constrain large-scale delivery

Programme and Project Management Capacity:

- Local authorities and delivery bodies may lack the in-house expertise or resources to manage large projects
- Fragmented governance can lead to duplication, inefficiencies, or lack of clear accountability

Land and Spatial Constraints

Land Assembly:

- Strategic infrastructure (e.g., roads, rail, energy networks) often requires coordinated land assembly across multiple ownerships
- CPO (Compulsory Purchase Order) processes are time-consuming and prone to legal challenge

Land Use Conflicts:

- Competing demands for land (e.g., housing, agriculture, nature recovery) increase tensions around siting of infrastructure
- Green Belt and protected landscapes are significant barriers in some locations

Political and Community Opposition

Public Resistance and Judicial Review:

- Large infrastructure projects often face local opposition (e.g., due to noise, disruption, perceived unfairness)
- Legal challenges and judicial reviews can delay or halt projects

Stakeholder Misalignment:

- Conflicting interests between central government, devolved administrations, local authorities, and private developers can stall progress
- Weak consultation processes can lead to poor community buy-in and reputational risks

Technological and Environmental

Technology Obsolescence:

- Rapid changes in technology (e.g., EV charging, hydrogen infrastructure, digital networks) can make planned projects outdated before completion
- Uncertainty around future standards can delay adoption and increase risk for investors

Climate Change and Resilience:

- Infrastructure is increasingly vulnerable to climate-related risks: flooding, heatwaves, and subsidence
- Failure to integrate climate resilience into design and location can lead to premature obsolescence or higher maintenance costs

Governance

Lack of Coordination Across Sectors:

- Infrastructure systems (transport, energy, digital, water) are interdependent, yet often planned in silos
- Weak horizontal coordination limits strategic decision-making and integrated delivery

Devolution and Governance Capacity:

- Devolution deals vary across regions, leading to unequal powers and inconsistent strategic oversight
- Local authorities may lack the institutional strength to coordinate multi-agency, cross-boundary infrastructure programmes

Risk Category	Description	Applicable Sectors	Risk Level	Mitigation Strategies
1. Policy Misalignment	Misalignment between local plans, national policies, and sector-specific strategies	All	High	Integrate cross-sector strategic planning and regular inter-agency policy reviews
2. Funding Uncertainty	Unclear or short-term capital/revenue funding, reliance on grants or developer contributions	All	High	Secure multi-year funding commitments; embed GI/ education/health costs in planning gain
3. Programme Complexity	Multi-agency delivery, unclear ownership, and fragmented responsibilities	Transport, Social, Green	High	Establish accountable delivery bodies or partnerships with clear governance
4. Land Constraints	Lack of available, suitable, or affordable land; delays in acquisition or planning consent	Transport, Social, Green	Medium-High	Early site identification; integrate land use and infrastructure planning
5. Planning Risk	Delays or refusal of planning applications due to local opposition, design concerns, or policy conflict	All	Medium-High	Community engagement, planning briefs, design codes, and strong evidence base
6. Construction Risk	Cost inflation, labour shortages, material delays, or procurement barriers	All	High	Phase risk-adjusted procurement, use MMC/ modular approaches, secure skilled contractors early
7. Capacity and Skills Gaps	Limited in-house technical or delivery capacity (e.g., PMs, ecologists, engineers)	All	Medium	Build internal teams or long-term consultancy frameworks; invest in staff training
8. Lifecycle Cost Uncertainty	High operational and maintenance costs, unclear stewardship/responsibility post-construction	Social, Green	Medium-High	Whole-life cost planning; ringfenced maintenance budgets or community stewardship models
9. Demand Uncertainty	Volatile forecasts (e.g. school places, health service need, water usage) or rapid growth	Social, Utilities	Medium	Scenario modelling and stress testing; flexible and scalable infrastructure designs
10. Technology Obsolescence	Poor adaptability to emerging technologies (e.g., smart energy, digital education, EVs)	Utilities, Social, Transport	Medium	Future-proof designs, embedded smart systems, digital infrastructure planning
11. Climate Resilience Failure	Designs not adapted to climate risk (e.g., heat, flood, drought), especially GI and utilities	Utilities, Green	High	Climate-resilient design standards and mandatory adaptation assessments
12. Community Resistance / Equity Issues	NIMBYism, exclusion from benefits, opposition to perceived environmental or social impacts	Social, Green, Transport	Medium-High	Early engagement, co-design, equity impact assessments
13. Regulatory Barriers	Complex or overlapping regulatory requirements (e.g., NHS, DfE) slowing approvals	Utilities, Social	Medium	Proactive regulator engagement and aligned consenting strategy
14. Monitoring and Evaluation Weakness	Poor KPIs, limited delivery tracking, or failure to measure long-term benefits	All	Medium	Establish outcome-based performance metrics, use natural capital or health valuation tools

07

Next Steps

7.1 Next Steps

This chapter of the Strategy outlines the next steps in the OxIS programme and the key additional content to be developed for inclusion in the Stage 2 Strategy documentation.

Stage 1 Consultation

This document has been produced with the intention of being shared with identified technical project stakeholders to ensure that OxIS has been appropriately reviewed and developed on a collaborative basis.

Feedback is being collected through feedback forms in the virtual consultation room, where the report is available to technical stakeholders. These forms allow stakeholders to highlight any gaps and areas requiring clarification in the Stage 1 Draft Report and Project Schedule. These responses will be assessed and used to refine the Stage 2 Report.

Project Schedule Review and Sifting

The Project Schedule is a working file and reflects the information made available to the OxIS team during Stage 1 of the project. A key element of the Stage 1 Consultation is to enable feedback and the addition of further project entries where appropriate.

As outlined in **Chapter 5**, the current project schedule lacks cost data for a significant proportion of entries. Addressing this information gap will be a key priority during the Stage 2 Project Schedule Review.

The current list includes 377 projects. A core task in Stage 2 will be to refine this into a focused list, ensuring all projects are suitably aligned with the agreed parameters, within scope, and strategic in nature.

Infrastructure Funding Review

The scale of infrastructure identified in this Strategy cannot be fully funded through existing sources. Developer contributions (such as S106 or CIL), local authority capital programmes, and existing public funding and grants are likely to fall short.

Local authorities in Oxfordshire will need to collaborate to devise an integrated package of funding sources and delivery mechanisms that can meet the diverse infrastructure needs of different areas.

Stage 2 of OxIS will consider both traditional and emerging sources of funding for the identified infrastructure projects and will assess the benefits and limitations of each funding type.

This assessment will explore three main categories of funding:

- Existing organisations with access to public funding
- Developer contributions (including S106 agreements and CIL)
- Broader funding options (such as borrowing, borrowing against local revenue, realising value from local authority assets, public funds, private finance initiatives, local government pension funds, institutional investors, and crowdfunding).

A wide range of alternative funding sources will be presented to the client group to support delivery of the infrastructure projects included in the final Strategy.

However, it will be important for the client group to evaluate the strengths and weaknesses of each option and to develop a tailored, integrated funding approach to meet the specific needs of different infrastructure types and locations. Given the inevitable funding gap, the client group will need to prioritise clusters or portfolios of projects, focusing on those with the greatest potential impact. This prioritisation will be informed by the framework described in the next section.

Prioritisation Framework Development

The next step will be to develop a prioritisation framework that can be used to assess the infrastructure project schedule and identify those projects that best meet the agreed criteria.

Agreeing criteria and scoring methods that satisfy all stakeholders is best achieved through a simple, transparent methodology to ensure shared ownership of the results. AECOM will work iteratively with OLJC to develop an updated multi-criteria assessment (MCA) aligned with current OxIS objectives.

Factors and variables to consider include:

- Prioritisation frameworks used in previous OxIS iterations and lessons learned
- Comparable frameworks used in other strategic infrastructure plans
- Number and type of assessment criteria, and the approach to scoring and weighting
- New and emerging societal, political, economic, and environmental drivers
- Flexibility for different use cases (e.g. topic-based, location-based, or phased delivery);
- The delivery risk matrix (as outlined in the previous chapter) and how to incorporate it.

The MCA approach supports comparative ranking across all infrastructure types, including grey, green and social infrastructure, by using universal, strategic criteria.

These criteria should reflect the overarching goals of OxIS and encompass a range of social, economic, environmental, and technical dimensions. Each will be qualitatively scored using a numerical scale, with close collaboration between AECOM and OLJC to ensure the scoring reflects the views of the client group and stakeholders.

Indicative criteria (to be reviewed in more detail) may include:

- Evidenced infrastructure need
- Cost
- Alignment with the Strategic Vision
- Contribution to net zero and climate resilience
- Health and well-being benefits
- Economic growth potential
- Funding availability

These criteria will be weighted based on evidence and stakeholder consultation. To ensure fairness, weightings will be applied consistently across all project types, so final rankings are driven by the criteria, not the infrastructure category.

Before the full framework is applied, a sifting exercise will be conducted to refine the project list. This may involve removing long-term or theoretical proposals, or projects lacking sufficient detail. The sifting criteria will be agreed with the client group.

Stage 2 Stakeholder Engagement

Stakeholder engagement in Stage 2 will primarily focus on developing and refining the prioritisation framework for the refined project list.

As in Stage 1, technical stakeholder workshops will be held to co-design the framework in consultation with stakeholders.

Monthly client group progress meetings will continue throughout Stage 2, providing opportunities to review and challenge key outputs at relevant stages.

Stage 2 will conclude with a formal consultation on the final outputs, including the Strategy, the prioritised project list, and the associated interactive mapping platform. This consultation will be hosted in a virtual consultation room to ensure broad reach and accessibility for both technical and community stakeholders.

Method Stage	Stakeholders	Purpose	Format
Stage 2			
Stage 2 Technical Stakeholder Engagement – Prioritization Framework Focus	As Stage 1 Technical Engagement with amendments to refine from feedback on Stage 1 sessions.	Updated review of Infrastructure Project List (Refined list, Costing and Funding) and Focus on Proposed Approach to Prioritisation MCA.	Web based Workshops – Overview session followed by technical topic area break out sessions.
Stage 2 Steering Group Check & Challenge Sessions	Project Steering Group (i.e. LPA Officers)	Technical Review sessions will be allocated to review and challenge key outputs at relevant stages in programme.	Use of monthly client group progress meetings – Typically web based workshop
Stage 2 Executive Officer Group Presentation	Client Executive Officers Group + members (select where required)	Consultant presentation to EOG and members on progress of project and Stage 1 Key Findings – Required prior to consultation on stage 1 material.	In person presentation if required. Alternatively, presence on web based meeting.
Stage 2 Consultation	As Stage 2 Consultation	Consultation on Stage 2 Final Strategy and Interactive mapping platform and Project List – Hosted through Consultation website.	Stage 2 Consultation Website (update of Stage 1 Website) - Online system to enable wide reach and enable technical and community feedback.

Stakeholder Engagement Approach

Infrastructure Project Prioritisation

Once the prioritisation framework is agreed with the client group, it will be applied to the refined infrastructure project list to produce a delivery schedule identifying the highest-priority projects.

The outcomes of the initial prioritisation will be presented to the client group for review. Based on this feedback, further adjustments may be made.

The framework, including the criteria and weightings, will be iteratively tested and refined throughout Stage 2.

When finalised and agreed, the framework will be applied to generate a final delivery schedule as a key Stage 2 output.

This delivery schedule will reflect the strategic priorities of OxIS and focus on projects with the greatest potential to support long-term growth.

Finalise Infrastructure Project Schedule and Project Map

The Infrastructure Project Schedule and the associated Project Map will be key Stage 2 outputs and sit alongside the final Strategy.

The schedule aims to capture the major infrastructure projects within the existing and emerging pipeline across Oxfordshire. The map will provide a spatial representation of these projects in a digital format to support broad accessibility.

Both the schedule and map will be further refined based on stakeholder engagement and feedback received on this Stage 1 report.

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