

**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 - 28)	Oxfordshire Infrastructure Strategy (OxIS) Final Report Appendix 2 - OxIS Stage 1 Report Appendices	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
Appendices

**Prepared for the Oxfordshire Leaders
Joint Committee**

August 2025

1. Appendix 1 Information Sources

Transport

- Connecting People, Transforming Journeys (2021), England's Economic Heartland
- Local Transport and Connectivity Plan 2022-2050 (2022), Oxfordshire County Council
- Route Strategy Initial Overview Report: Solent to Midlands (2023), National Highways
- Route Strategy Initial Overview Report: London to Scotland West (South) (2023), National Highways
- Oxfordshire County Council: Transport and Travel. URL: <https://www.oxfordshire.gov.uk/transport-and-travel>
- Oxfordshire Bus Service Improvement Plan (2024), Oxfordshire County Council
- (Ref 6) Long Term Development Statement, 2024, SGN
- (Ref 7) Oxfordshire Infrastructure Strategy Stage One Report (2017), AECOM
- (Ref 8) Regional and local authority Planning, (January 2024) Database Department for Energy Security and Net Zero
- (Ref 9) Long Term Development Statement for Southern Electric Power Distribution PLC's Electricity Distribution System, Scottish & Southern Electricity Networks, November 2024
- UK Digital Strategy (2022), Department for Digital, Culture, Media and Sport (DCMS). Available at: <https://www.gov.uk/government/publications/uks-digital-strategy/uk-digital-strategy>
- UK Wireless Infrastructure Strategy (2023), Department for Science, Innovation and Technology (DSIT). Available at: <https://www.gov.uk/government/publications/uk-wireless-infrastructure-strategy/uk-wireless-infrastructure-strategy>

Energy and Utilities

- (Ref 1) SSEN Network Work Capacity Map (accessed 19th March 2025)
- (Ref 2) Regional and local authority gas consumption statistics (estimates of gas consumption at region and local authority level in Great Britain), Department for Energy Security and Net Zero. (December 2024)
- (Ref 3) 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
- (Ref 4) Oxfordshire Infrastructure Strategy (OxIS) Stage 1 (2021 – 2040) Technical Report (2021), City Science
- (Ref 5) Rules of Thumb Guidelines for Building Services (5th Edition), Glen Hawkins, 2011, BSRIA BG 9/2011
- Local Transport and Connectivity Plan 2022-2050 (2022), Oxfordshire County Council. Available at: <https://www.oxfordshire.gov.uk/transport-and-travel/connecting-oxfordshire/ltcp>
- Oxfordshire Digital Infrastructure Strategy and Delivery Plan (2020), Oxfordshire County Council. Available at: https://mycouncil.oxfordshire.gov.uk/documents/s50205/CA_MAR1720R10%20-%20Annex%201%20Digital%20Infrastructure%20Strategy.pdf
- Connected Nations Report (2025), Ofcom, Available at: <https://www.ofcom.org.uk/phones-and-broadband/coverage-and-speeds/connected-nations-update-spring-2025#:~:text=Summary%20of%20key%20findings,at%2084%25%20%5B1%5D>

- Project Gigabit Open Market Review Outcomes (September 2024), Building Digital UK. Available at: <https://www.gov.uk/government/consultations/project-gigabit-national-rolling-open-market-review-september-2024>

Green Infrastructure

- Berks, Bucks & Oxon Wildlife Trust, Oxfordshire County Council, and Thames Valley Environmental Records Centre (2014). Biodiversity and Planning in Oxfordshire. Available at: <https://www.oxfordshire.gov.uk/sites/default/files/file/countryside-access/wholedocument.pdf> [Accessed 27/03/2025].
- Cherwell District Council (2024). Cherwell Infrastructure Delivery Plan. Available at: <https://www.cherwell.gov.uk/download/downloads/id/16113/cherwell-infrastructure-delivery-plan--december-2024.pdf> [Accessed 27/03/2025].
- Leverhulme Centre for Nature Recovery (2024) Oxfordshire's Greenspace-deprived Neighbourhoods. Available at: Leverhulme Centre for Nature Recovery | Equitable distribution of nature-rich accessible green space: An Oxfordshire case study [Accessed 02/06/2025]
- Ministry for Housing, Communities and Local Government (2024). National Planning Policy Framework (NPPF). Available at: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf [Accessed 27/03/2025].
- Oxford City Council (2012). Barton Area Action Plan. Available at: <https://www.cherwell.gov.uk/download/downloads/id/959/pr59---oxford-city-councils-barton-area-action-plan-2012.pdf> [Accessed 27/03/2025].
- Oxford City Council (2015). Northern Gateway Area Action Plan. Available at: <https://mycouncil.oxford.gov.uk/documents/s24760/Northern%20Gateway%20AAP%20Appendix%201.pdf> [Accessed 27/03/2025].
- Oxford City Council (2020). Oxford Local Plan 2036. Available at: <https://www.oxford.gov.uk/downloads/file/1637/adopted-oxford-local-plan-2036> [Accessed 27/03/2025]
- Oxfordshire County Council (2021). Making the case for investment in Green Infrastructure in Oxfordshire Policymaker Summary Available at: <https://www.oxfordshire.gov.uk/sites/default/files/file/countryside/GreenInfrastructureSummaryReport.pdf> [Accessed 27/03/2025].
- Oxfordshire County Council (2024). Oxfordshire's Local Nature Recovery Strategy: Draft Statement of Biodiversity Priorities. Available at: <https://letstalk.oxfordshire.gov.uk/32474/widgets/94133/documents/70662> [Accessed 27/03/2025].
- Oxfordshire County Council (2024). Oxfordshire's Local Nature Recovery Strategy: Draft Species Priorities List. Available at: <https://letstalk.oxfordshire.gov.uk/32474/widgets/94133/documents/70650> [Accessed 27/03/2025].
- Oxfordshire County Council (2024). Oxfordshire's Local Nature Recovery Strategy: Draft Description of the Strategy Area. Available at: <https://letstalk.oxfordshire.gov.uk/32474/widgets/94133/documents/70711> [Accessed 27/03/2025].
- Shared Intelligence (2024). Oxfordshire's

Green Investment Pipeline and Prospectus Interim Research Report. Available at:

- South Oxfordshire and Vale of White Horse District Council (2017). South & Vale Green Infrastructure Strategy.
- South Oxfordshire and Vale of White Horse District Council (2024). South & Vale Green Infrastructure Strategy and Open Space Study. Available at: Green Infrastructure Strategy and Open Space Study [Accessed 02/06/2025]
- South Oxfordshire and Vale of White Horse District Council (2024). Joint Local Plan 2041: Infrastructure Delivery Plan. Available at: <https://www.southandvale.gov.uk/app/uploads/2024/12/CSD05.1-Infrastructure-Delivery-Plan-December-2024-Submission-Version.pdf> [Accessed 27/03/2025].
- South Oxfordshire District Council (2020). South Oxfordshire Local Plan 2011-2035. Available at: <https://www.southoxon.gov.uk/wp-content/uploads/sites/2/2021/02/SODC-LP2035-Publication-Feb-2021.pdf> [Accessed 27/03/2025].
- University of Oxford (2021). Natural Capital in Oxfordshire Short Report. Available at: Natural-capital-mapping-in-Oxfordshire.pdf [Accessed 02/06/2025]
- Vale of White Horse District Council (2016). Local Plan 2031. Available at: <https://www.whitehorsedc.gov.uk/wp-content/uploads/sites/3/2020/10/Local-Plan-2031-Part-1.pdf> [Accessed 27/03/2025].
- West Oxfordshire District Council (2016). West Oxfordshire Infrastructure Delivery Plan. Available at: <https://www.westoxon.gov.uk/media/piapnrel/final-idp-november-2016.pdf> [Accessed 27/03/2025].
- West Oxfordshire District Council (2018). West Oxfordshire Local Plan 2031. Available at: <https://www.westoxon.gov.uk/media/feyjmpen/local-plan.pdf> [Accessed 27/03/2025].
- West Oxfordshire District Council (2020). Pre-submission Draft Salt Cross Garden Village Area Action Plan (AAP). Available at: <https://www.westoxon.gov.uk/media/jsccjtcl/salt-cross-aap-pre-submission-august-2020.pdf> [Accessed 27/03/2025].
- Wild Oxfordshire (2024). State of Nature In Oxfordshire 2017. Available at: <https://cdn.prod.websitefiles.>

Water

- Thames Water Drainage and Wastewater Management Plan (2024) Thames Water.
- Oxfordshire Infrastructure Strategy (OxIS) Stage 1 (2021 – 2040) Technical Report (2021), City Science
- Oxfordshire Infrastructure Strategy Stage One Report (2017), AECOM
- Thames River basin District Flood Risk Management Plan 2021 to 2027 (2022), Environment Agency
- South Oxfordshire and Vale of White Horse Level 1 SFRA (2024) JBA consulting
- Cherwell District Level 1 SFRA (2022) Wallingford Hydrosolutions Ltd
- Oxford City Level 1 SFRA (2017) Wallingford Hydrosolutions Ltd
- West Oxfordshire District Council SFRA (2017) AECOM
- Draft Oxfordshire LFRMS (June 2024) Wallingford Hydrosolutions Ltd
- Thames Catchment Flood Management Plan (2009) Environment Agency
- Great Ouse Catchment Flood Management Plan (2011) Environment Agency
- Thames Water Resource Management

- Plan (2024) Thames Water.
- Water Resources South East's (WRSE) (2023) Regional Water Resources Plan for South Eastern England (draft)
- Kennet and Vale of White Horse Abstraction Licencing Strategy (2019) Environment Agency
- Cherwell, Thame and Wye Abstraction Licensing Strategy (2019) Environment Agency
- Thames Abstraction Licencing Strategy (2019) Environment Agency
- Press Release: Environment Agency and Oxford City Council unlock new growth. URL: https://www.gov.uk/government/news/environment-agency-and-oxford-city-council-unlock-growth?utm_medium=email&utm_campaign=govuk-notifications-topic&utm_source=59d88a09-c96e-4cfc-ad7a-6df703a370d1&utm_content=weekly

Social Infrastructure

- Pupil Place Plan, 2024 – Oxfordshire County Council
- Oxfordshire SEND Sufficiency Delivery Strategy 2022/23 - 2026/27
- Oxfordshire Local Skills Improvement Plan (2024)
- University of Oxford Strategic Plan 2018-23
- Oxford Brookes University Strategy 2035
- University of Oxford Estate Strategy 2024-2029

Healthcare and Social Care

- BOB ICS - Buckinghamshire, Oxfordshire and Berkshire West Integrated Care Strategy - 2023
- BOB ICS - Buckinghamshire, Oxfordshire and Berkshire West Joint Forward Plan – 2023
- BOB ICS - Oxfordshire Local Transformation Plan – 2022
- OCC - Oxfordshire Health and Wellbeing Strategy 2024 – 2030
- Oxford Health NHS FT – Oxford Health Annual Plan 2024/25
- Oxford Health NHS FT – Trust Strategy 2021 – 2026
- Oxford University Hospitals NHS FT – Our Strategy 2020 – 2025
- Oxfordshire Fire and Rescue Service, Community Risk Management Plan 2022-26. URL: <https://www.oxfordshire.gov.uk/sites/default/files/file/fire-and-rescue/OCCCRMP2022-26.pdf>
- OCC – The Oxfordshire Way in Adult Social Care

2. Appendix 2 Growth Scenarios

Lower Trajectory | Local Plan Growth + 110% Insight Population

Local Authority	Cherwell	Oxford	South Oxfordshire	Vale of White Horse	West Oxfordshire	Oxfordshire	Cumulative Total
2024/25	406	567	792	1,060	1,125	3,950	3,950
2025/26	414	567	1,064	1,271	1,125	4,441	8,391
2026/27	664	567	993	1,049	1,125	4,398	12,789
2027/28	931	567	1,194	1,207	1,125	5,024	17,813
2028/29	1,381	567	1,038	1,127	1,125	5,238	23,051
2029/30	1,523	567	928	1,085	1,125	5,228	28,279
2030/31	1,606	567	830	974	1,125	5,102	33,381
2031/32	1,401	567	1,084	1,003	905	4,960	38,341
2032/33	1,546	567	1,236	1,009	905	5,263	43,604
2033/34	1,551	567	1,295	907	905	5,225	48,829
2034/35	1,551	567	1,198	905	905	5,126	53,955
2035/36	1,550	567	935	801	905	4,758	58,713
2036/37	1,090	1,087	930	787	905	4,799	63,512
2037/38	1,063	1,087	887	767	905	4,709	68,221
2038/39	928	1,087	914	637	905	4,471	72,692
2039/40	863	1,087	914	617	905	4,386	77,078
2040/41	863	1,087	913	617	905	4,385	81,463
2041/42	779	1,087	1,242	949	905	4,962	86,425
2042/43	1,225	486	957	1,203	705	4,576	91,001
2043/44	1,225	486	957	1,203	705	4,576	95,577
2044/45	1,225	486	957	1,203	705	4,576	100,153
2045/46	1,225	486	957	1,203	705	4,576	104,729
2046/47	1,225	486	957	1,203	705	4,576	109,305
2047/48	1,225	486	957	1,203	705	4,576	113,881
2048/49	1,225	486	957	1,203	705	4,576	118,457
2049/50	1,225	486	957	1,203	705	4,576	123,033
Total	29,910	17,214	26,043	26,396	23,470		123,033

*Cells in yellow indicate where theoretical figures have been applied outside of plan periods

Middle Trajectory | Local Plan Growth + Standard Method

Local Authority	Cherwell	Oxford	South Oxfordshire	Vale of White Horse	West Oxfordshire	Oxfordshire	Cumulative Total
2024/25	406	567	792	1,060	1,125	3,950	3,950
2025/26	414	567	1,064	1,271	1,125	4,441	8,391
2026/27	664	567	993	1,049	1,125	4,398	12,789
2027/28	931	567	1,194	1,207	1,125	5,024	17,813
2028/29	1,381	567	1,038	1,127	1,125	5,238	23,051
2029/30	1,523	567	928	1,085	1,125	5,228	28,279
2030/31	1,606	567	830	974	1,125	5,102	33,381
2031/32	1,401	567	1,084	1,003	905	4,960	38,341
2032/33	1,546	567	1,236	1,009	905	5,263	43,604
2033/34	1,551	567	1,295	907	905	5,225	48,829
2034/35	1,551	567	1,198	905	905	5,126	53,955
2035/36	1,550	567	935	801	905	4,758	58,713
2036/37	1,090	1,087	930	787	905	4,799	63,512
2037/38	1,063	1,087	887	767	905	4,709	68,221
2038/39	928	1,087	914	637	905	4,471	72,692
2039/40	863	1,087	914	617	905	4,386	77,078
2040/41	863	1,087	913	617	905	4,385	81,463
2041/42	779	1,087	1,242	949	905	4,962	86,425
2042/43	1,118	1,087	1,242	949	905	5,301	91,726
2043/44	1,118	1,087	1,242	949	905	5,301	97,027
2044/45	1,118	1,087	1,242	949	905	5,301	102,328
2045/46	1,118	1,087	1,242	949	905	5,301	107,629
2046/47	1,118	1,087	1,242	949	905	5,301	112,930
2047/48	1,118	1,087	1,242	949	905	5,301	118,231
2048/49	1,118	1,087	1,242	949	905	5,301	123,532
2049/50	1,118	1,087	1,242	949	905	5,301	128,833
Total	29,054	22,022	28,323	24,364	25,070		128,833

*Cells in yellow indicate where theoretical figures have been applied outside of plan periods

Upper Trajectory | Local Plan Growth + 10% uplift on Standard Method

Local Authority	Cherwell	Oxford	South Oxfordshire	Vale of White Horse	West Oxfordshire	Oxfordshire	Cumulative Total
2024/25	406	567	792	1,060	1,125	3,950	3,950
2025/26	414	567	1,064	1,271	1,125	4,441	8,391
2026/27	664	567	993	1,049	1,125	4,398	12,789
2027/28	931	567	1,194	1,207	1,125	5,024	17,813
2028/29	1,381	567	1,038	1,127	1,125	5,238	23,051
2029/30	1,523	567	928	1,085	1,125	5,228	28,279
2030/31	1,606	567	830	974	1,125	5,102	33,381
2031/32	1,401	567	1,084	1,003	996	5,051	38,432
2032/33	1,546	567	1,236	1,009	996	5,354	43,785
2033/34	1,551	567	1,295	907	996	5,316	49,101
2034/35	1,551	567	1,198	905	996	5,217	54,317
2035/36	1,550	567	935	801	996	4,849	59,166
2036/37	1,090	1,196	930	787	996	4,998	64,164
2037/38	1,063	1,196	887	767	996	4,908	69,072
2038/39	928	1,196	914	637	996	4,670	73,742
2039/40	863	1,196	914	617	996	4,585	78,327
2040/41	863	1,196	913	617	996	4,584	82,912
2041/42	779	1,196	1,366	1,044	996	5,380	88,292
2042/43	1,230	1,196	1,366	1,044	996	5,831	94,123
2043/44	1,230	1,196	1,366	1,044	996	5,831	99,954
2044/45	1,230	1,196	1,366	1,044	996	5,831	105,785
2045/46	1,230	1,196	1,366	1,044	996	5,831	111,616
2046/47	1,230	1,196	1,366	1,044	996	5,831	117,447
2047/48	1,230	1,196	1,366	1,044	996	5,831	123,278
2048/49	1,230	1,196	1,366	1,044	996	5,831	129,110
2049/50	1,230	1,196	1,366	1,044	996	5,831	134,941
Total	29,948	23,544	29,441	25,218	26,790		134,941

*Cells in yellow indicate where theoretical figures have been applied outside of plan periods

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3. Appendix 3 Sources of Flooding in Oxfordshire

Source of Flooding	Risk across Oxfordshire
Fluvial Flooding	River flooding is the main source of flooding across Oxfordshire. The greatest flood risk is associated with the River Thames, predominately in West Oxford and Oxford City. The northern part of the county is at risk of flooding from the River Cherwell. South Oxfordshire and the Vale of White Horse are at greatest risk from the Rivers Thames, River Ock and River Thame. The most recent significant fluvial flooding event was in 2014, where homes and major transport routes were cut off for days. Two main arterial routes, Botley Road and Abingdon Road, had to be closed. Train services also had to be stopped due to flooding on the line. The 2007 flood event also had a major impact in Oxfordshire and at a wider national scale. An estimated 2,682 properties were flooded (from all sources) in the July 2007 event. Prior to this, the Easter 1998 flood event caused severe devastation. Railways and roads closed, ~125 residential and 35 homes flooded resulting in £12.5m of damage.
Tidal Flooding	No risk of tidal flooding within Oxfordshire
Pluvial (Surface Water)	The surface water flood risk in Oxfordshire shows a similar pattern to the fluvial flood risk, surrounding the Rivers Thames, Ock and Ray. The July 2007 event affected many settlements across the county. Out of the 2,682 properties affected from all sources in July 2007, the estimate of properties identified as having flooded internally from surface water and ordinary watercourse varies between 100 (Environment Agency) and over 250 (Oxfordshire Fire and Rescue Service). The worst affected areas according to the Fire and Rescue Service records were (in order of number of properties affected): Bampton, Appleton, Brize Norton, Witney and Bloxham. These settlements are within Cherwell, West Oxfordshire and Vale of White Horse. In June 2008 surface water flooding occurred after a very intense summer rainfall event. The impact was generally concentrated but not confined to South Oxfordshire. An estimate of properties flooded (at least 75) has been made from the Parish Surveys and the South Oxfordshire District Council (SODC) report on the event, which stated that the worst affected communities included Berrick Salome/Roke, Chalgrove, Kidlington, Thame, Tiddington and Wheatley. These settlements are within Cherwell and South Oxfordshire.
Groundwater	The prolonged event of winter 2000/1 saw some of the highest groundwater levels recorded within the chalk and oolitic limestone aquifers in the county, causing flooding in Assendon Spring, Harpsden Court Drain (Henley), Stert Brook (Thame) and Ewelme Brook (Ewelme/Benson), which are within South Oxfordshire. Cumnor and Botley, near Oxford, were also affected in this event. According to the Parish Flooding Survey, 22 properties are estimated to have flooded on the Assendon Spring (an ephemeral groundwater fed ordinary watercourse located north of Henley). This type of flooding is particularly disruptive because it can last for weeks before water levels subside.

Source of Flooding	Risk across Oxfordshire
Groundwater	Other areas that experience groundwater flooding issues are identified by the District and City SFRAs as follows: Oxford City: Grandpont and New Hinksey, Oxford District area (east of the city centre), Headington. Cherwell: The base of Crouch Hill in Banbury, Upper Heyford, Kidlington, Bodicote, Hook Norton, Steeple Aston and Mollington. West Oxfordshire: Shilton, Alvescot, Northmoor, Langford, Combe and Kelmscott. Groundwater flooding also occurs in combination with main rivers. In particular, some areas of Oxford, including New Botley (January 2003) and New Hinksey (July 2007), have suffered basement flooding when groundwater in alluvial gravels has risen, driven by river flooding in the River Thames. Oxford City Council noted approximately 190 properties flooded in Hinksey Park ward by this mechanism in July 2007.
Sewers	Within the five districts the following areas have experienced sewer flooding issues: West Oxfordshire: Shipton-Under-Wychwood, Ascott-Under-Wychwood, Alvescot, Northmoor, Combe Cherwell: Spiceball Park Road, Banbury South Oxfordshire: Botley Vale of White Horse: Coleshill Oxford City: New Botley and Osney. The problems experienced in New Botley and Osney are likely to have been exacerbated by interaction with groundwater flooding, which can drive sewer flooding through infiltration into the pipes. The DG5 record of sewer flood incidents has been provided by Thames Water. This data indicates the total number of properties which have been impacted by sewer flooding (both externally and internally), per postcode area, over the previous decade. The dataset does not give exact locations of where flood incidents have occurred, only the numbers of properties effected in that area. The dataset excludes several weather events which are normally excluded from the Thames Water official DG5 reporting. There have been 127 sewer flood incidents recorded on the DG5 register for Oxfordshire.
Artificial Sources (Reservoirs/ Canals etc)	Oxford Canal is the only canal in the county. It extends from Claydon to Oxford City over a distance of approximately 78 miles. Overtopping and breaching of the Oxford Canal occurred during the July 2007 event.

4. Appendix 4 Drivers of Change

CROSS-SECTOR



SOCIAL

- Demographic change including population growth (and associated development pressures), ageing population, decline in household sizes, and an increasingly diverse population
- Geographical, inter-generational and intra-generational inequalities and deprivation, with areas of higher deprivation experiencing more need for interventions related to improving physical and mental health

ENVIRONMENTAL

- Meeting national climate targets of being carbon neutral by 2030 and carbon negative by 2050
- Need for increased adaptation across various infrastructure types to increases in frequency and intensity of extreme weather events
- Quality and design of local built and natural environment and infrastructure
- Urbanisation
- Pollution including air, water, soil, etc

TRANSPORT



- Travel patterns and preferences
- Convenience of owning a car and driving – potential reduction in parking, changes in enforcement / pricing / location of parking and route choices availability for journeys within the city
- Longer term trends in working and travelling patterns and increased home working post Covid-19
- Preference for online shopping increasing delivery volumes
- Need for more active travel in response to health crisis. Active travel being promoted through the Active Travel Strategy

- The Local Transport and Connectivity Plan (Adopted 2022) sets out ambition of net-zero transport network by 2040
- Increase in EV ownership and need for associated EV charging infrastructure
- Aim to decrease air pollution from vehicular emissions, including through the implementation of Zero Emission Zones in Oxford

SOCIAL INFRASTRUCTURE



- Increased use of remote learning (adult education) post Covid-19
- Importance of Oxford University and Oxford Brookes to the national and international reputation of Oxfordshire
- Increased need for skilled workers outside of university education

- Travel to educational establishments patterns - increasing need for improved walking and cycling infrastructure to schools
- University and educational establishment commitments to net-zero

POLITICAL, GOVERNANCE AND ECONOMIC

- Restructuring of governance through devolution and abolishment of two-tier authorities
- Political uncertainty, electoral terms, and frequent changes of legislation, policy and guidance relating to infrastructure planning, funding, and delivery
- Organisational change at infrastructure provider / monitoring companies and agencies
- Austerity and pressures on public sector budgets
- Inflation and cost of living crisis
- Aftermath of Covid-19 Pandemic
- Taxation, Grant and Incentive Schemes
- Land Management / Stewardship (changing how landowners will manage their land in future e.g. through land trusts)

TECHNOLOGICAL AND INNOVATION

- Advances in infrastructure monitoring and modelling
- Creating a 'digital twin' of infrastructure, such as the emerging vision for building a digital twin of Oxfordshire's Mobile Coverage network
- Accelerated and increased reliance and cloud computing, artificial intelligence and data-intensive services, leading to increased demand for power and water infrastructure
- Infrastructure and housing coming to the end of its natural life / offering limitations on adaptation due to design and age

- Changes in political commitment to large transport schemes
- Support for Mass Rapid Transit (MRT) schemes
- Viability and other issues leading to further potential reductions in bus services
- Support for Active and Low Carbon Travel
- Support for / shifting timescales for phasing out combustion engine cars
- Cost of EVs and maintenance and insurance of EVs
- Support for 20 mph zones, Low Traffic Neighbourhoods, and People Friendly Street
- Support for rail and bus improvements

- New logistics, freight, distribution, and consolidation models and technology
- Electric Vehicles (including cars, bikes, scooters) and rapid charging
- Driverless Vehicles
- Robot / drone Deliveries
- Demand management technologies (Smart ticketing, road pricing, GPS, etc.)
- Real time traffic / travel management
- Home working technology / faster broadband
- Online travel information
- Predictive asset management
- Biomass energy demand, demand for offsite construction etc changing freight demand
- Online Taxi Ordering, vehicle renting and sharing, etc.

- Demand for skills and training from knowledge intensive industries
- Lack of certainty on government funding for new further / higher education institutions
- Support for STEM curriculum
- Changes in immigration policy
- Support for SEND provision
- Support for workforce skills and apprenticeship training

- Remote learning / lessons / teleconferencing technology
- Implementation of artificial intelligence and other emerging technology in education

HEALTH AND SOCIAL CARE



SOCIAL

- Increased need for mental healthcare and social care
- Increasing age-related healthcare provision in line with ageing population and increased age-related conditions (e.g. chronic long-term conditions, palliative care)
- Health Crisis affecting life expectancy and healthy life expectancy
- Social isolation

ENVIRONMENTAL

- Green social prescribing
- Climate change associated health impacts (e.g. increased respiratory diseases, heat-related acute crises)
- Targets / aspirations for Net zero NHS travel / transport fleet

WATER



- Increased prevalence of home working affecting water demand in homes versus offices
- Public awareness of water scarcity, pollution and efficiency and desire for greener living and solutions

- Climate change impacting flood frequency and intensity, water availability in peak summer demand, and increasing water pollution risk through higher temperatures
- Pressures from abstraction reduction and environmental destinations reducing available water to abstract
- Rise of environmental markets generally, and Natural Capital resourcing as creating greater opportunities to identify and fund nature-based solutions for FR&WM
- State, age, and design of water, fluvial, drainage / waste water infrastructure and management systems
- Increased demand for waste water treatment. Potential to impact foul water discharge into water courses and water neutrality

POLITICAL, GOVERNANCE AND ECONOMIC

- Government NHS funding commitments e.g. New Hospitals Programme
- NHS funding and workforce crisis, exacerbated by Covid-19 pandemic
- Housing Crisis causing lack of housing for healthcare workers, especially those on lower earnings, exacerbating staff shortages
- NHS primary care multi-discipline workforce investment, particularly in non-GP roles
- More multi-disciplinary, part-time, and flexible working staff have increase the requirement for healthcare floorspace
- Move towards bringing more services into the community and boosting 'out of hospital' care
- Other NHS initiatives and regulations including 100 hour new Pharmaceutical and Local Pharmaceutical Services Regulations and an update for 100-hour pharmacies (resulting in a number of pharmacies reducing opening hours)
- Commercial opportunities in certain private care sectors and associated property investment / speculation (e.g. care homes)
- International conflict and asylum seekers (including unaccompanied children and others with need for care)
- Government reorganisation of NHS through abolishment of NHS England

TECHNOLOGICAL AND INNOVATION

- Remote care technology
- Telephone / video triage and consultation
- Digital booking / waiting room / response systems
- Access to digital media and information
- Vaccination advances
- Multi-agency working, collaboration, integration of service delivery, colocation, and information sharing across different health / care / community support organisations and disciplines
- Digital health campaigns to raise awareness in the general public

- Changes and approaches to water use policy including water neutrality in water stressed areas (DEFRA Integrated Plan for Water and Water Efficiency Roadmap)
- Government economic appraisal / weighing up cost-benefit of combatting climate change / flood risk / higher standards in flood defences (Longer term / spatially specific to areas in floodplains)
- Water industry and agricultural practices / rural management (including nutrient, soil, livestock and sewage discharge management)
- Drive to self-sufficiency in food production and the water demand and water quality implications that a move towards self-sufficiency may have
- Lack of long term financial stability of water companies as operators

- Internet of Things – Smart systems to meter and monitor water use / leaks Predictive asset maintenance
- Drive for integrated water management (flood, water availability and water quality) decentralised from monopoly water providers, increased opportunity for water utility inset company provision to manage local water solutions with smaller scale, integrated NBS based solutions
- Improvements in rainwater / grey water recycling increasing uptake of local solutions and water neutrality
- Integrated and Smart SuDS design – drainage and water supply multi-purpose usage, storage linked to rainfall sensors, etc.
- Improved reliability and confidence in integrated catchment management and Nature Based solutions (NBS) to managing water/flood issues, e.g. understanding NFM and green space for water storage and aquifer recharge
- Advances in wastewater treatment and reuse technologies for making wastewater a resource
- Increased water demand for different energy futures e.g. green hydrogen
- Increase in demand for water from carbon capture and storage advancement

GREEN INFRASTRUCTURE



SOCIAL

- Commitment in Environmental Improvement Plan 2023 (ELP23) that everyone should live within 15 minutes walk of green or blue space to overcome current inequalities in accessible natural greenspace
- Increase in demand for active travel and public transport improving GBI connectivity and opportunities
- Health crisis with diabetes, obesity, dementia, and mental health issues rising unevenly across the population. Change lifestyles and increase healthy behaviours through outdoor activity
- Increase use of Green Social Prescribing as an alternative or positive complement to other treatments
- Increase in demand for local food growing, with allotments and community orchards to support healthy eating and food awareness
- Increase in demand to organised outdoor cultural and sporting events and activities (e.g. open air concerts/ festivals park runs, etc.)
- Increase in demand for provision of larger-scale 'destination' play areas
- Increase in demand for allocated areas for exercising dogs away from other green space users/activities
- Development Pressures

ENVIRONMENTAL

- Changing flood risk patterns (intensity and frequency) from climate change and need for NBS (longer term impact very uncertain compared to medium term which is better understood). Also need for new flood defences altering relationship with water bodies
- Warmer climate (e.g. milder winters and earlier springs) and more extreme heatwaves altering habitats and species and patterns of visitor use and access to GBI. Urban Heat Island effect increasing mitigation requirement for green spaces in urban areas
- Changes to built infrastructure such as surfacing, fencing, play equipment, etc. to withstand climate impacts such as extreme heat or flooding e.g. more reflective surfaces, less heat absorbent surfaces, able to withstand submersion, etc.
- Biodiversity emergency / 'nature transition'
- Introduction of mandatory biodiversity net gain target minimum 10% in January 2024. Oxford to Cambridge Pan Regional objective of 20%. South and Vale's requirement of at least 20%.
- Adoption of 19% tree cover Oxford to Cambridge Pan Regional objective and/or 30% tree cover, reedbeds and long grasslands for carbon sequestration (NGBI) and shading
- Land management (e.g. Environmental Land Management Systems for agriculture, NBS which drive water improvements in riparian zones, management of nutrients and pesticides, potential to hold back water and improve infiltration etc). Also requirement for planting of drought resistant crops
- Pollution
- CSO and wastewater pollution pressures creating greater demand for NBS to manage flows to sewer networks (NOW / Universal)
- Changing nature of plant pests and diseases and the global trade in plants and plant products resulting in impacts on plant health

POLITICAL, GOVERNANCE AND ECONOMIC

- Rise in International, National, Regional and Local targets, policies, strategies and standards related to environmental protection, climate change mitigation and adaptation measures and GBI expectations. These include biodiversity net gain, water/nutrient neutrality, nature recovery network, green infrastructure standards (accessible greenspace, urban nature recovery, urban greening factor and urban tree canopy cover), carbon offsetting, natural capital, etc.
- Flood & Water Management Act, Schedule 3 Enactment – SuDS approval bodies
- Future land management /stewardship mechanisms and funding incl. public, private, and voluntary
- International conflict and dependencies – associated with drive towards food and fuel security and self-sufficiency
- Support for Energy Transition
- Growth in 'green industry' jobs / investment
- Changes in work patterns with more working from home resulting in greater demand for GBI in residential urban areas and improved access to the countryside
- Changing environmental regulation and legislation after Brexit e.g. changes to the WFD Regs, Habitats Regs
- Increased cost of GBI management and maintenance (fuel, labour, materials, etc.) against limited or diminishing budgets/resources availability
- Development of nature markets

TECHNOLOGICAL AND INNOVATION

- Energy transition resulting in changes to land use, landscape character and visual amenity
- Transport modal shift creating new linear infrastructure networks resulting in changes to GBI network
- Integrated and Smart SuDS design – drainage and water supply multi-purpose usage, storage linked to rainfall sensors, etc
- Improved reliability and confidence in integrated catchment management and Nature Based solutions (NBS) to managing water/flood issues, e.g. understanding NFM and green space for water storage and aquifer recharge

ENERGY & UTILITIES



SOCIAL

- Increased prevalence of home working affecting energy demand in homes versus offices
- Fuel poverty
- Changing recycling rates
- Increased prevalence of home working affecting waste generation in homes versus offices
- Increasing demand for up to date technologies
- Increase in non-recyclable PPE waste during and following pandemic, particularly from health and social care healthcare and social care
- Increased demand for homeworking and online meetings post Covid
- Increasing data usage / video streaming, higher quality / definition technologies
- Meeting demand and targets for higher mobile coverage across Oxfordshire to increase connectivity

ENVIRONMENTAL

- Landscape and environmental quality, characteristics, and designations
- Heritage / Archaeology and need for conservation
- Flood Zones
- Exclusion zones around airports, airfields, MOD sites, etc.
- Wind speeds
- Presence / quality / capacity of woodland for biofuel supply
- Characteristics of watercourses/ bodies, groundwater, geology, topography, soil and aquifers influencing current / capacity for / remediation of former landfill
- Industrial heritage / contamination
- State, age, and design of waste management infrastructure and systems
- Water courses for water source heat pumps
- Biofuels
- Geothermal options

POLITICAL, GOVERNANCE AND ECONOMIC

- Drive towards net-zero
- Support for Decarbonisation - move away from use of gas and petrol towards electric boilers, vehicles, charging infrastructure, heat pumps, district heat networks / microgrids, solar PV installations, etc. – and associated increases in electrical load demands / grid infrastructure / communal management and charging structures for new infrastructure
- Tensions between support for new renewable projects and a lack of grid capacity and time taken to approve new connections, being a major hindrance to bringing forwards permitted schemes
- International conflict & Dependencies (e.g. Russia-Ukraine conflict)
- Oil, gas and other materials security and price inflation
- Carbon pricing
- Support for net zero, waste reduction and circular economy principles including through Environment Act 2021:
 - Consistent household recycling (by 31 March 2026)
 - Weekly food waste collections (by 31 March 2026)
 - Optional / chargeable garden waste collections (by 31 March 2026)
 - For non-household municipal premises (e.g. businesses, schools and hospitals), the dates are 31 March 2025
- Sharing economy
- Drive towards / requirement for all new buildings to have full fibre broadband enabled
- Connections reform for generation
- Local Power Plan
- Clean Power 2030
- Local net zero targets - Net Zero Route Map and Action Plan
- Oxfordshire Growth Commission

TECHNOLOGICAL AND INNOVATION

- Increases in EV uptake and storage batteries is placing new demands on local grid systems
- Low Carbon industries and technologies and energy storage advances and falling prices
- Carbon capture and storage
- Unconventional hydrocarbons e.g. fracking
- Potential for increasing hydrogen demand
- Microgrids
- Building performance including energy efficiency
- Battery / energy storage technology
- Electric vehicle charging demand
- Increased demand for energy consuming devices / applications increasing energy demand
- Smart systems to monitor, store, produce and generate heat and electricity
- Smart grid / demand management
- Energy from Waste
- Advances in materials technology (e.g. increased recycling capabilities, new biodegradable materials production)
- Online reselling platforms
- Upcycling, reprocessing, and recycling technology and processes
- Industrial symbiosis as part of the circular economy
- Planned obsolescence / planned capacity to upgrade products
- New changing technologies and materials creating new need for processing waste, particularly batteries, magnets, nuclear and solar energy materials etc.
- Internet of things
- Robotics and photonics for use in value extraction
- Offsite construction
- 5G and other advances in higher capacity, faster, more reliable / lower latency data connectivity solutions
- Efficiency gains in mobile spectrum usage
- Satellite technology
- Cloud technology
- Wireless technology
- Flex services to manage peak demand
- Dynamic Load Averaging
- 5th generation heat networks

5. Appendix 5 Glossary of Abbreviations and Acronyms

Acronym	Meaning
AI	Artificial Intelligence
ALS	Abstraction Licensing Strategies
AMP	Asset Management Plan
AMR	Annual Monitoring Report
AONB	Area of Outstanding Natural Beauty (also known as National Landscape)
ASD	Autism Spectrum Disorder
AWS	Amazon Web Services
BBOWT	Berks, Bucks & Oxon Wildlife Trust
BCIS	Building Cost Information Service
BOB ICB	Buckinghamshire, Oxfordshire and Berkshire West Integrated Care Board
BOS	Banbury Ornithological Society
BSIP	Bus Service Improvement Plan
BSP	Bulk Supply Point
BT	British Telecoms
BUPA	British United Provident Association
CAMS	Catchment Abstraction Management Strategies
CBF	Clinical Biomanufacturing Facility
CCG	Clinical Commissioning Group
CDC	Community Diagnostic Centre
CE	Church of England
CFMP	Catchment Flood Management Plan
CIC	Community Interest Company
CIL	Community Infrastructure Levy
CPO	Compulsory Purchase Order
CRC	Cross Regional Contract
CSO	Combined Sewer Overflows
DCO	Development Consent Order
DEFRA	Department for Environment, Food and Rural Affairs
DFES	Distribution Future Energy Scenarios
DHSC	Department of Health and Social Care
DNO	Distribution Network Operators
DNOA	Distribution Network Options Assessment
DRT	Demand Responsive Transit

Acronym	Meaning
DSIT	Department of Science Innovation and Technology
DSO	Distribution System Operators
DWMP	Drainage and Wastewater Management Plans
DYAA	Dry Year Annual Average
DYCP	Dry Year Critical Period
EA	Environment Agency
EEH	England's Economic Heartland
EHCP	Education Health Care Plan
EOG	Executive Officer Group
ESFA	Education and Skills Funding Agency
EU	European Union
EV	Electric Vehicle
EWR	East West Rail
FCERM	Flood and Coastal Erosion Risk Management
FCRM	Flood and Coastal Risk Management
FE	Form Entry
FR	Flood Risk
FRA	Flood Risk Assessment
FRMP	Flood Risk Management Plan
FTE	Full Time Employment
FTTP	Fibre to the Premises
FWA	Fixed Wireless Access
FWAG	Farming and Wildlife Advisory Group
GDNO	Gas Distribution Network Operator
GBI	Green & Blue Infrastructure
GI	Green Infrastructure
GP	General Practitioner
GPS	Global Positioning System
GSP	Grid Supply Point
GVA	Gross Value Added
GWh	Gigawatt-hour
GWR	Great Western Railway
HV	High Voltage
ICB	Integrated Care Board
ICP	Integrated Care Partnership
ICS	Integrated Care System
IDP	Infrastructure Delivery Plan
IDS	Infrastructure Delivery Strategy
IL	Infrastructure Levy
INMSS	Independent and Non-Maintained Special Schools

Acronym	Meaning
JSNA	Joint Strategic Needs Assessment
LFRMS	Local Flood Risk Management Strategy
LHA	Local Highway Authority
LLFA	Lead Local Flood Authority
LNRS	Local Nature Recovery Strategy
LPA	Local Planning Authority
LTCP	Local Transport and Connectivity Plan
LTDS	Long Term Development Statement
LTN	Low Traffic Neighbourhood
LURA	Levelling Up and Regeneration Act
MCA	Multi-Criteria Assessment
MHCLG	Ministry of Housing, Communities and Local Government
MMC	Modern Methods of Construction
MOD	Ministry of Defence
MRN	Major Roads Network
MRT	Mass Rapid Transit
MW	Megawatt
MWh	Megawatt-hour
NBS	Nature Based Solutions
NFM	Natural Flood Management
NHS	National Health Service
NHSE	NHS England
NISTA	National Infrastructure and Service Transformation Authority
NMU	Non-Motorised User
NPPF	National Planning Policy Framework
NSIP	Nationally Significant Infrastructure Project
OCC	Oxfordshire County Council
	Water Regulations Service Authority
OFWAT	<i>*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.</i>
OLJC	Oxfordshire Leaders Joint Committee
ONS	Office for National Statistics
ORCS	Oxfordshire Rail Corridor Study
OUFC	Oxford United Football Club
OUHT	Oxford University Hospital Trust
OxIS	Oxfordshire Infrastructure Strategy
OXSFRI	Oxfordshire Strategic Rail Freight Interchange
PBP	Place Based Partnership

Acronym	Meaning
PCSO	Police Community Support Officer
PPE	Personal Protective Equipment
PRFA	Preliminary Flood Risk Assessment
PV	Photo Voltaic
RAG	Red Amber Green
RBOR	Reconnecting Bernwood, Otmoor and the Ray
RIS	Road Investment Strategy
RMA	Risk Management Authority
RS	Rivers and Sea
RSPB	Royal Society for the Protection of Birds
RTPI	Real Time Passenger Information
SAB	Sustainable Drainage Approval Body
SATN	Strategic Active Travel Network
SCAS	South Central Ambulance Service
SE	South East
SEMH	Social, Emotional and Mental Health
SEN	Special Educational Needs
SSEN	Scottish & Southern Electricity Networks
SEND	Special Educational Needs and Disabilities
SEP	Strategic Economic Plan
SEPD	Southern Electric Power Distribution plc.
SESRO	South East Strategic Reservoir Option
SFBB	Super Fast Broadband
SGN	Southern Gas Networks
SIC	Standard Industrial Classification
SODRP	Storm Overflow Discharge Reduction Plan
SRFI	Strategic Rail Freight Interchange
SRN	Strategic Road Network
SRT	Sustainable Rapid Transit
SSEN	Scottish & Southern Electricity Networks
SSSI	Site of Special Scientific Interest
STEM	Science, Technology, Engineering and Mathematics
STW	Sewage Treatment Works
SUSTRANS	National Cycle Network
SVATN	Science Vale Active Travel Network
SW	South West
SWOX	Swindon and Oxfordshire
TBC	To Be Confirmed
TCP	Transport and Connectivity Plan
TPI	Tender Price Index

Acronym	Meaning
TRFCC	Thames Regional Flood and Coastal Committee
TVP	Thames Valley Police
TW	Thames Water
TWUL	Thames Water Utilities Limited
UK	United Kingdom
UKPN	United Kingdom Power Networks
USO	Universal Service Obligation
WAFU	Water Available for Use
WFD	Water Framework Directive
WINEP	Water Industry National Environmental Programme
WISP	Wireless Internet Service Provider
WM	Water Management
WODC	West Oxfordshire District Council
WRMP	Water Resources Management Plan
WRSE	Water Resources South East
WRZ	Water Resources Zone
WWTW	Waste Water Treatment Works
WWU	Wales and West Utilities

Source: AECOM

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