IN PARTNERSHIP WITH

MAYOR OF LONDON

LONDON COUNCILS

2025 London Infrastructure Framework

Delivering the core economic infrastructure needed to unlock growth

Project Overview

1. Introduction

London's Growth Plan sets out a clear vision for how our city's economy will thrive in the years to come and deliver on ambitious targets[1] to build the homes that Londoners need. World class, robust and resilient infrastructure is needed to meet this vision for growth and housing, and support decarbonisation in the face of climate change.

London Councils produced the first London Infrastructure Framework in 2023, bringing together the views of London's 33 local authorities to agree their infrastructure priorities. With the publication of the growth plan, it is now time for London government at all levels to refresh the infrastructure framework during 2025. This early overview shares our intended direction of travel, which the **2025 London Infrastructure Framework (LIF) refresh** will build on.

The 2025 LIF refresh will set out the infrastructure needed to unlock sustainable, climate-resilient economic and housing growth in the capital. Alongside setting out London's infrastructure priorities to deliver on the vision of the London Growth Plan, the LIF will align with the development of the London Plan and other strategic processes. We also recognise the need to support government's emerging 10-year National Infrastructure Strategy, the merger of the National Infrastructure Commission and Infrastructure Projects Authority into the National Infrastructure and Service Transformation Authority (NISTA), and the value of aligning London's analysis of its infrastructure needs with these national developments where possible, to allow for meaningful comparison between different potential investments and projects.

Investment in London's infrastructure will support the government's growth and energy missions and its National Industrial Strategy. London government wants to work with national government and the National Wealth Fund to attract the public and private sector investment to support our infrastructure priorities to drive economic growth in the capital.

[1] In December, the government published a revised National Planning Policy Framework with mandatory housing targets for London of 88,000 new homes per year.

The LIF will use a strategic lens to first consider needs and then lay out the most important themes and projects across London's 'economic infrastructure'[2], including: transport, energy, water and flood defences/measures and digital connectivity. While social infrastructure, waste and delivering green spaces across London are significant priorities for London, these are covered elsewhere, such as the London Green Infrastructure Framework.[3] There will be close collaboration across relevant teams to ensure that there is a coherent approach across all of London's infrastructure needs.

The refresh will draw on existing evidence including subregional and borough-level Local Area Energy Plans, Integrated Water Management Strategies, London's Net Zero Projects Pipeline, borough local plans and Transport for London's Business Plan as well as undertaking new analysis to fill gaps.

Engagement with national and local stakeholders will be key part of the development of the LIF during 2025. Feedback on the direction of travel set out in this document is also welcome, please get in touch at contact.infrastructure@london.gov.uk.

2. Core economic infrastructure priorities

2.1. Transport

London's public transport and active travel network is fundamental to its economic and cultural vitality, its journey to net zero and adapting to climate change. Investment in the city's transport and active travel infrastructure will be essential to achieving the government's ambitions for growth, housing delivery and tackling carbon emissions. The 2025 LIF refresh will review the infrastructure investment needs identified by boroughs and Transport for London (TfL) in the 2023 document and engage key partners such as Network Rail to identify wider priorities that support the growth agenda. Two areas are highlighted as priorities for the LIF to expand on.

2.1.1. Unlocking homes and jobs through strategic network enhancements

Extending the public transport network and boosting the capacity of existing lines can provide the essential connectivity needed to achieve the government's ambitions for housing and growth. The Mayor and TfL, in partnership with local boroughs and wider government and private sector stakeholders, have identified three priority strategic enhancement projects to deliver on London's vision for growth:

- Docklands Light Railway (DLR) extension to Thamesmead

[2] Aligned to the National Infrastructure Commission's definition.
[3] We also note the government's hospital and the healthcare building project and we will continue to make the case for investment for a growing city.

- Bakerloo line extension (BLE)
- West London Orbital (WLO)[4].

In addition, the Mayor and TfL are seeking devolved control of select suburban rail services that would allow TfL to deliver 'Metroisation'. This would transform the user experience through better integration with the wider public transport network and 'turn-up-and-go' service frequencies, while unlocking a step-change in housing delivery in locations close to suburban stations.

The devolution of the London Overground lines to TfL provides a clear demonstration of the benefits that can be delivered through this approach. Since TfL took over five Network Rail franchises from 2007 to 2015 it has delivered higher usage, higher levels of passenger satisfaction, and more reliable services. These improvements have underpinned the delivery of around 70,000 additional homes within 800m of London Overground stations – or around 16 per cent of all housing built in the capital since 2010.

Taken together, the three priority enhancement projects above and Metroisation have the potential to unlock at least 100,000 homes and a similar number of jobs. They are essential to delivering on the new London target for 88,000 homes per year.

These priority schemes sit alongside the range of interventions identified in the 2023 LIF that will unlock growth, such as Stratford and East Croydon interchanges, for example. It also remains essential to maximise the impact and opportunities from the Elizabeth Line and, in the long-term, Crossrail 2, which has the potential to transform connectivity in the southeast and unlock 200,000 homes. Building on the success of the Superloop bus routes linking economic hubs such as town centres and industrial sites, delivering orbital transport routes to support London's increasingly polycentric economy is also vital. Delivering strategic enhancements that support active travel are also a key part of the solution to delivering a transport network that supports economic growth, housing and public health.

There is also currently much discussion about aviation capacity and infrastructure in the South East, including improving surface access by public transport to airports. The Mayor's and many boroughs' views on this are well known. Further information on proposals relating to a third runway at Heathrow is expected this summer, the implications of which will be considered as part of the Infrastructure Framework.

[4] See appendix for further detail on these schemes.

2.1.2. Renewing and improving the existing network

Following a decade of inadequate and short-term funding, we are working with government to agree a multi-year capital funding settlement for London transport to safeguard the performance of the network and deliver essential upgrades to life-expired assets.

TfL faces a £6bn infrastructure renewals backlog and boroughs are similarly struggling to keep pace with essential investments. A multi-year settlement would create a stable funding environment where TfL can cover required renewals and contribute towards the cost of replacement and enhancement schemes, ensuring that the transport network continues to underpin London's economic productivity. TfL is already seeking to invest c.£1bn a year in capital renewals funded through its own operating income. However, like other transport authorities around the world, TfL cannot fund its capital projects entirely itself. Long-term funding deals are already in place with Network Rail, National Highways, and eight other city regions across the United Kingdom. London needs similar certainty.

Boroughs maintain 95 per cent of London's roads, as well as much of the supporting infrastructure from flyovers to pedestrian crossings, footways and cycle lanes, lighting, drainage and street trees or pocket parks. Long-term funding solutions are needed to fix the huge backlog in maintaining these assets more efficiently to keep London moving and support active travel and public realm enhancements.

2.2. Energy

To achieve London's ambitions for growth and to decarbonise toward net zero, significant changes are required to London's energy systems, and quickly. The Mayor's Accelerated Green net zero pathway gives a high-level blueprint for how London could achieve net zero by 2030, and boroughs have also identified their own net zero targets.

To take this forward, the Mayor has funded subregional Local Area Energy Plans (LAEPs) across the city in collaboration with London Councils, boroughs, and energy utilities, and boroughs are working towards full borough-level LAEPs; together, these identify the scale of change required across the subregion, provide an indication of priority actions and form the basis for further detailed work at the local level identify.

The LIF refresh will draw on this detailed analysis to identify key energy themes and projects for London. Currently three focus areas are highlighted as priorities for the LIF to expand on.

2.2.1. Network capacity and demand management

Significant electrification is needed to move London's energy system away from fossil fuels for heating and transport. As homes are retrofitted and heat pumps are fitted heat pumps, and as more electric cars require

charging, the demands on electricity infrastructure are increasing—requiring investment to increase network capacity.

Government and the energy regulator Ofgem have both recognised that existing electricity infrastructure, and the process for investing in the network, is no longer able to meet the UK's needs. They intend to speed up network upgrades and find capacity within the existing infrastructure to address this. City Hall is working with government, Ofgem and National Grid, along with West London Alliance and West London Business, to determine how new and upgraded transmission circuits can be expedited and what further measures can be introduced in the interim, both to resolve particular issues – such as capacity constraints experienced in West London[5] - but also ensuring that reforms to the connections process benefits the acceleration of infrastructure delivery across London and deliver certainty to development.

Alongside investment to improve energy network capacity, it is also important to look at other solutions to manage demand for electricity. Energy networks pass on the cost of their investments to bill payers across the UK. A way to mitigate this is by making full use of the physical infrastructure that is already in place by shifting demand to different times of the day through flexible energy use (supported by technologies such as batteries and innovations around electric vehicle charging infrastructure). Flexibility tenders allow electricity networks to incentivise consumers to do this, and there is a need to expand their use across London. Recognising the urgency of these issues for UK economic growth, Government and regulators should also be open to solutions outside the regulatory asset base financing model in order to bring forward investment more swiftly.

2.2.2. Solar PV

London needs to generate more of its own electricity by installing solar photovoltaic (PV) panels. Currently, London is not making full use of its solar power potential, even though boroughs have a pipeline of 54 solar PV and battery projects worth £34m in development. Solar power is affordable, and when a building uses solar power that is generated locally, it can potentially reduce the burden on the electricity system as a whole. When paired with battery storage, solar PV can help balance the grid. There is potential for broad rollout across London and the Mayor has a target of 1.5GW of installed capacity by 2030.

2.2.3. Heat Networks

[5] Updates on the West London electricity capacity constraints issue and solutions that have been introduced to mitigate them can be found here: https://www.london.gov.uk/programmes-strategies/better-infrastructure/infrastructure-coordination/development-service/west-london-electricity-capacity-constraints

Alongside electrified heating, rollout of heat networks will be an essential component of London's energy transition. Heat networks can provide low-cost, low-carbon heating often by leveraging waste heat sources such as the tube, sewer networks and data centres, and are particularly crucial where homes are unsuitable for heat pumps.

London requires strategic transmission corridors for heat networks to distribute key sources of waste heat, as well as smaller scale distribution networks to connect buildings and existing communal heat networks. Thermal storage is also needed to make best use of the heat produced and provide flexibility to the electricity grid. Heat networks fall under the regulator Ofgem, and their rollout will be guided by government, City Hall and boroughs through heat network zoning, beginning with Advanced Zoning Pilots. City Hall has identified seven strategic areas to target heat network rollout, based on existing heat sources and other factors, with support from London Councils. City Hall and boroughs will work together to frame the strategy, delivery models and local engagement needed to implement these networks and secure benefits for bill payers and the local green economy.

2.3. Water and Flooding

London has been a pioneer in water management, leading the way in the Victorian era with Bazalgette's modern sewer system. However, now a much bigger city than it was then, London faces new challenges: ensuring there is sufficient clean water to support growth, reducing flooding as sea levels rise and storms increase and cleaning up our rivers.

2.3.1. Water Supply

London, along with the wider southeast, faces increasing demand for new water resources due to population growth, climate change, drought risk, and environmental improvements.[6] Alongside reduced consumption and an efficient and modernised water network, new resources are an essential component of making London's water supply more resilient. Large-scale infrastructure projects will be critical in delivering these new resources, in addition to numerous other, smaller schemes.

Working with partners will be essential, as some of the critical infrastructure required to meet London's needs sits outside its boundaries such, as the South-East Strategic Reservoir Option (SESRO) located in rural Oxfordshire, and which will provide 150m cubic metres of drinking water. The Mayor has urged Ofwat and Defra to prioritise the scheme, and it has undergone informal consultation in 2024. Thames Water are on track to submit an application to the Planning Inspectorate in 2026, seeking the powers to build the new reservoir. Construction of

[6] Thames Water forecasts that by 2035 an additional 376m litres of drinking water a day is needed. This rises to 1,060m litres a day by 2050.

the reservoir itself will take a decade, so must begin in 2029 if it is to be operational by 2040. Failure to maintain this timetable will put increased pressure on the southeast's water resources and so it must be prioritised.

2.3.2. Flooding, Wastewater and River Health

As climate change alters weather patterns, London is at risk of flooding both from rivers and from drainage that become overwhelmed with rainwater during storms.

The River Thames' current flood defences – which are ageing and in need of repair – were not built to cope with rising sea levels and more frequent storms in the North Sea, that are increasing the risk of flooding in London. The Thames Estuary 2100 (TE2100) plan has been developed by the Environment Agency, which is responsible for protecting London from river flooding. The Mayor has supported calls for the plan to be made statutory, and for a statutory instrument to be put into place enabling an investment plan to be finalised and the works to be completed to meet deadlines.

To address the risks of surface water flooding, London urgently needs to reduce its hard surfaces and install systems that can slow down the flow of water into sewers. The London Surface Water Strategy is taking a catchment-based approach to managing flood risk. New surface water catchments, comprised of boroughs and other partner organisations, will work collaboratively to plan and deliver solutions across the city. Sustainable Drainage Systems (SuDS) will be prioritised with delivery ramped up, alongside upgrades to existing infrastructure and vital community engagement work to prepare Londoners for surface water flood risks. To achieve these ambitious aims, the new catchment partnerships will require support and funding, with £40m annual investment identified. Alongside funding and investment, new delivery mechanisms, such as the SuDS market-based solution, will also be needed to scale delivery.

Upgrades are also needed to London's wastewater treatment works to ensure they treat our water safely and efficiently as London grows. The measures described under Surface Water Flooding are also critical to improve wastewater management in London.

The Mayor has set ambitious goals in the next 10 years to work with stakeholders to deliver a plan to make London's waterways cleaner and healthier. This plan will need to set out how to tackle multiple problems, of which sewer overflows are one, working with catchment partnerships to deliver complex solutions. The Thames Tideway Tunnel is essential to meet this goal; it is a £4.5bn project building a 25km tunnel to capture sewer overflows into the River Thames, achieving cleaner, healthier waterways. London also faces pollution from water flowing off roads, and misconnections of pipework by landowners as well as a need to improve access for Londoners to our waterways.

Water supply, flooding and river health are all interconnected, and water needs to be considered at the catchment or river-basin level to understand the system as a whole. Water management is also very complex with many organisations having responsibility for different aspects of the water cycle. To address this, we need Integrated Water Management Strategies (IWMSes) that align activities across partners and identify risks and interdependencies, and reinforce the catchment-led approach taken by the London Surface Water Strategy. The Mayor has funded an initial pilot subregional IWMS for the Lea Valley, and through the London Climate Resilience Review implementation, will fund further IWMSes in priority locations. These will be identified through a pan-London study underway now. This key data and modelling will feed into the framework refresh.

2.4. Digital Connectivity

Good progress has been made to improve London's digital infrastructure capability – which we know drives economic growth and social inclusion[7] – driven largely by private sector investment supported and coordinated by City Hall and subregional partnerships and via borough initiatives. Transport for London's network has also been used to drive fibre into underserved areas and addressed planning policy issues to improve consistency. However, London's mobile capacity is still creaking.

2.4.1. Mobile Capacity

With more people using mobile connectivity on more devices, mobile data use is expected to grow 14 times over the next 10 years. Current upgrade plans by operators will not keep up. London's particular density, building height and complexity make it harder for mobile operators to provide a good user experience.

To address this, mobile connectivity needs to be treated as a strategic, citywide infrastructure priority to ensure mobile connectivity standing critical infrastructure is delivered at the pace needed. Ofcom and Government must allow increased collaboration and interventions between the public and private sector. There is also a need to secure public funding to continue leveraging TfL's Connected London network to address capacity challenges, particularly in underserved areas and busy places.

Meanwhile, the Mayor will continue to support subregions to drive collaboration for enhanced digital coverage and support pan-London partnerships to spread best practice. The Mayor will also work in partnership with boroughs

[7] Deployment of full fibre across the capital could boost labour productivity by £22 billion by 2030;[7] whilst widespread adoption of 5G is projected to generate £159 billion in productivity benefits by 2035 across the UK, with London modelled to receive £42 billion in GVA.[7]

and the private sector to deliver new gigabit fibre broadband connections to public buildings in areas with poor connectivity, enabling high-speed, secure fibre and mobile connections for underserved areas.

This will build on London's strong track record, with subregions supporting boroughs to develop streamlined approaches to working with telecoms companies, opening up local authority street assets in order to install 5G infrastructure. Working together, boroughs have put in place open access agreements saving both operators and local authorities time and money and enabling communities to benefit from faster and more reliable mobile coverage.

2.4.2. Commercial Investment in Full Fibre

Like other cities, London has seen commercial investment in full fibre slowing down, following rising interest rates and slow take up of their networks. This is leading to market consolidation, acquisitions, and mergers across the UK. Around 8% of London remains without gigabit capable infrastructure of which around 1.3% is served by copper only. Because cities are currently not eligible for Government funding to address this, London may fail to secure both private investment in underserved areas as well as public funding to do the same.

Key business sectors such as finance, creative, digital, IT and manufacturing will all require scalable capacity delivered to their key sites, industry sector clusters or business parks. This requires additional investment into the delivery of dark fibre and business grade digital infrastructure. Whilst this is being made in the key commercial centres of central London it remains absent in much of outer London. The telecommunications industry needs to be encouraged and stimulated to widen the footprint of its service delivery if London is to deliver on its growth aspirations.

London needs to drive up adoption of fibre services including by supporting residents and businesses to better understand the benefits of switching from copper to fibre. This will help unlock more private investment particularly in underserved areas as industry is more likely to concentrate their build efforts in places with less competition. Local authorities also need the resources from Government to support digital champions who will align councils' digital infrastructure ambitions across departments.

As part of the London Infrastructure Framework refresh, we will also look closely at the delivery and need for data centres in London and how to balance the benefits they bring with the challenges they create. Data centres may also site outside the GLA boundaries where land and power supplies are less constrained. This may include looking spatially to understand locations most suitable for data centre development and the role of the planning system. Finally, we will continue to work with utilities to improve data centre forecasting, so that the electricity networks are prepared for their arrival.

3. Delivery considerations

3.1. Communities, Good Design and Social Value

The infrastructure improvements described here are paramount to maintaining quality of life for all Londoners, and Londoners need to have a say in the way this is rolled out. Historically, infrastructure delivery has sometimes ignored the interests of underserved communities. The partners will champion infrastructure delivery that is well-designed, inclusive and responsive to the needs of local people. Consultation and engagement processes must reflect this priority. The framework refresh will speak to this, alongside the physical upgrades that are needed.

3.2. Funding, financing and innovative mechanisms

Delivering the infrastructure needed to unlock sustainable, climate-resilient economic and housing growth in the capital will require collaboration, intervention and investment from across the public and private sector. This includes innovative mechanisms to maximise the impact of these investments and generate wider economic and social benefits. The full LIF refresh will consider funding routes, financing options and innovative mechanisms (or mix of these) to provide a clearer roadmap for delivery.

3.3. Coordinated delivery and ‘Dig Once’

Given the scale and complexity of many of the infrastructure enhancements required to meet London’s needs, and given the number and type of stakeholders involved, coordinating and streamlining delivery is going to be essential. The full refresh should consider how best to do this in the short, medium and longer-term, building on best practices and strategies already implemented in London.

As the enhancements to London’s infrastructure are rolled out, in many cases this will require digging up London’s roads to reinforce, replace or add new pipes and cables. The ‘Dig Once’ approach can help minimise disruption to Londoners, by convening utilities, telecoms, heat network providers and others to undertake collaborative streetworks. The LIF refresh will considers delivery efficiency and how City Hall and TfL can work with borough partners to scale up the ‘Dig Once’ approach.

Taking a longer-term and more strategic lens, a whole system approach to planning for energy infrastructure (such as the local area energy planning work undertaken by the GLA), creates the blueprint for more efficient delivery of the changes needed to our energy infrastructure to reach net zero. It does this by considering the

range of different technologies needed and spatially identifies where each might be most suited (for example, to help decarbonising heat demand in buildings, identifying whether locations are suited to heat networks or heat pumps). This creates a coordinated spatial approach to infrastructure roll out, ensures efficiency and avoids a patchwork of technologies with associated disruption impacts.

3.4. Other Plans and Strategies

The framework refresh will acknowledge that infrastructure delivery occurs through a host of plans and strategies produced by different organisations. The framework will need to consider how a 'golden thread' can be established that links it with various investment plans, development plans, and Infrastructure Delivery Plans, among others. The consenting process may also warrant further consideration.

3.5. Procurement Routes

Experience has shown that the procurement of telecommunications infrastructure by public sector bodies can be lengthy and complex; typically taking up to a year. This can be shortcut through the use of frameworks (eg Crown Commercial Services) or existing GLA/TfL Contracts. However, the requirements are likely to be diverse and complex with a wide range of service requirements by sector and location and differing suppliers having the expertise to deliver to each market segment. There may be a requirement to explore a blend of existing and new procurement channels (eg Dynamic Purchasing System).

3.6. Subsidy rules

Subsidy rules limit the ability of the public sector bodies to directly invest in digital infrastructure. This constrains the ability to fund new infrastructure where there are gaps in the market or new growth areas. In the past this has been overcome by the public sector using the infrastructure itself to deliver public services, which in turn has anchored further commercial investment. Alternatively, the public sector could invest in programmes providing it can demonstrate it is a commercial investment without subsidy.

4. Conclusion

London is a world-class city, and it needs world-class infrastructure to continue to thrive. We have already undertaken work across organisations and partners to ensure London's infrastructure will be fit for purpose, but more is needed to meet our ambitions for growth. By refreshing the London Infrastructure Framework in 2025, we

can speak with one voice across London government to build consensus around our priorities and the tools to deliver.

Appendix 1: Detail on priority transport schemes identified

DLR extension to Thamesmead: Thamesmead Waterfront and Beckton Riverside are two of the largest remaining brownfield sites in London. There is a prime opportunity to deliver on the government's growth ambitions and housing targets by unlocking 145 hectares of brownfield land and establishing two new residential communities of 25,000 to 30,000 homes and 10,000 jobs.

While the opportunity is huge, the development potential of these sites and the regeneration of the wider community in Thamesmead is constrained by the lack of direct access to rail services. This project would see the extension of the DLR from Gallions Reach in Newham under the Thames to Thamesmead via a new station at Beckton Riverside.

TfL is progressing the scheme towards Transport & Works Act Order, working in close partnership with the London Borough of Newham, Royal Borough of Greenwich, Homes England and key landowners. The aim is to submit an application for delivery powers at the end of 2026. Subject to a successful consent and confirmation of funding the scheme could open by the early 2030s, and potentially earlier with the right support from government.

West London Orbital: The West London Orbital project seeks to create a new, sustainable public transport connection between town centres in west London. It would involve an extension of the London Overground between Hounslow and Hendon/West Hampstead via Old Oak Common using existing underused freight lines, serving four new and up to ten existing stations with four to six trains per hour.

The scheme would serve five Opportunity Areas and could support the delivery of at least 15,800 homes in West London, while enabling the accelerated delivery of additional developments more sustainably, increasing density and reducing car dependency. The West London Orbital is predicted to support 11,500 jobs including at key growth areas such as Old Oak Common, with 450,000 more people enabled to reach the Old Oak Park Royal Development Corporation (OPDC) area within an hour's commute. It would significantly increase the number of jobs accessible within 50 minutes of deprived areas along the route, including Harlesden, Neasden and Brent Cross, and improve interchange options and network resilience around the new HS2 and Elizabeth Line stations at Old Oak Common

TfL and the West London Alliance boroughs are working closely together to develop the business and funding case for the scheme, which could be delivered by the early 2030s.

Bakerloo Line extension: Extending the Bakerloo line from Elephant & Castle to Lewisham would be transformative for London. The extension is projected to deliver £1.5bn in Gross Value Added (GVA) per annum and would better connect south-east London, creating 10,000 local jobs and bringing an additional 85,000 jobs to

within 45 minutes of Lewisham, while unlocking the delivery of 20,400 new, public transport-connected homes. Critically, the project would improve access for some of the most deprived communities in London, making it easier to reach job opportunities, drawing inward investment and helping to tackle inequality.

Investment in new rolling stock to replace the ageing Bakerloo line fleet is a prerequisite to the extension. The Bakerloo line is one of the busiest passenger railways in the country with almost 100 million journeys made every year, but its 1972 train fleet is the oldest in regular passenger service in Britain. New trains would mean increased services that are reliable and comfortable. TfL will continue to assess options for the long-term funding package needed to make the project a reality. Subject to funding and planning, the extension could be delivered by the late 2030s.