

# Transport for London Business Plan

2019/20 to 2023/24

**MAYOR OF LONDON**



**TRANSPORT  
FOR LONDON**  
EVERY JOURNEY MATTERS

## About Transport for London (TfL)

Part of the Greater London Authority family led by Mayor of London Sadiq Khan, we are the integrated transport authority responsible for delivering the Mayor's aims for transport.

We have a key role in shaping what life is like in London, helping to realise the Mayor's vision for a 'City for All Londoners'. We are committed to creating a fairer, greener, healthier and more prosperous city. The Mayor's Transport Strategy sets a target for 80 per cent of all journeys to be made on foot, by cycle or using public transport by 2041. To make this a reality, we prioritise health and the quality of people's experience in everything we do.

We manage the city's red route strategic roads and, through collaboration with the London boroughs, can help shape the character of all London's streets. These are the places where Londoners travel, work, shop and socialise. Making them places for people to walk, cycle and spend time will reduce car dependency and improve air quality, revitalise town centres, boost businesses and connect communities.

We run most of London's public transport services, including the London Underground, London Buses, the DLR, London Overground, TfL Rail, London Trams, London River Services, London Dial-a-Ride, Victoria Coach Station, Santander Cycles and the Emirates Air Line. The quality and accessibility of these services is fundamental to Londoners' quality of life. By improving and expanding public transport, we can make people's lives easier and increase the appeal of sustainable travel over private car use.

We are moving ahead with many of London's most significant infrastructure projects, using transport to unlock growth. We are working with partners on major projects like Crossrail 2 and the Bakerloo Line Extension that will deliver the new homes and jobs London and the UK need. We are in the final phases of completing the Elizabeth line which, when open, will add 10 per cent to central London's rail capacity.

Supporting the delivery of high-density, mixed-use developments that are planned around active and sustainable travel will ensure that London's growth is good growth. We also use our own land to provide thousands of new affordable homes and our own supply chain creates tens of thousands of jobs and apprenticeships across the country.

We are committed to being an employer that is fully representative of the community we serve, where everyone can realise their potential. Our aim is to be a fully inclusive employer, valuing and celebrating the diversity of our workforce to improve services for all Londoners.

We are constantly working to improve the city for everyone. This means freezing TfL fares so everyone can afford to use public transport, using data and technology to make services intuitive and easy to use, and doing all we can to make streets and transport services accessible to all. We reinvest every penny of our income to continually improve transport networks for the people who use them every day.

None of this would be possible without the support of boroughs, communities and other partners who we work with to improve our services. We all need to pull together to deliver the Mayor's Transport Strategy; by doing so we can create a better city as London grows.

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Image 1: Working to improve London's transport future

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# My vision for London

We must keep cutting costs, as we invest in London's future.

When I was elected in 2016, I was clear that TfL needed to become leaner and more efficient. That's why I challenged it to undertake the biggest organisational overhaul in its history to help put it on a sustainable financial footing. This meant major structural changes to remove duplication and reduce tiers of management, as well as cutting the use of expensive temporary contracts and negotiating better deals with suppliers.

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## **A well-functioning transport network is the lifeblood of any great city, so we must keep investing in ours**

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Now, two and a half years on, it is a very different organisation. Under our direction, TfL has been restructured to bring together previously disparate functions, with a smaller senior management team. It has also substantially reduced its use of consultants and ended an expensive, ineffective private partnership contract.

We have slimmed down TfL, while keeping a relentless focus on the safety and quality of the services it runs. Despite losing, on average, £700m a year in operating grant from the Government, we have kept our promise to freeze TfL fares, preserve

concessions and introduce the Hopper fare, making travel more affordable for millions of Londoners. I am convinced this is where TfL's efforts must continue to be targeted as, above all else, it exists to serve the people of our city.

Like any large company, TfL must keep revising its Business Plan to reflect the national economic context. The closer we get to the UK leaving the European Union, the worse those forecasts become. It is no surprise that TfL's demand forecasts are considerably lower than they were two years ago.

I have made clear to TfL's leadership where their focus must remain as they respond to these financial pressures. It has already reduced its year-on-year, like-for-like operating costs for the first time in its history and this must become an established trend. They must also continue to prioritise the delivery of our Transport Strategy, because the future of transport in London cannot be put at risk by the uncertainty associated with Brexit.

A well-functioning transport network is the lifeblood of any great city, so we must keep investing in ours. Over the next five years, TfL will launch new safety measures, including a world-leading Bus Safety Programme; the Ultra Low Emission Zone alongside a host of hard-hitting measures to clean up London's air;

and a large programme of major capacity improvements, including upgrades to four London Underground lines, the Northern Line Extension to Battersea and a major upgrade of Bank station. TfL will continue to develop plans to build Crossrail 2 and extend and upgrade the Bakerloo line. Also, the opening of the Elizabeth line will add 10 per cent to central London's rail capacity.

I was extremely disappointed and frustrated when it was determined that the Elizabeth line would not be ready to open at the end of this year. As one of the joint sponsors, TfL's immediate attention must be on working with the Government and Crossrail Limited to complete the project, so that Londoners and businesses can start to see the benefits of the new infrastructure they have helped pay for.

We know that delays cost money. Since the announcement at the end of August 2018, that the central section of the Elizabeth line would be delayed, we have been in detailed discussions with the Government about how the additional cost of this delay to Crossrail can be met. We have accepted that London should pay any additional capital costs over time, and the Government has agreed to assist with financing those costs in the short term. However, the Government has refused to provide any support for the fare income TfL will forego because of the delay. Given that fare income from the Elizabeth line was part of the Government's rationale for removing TfL's operational grant funding in the first place, which means the Government is essentially forcing London to pay twice – first, with the removal of the operating grant and now in its refusal to assist with the revenue impact of the delay to the opening of the Elizabeth line.



Image 2: Mayor Sadiq Khan

In the next twelve months, there will likely be a review of spending across the whole of Government. With an uncertain future outside the European Union, investors need confidence that London will be supported by genuine and sustained investment.

Under my leadership – and with this Business Plan in place – TfL will continue to bear down on costs so that it can keep London moving and growing despite the very serious financial headwinds. But this can only go so far. We have agreed a way to pay the extra costs for Crossrail, but not without extreme difficulty. Over the next year, we will continue to make the case to the Government that it must recognise and play its part in supporting our capital's economy and investing in our infrastructure.

A handwritten signature in black ink, appearing to read 'Sadiq Khan', written in a cursive style.

**Sadiq Khan**  
Mayor of London

# Overcoming new challenges

We will eliminate our deficit while supporting the Mayor's vision for travel in London.

The Mayor's Transport Strategy is clear in its objective that by 2041, 80 per cent of journeys will be made by walking, cycling and public transport compared with around 63 per cent today. Travel will be healthier, easier and more affordable for everyone in London.

There is a great deal to deliver to realise that vision. As the Mayor's Transport Strategy describes, we will only really change how Londoners choose to travel if we transform London's streetscape. Once streets are more pleasant, healthy and accessible, more people will walk and cycle. Work has to continue to deliver a world-leading public transport network that provides value for money and gets people to their destination safely and quickly. Transport is a big enabler of all the great things that go on in London – so we must do our part to keep our city growing by improving transport links and so help to create new homes and jobs.

There are four major factors affecting the outlook over the next five years:

- Adapting to the loss of, on average, £700m per annum operating grant from central Government, which used to offset the cost of day-to-day services
- A subdued national economy, which has affected passenger numbers on public transport nationally

**For each of the last two years, we have reduced our year-on-year like-for-like operating costs and will do so again this year**

- The delay announced by Crossrail Limited to the opening of the Elizabeth line, which affects both capital costs and operating revenue
- The absence of any funding from central Government for the maintenance of London's strategic road network

We are now more than halfway into the first financial year in our history during which we will receive no direct Government operational grant for our day-to-day running costs. This means that over the last seven years we have had our external sources of funding cut in half. We knew this fundamental change was coming and we have been preparing for it by making significant changes to how we run our organisation: for each of the last two years we have reduced our year-on-year like-for-like operating costs and will do so again this year.

But as well as the obvious reality of simply having far less available income to continue subsidies of public transport

services and road maintenance, this change to our funding makes us far more exposed to macroeconomic factors affecting our city. This first year without grant funding has coincided with tough conditions that have meant passenger numbers are lower in the context of a subdued London and UK economy.

That financial pressure is compounded by the extremely disappointing announcement from Crossrail Limited that the opening of the central section of the Elizabeth line would be delayed. This Business Plan reflects our latest forecasts for the additional capital cost, as well as lost fares and commercial income as a result of the delay.

Faced with these external headwinds, we have had to be very clear about our position and what we can afford.

First, we will prioritise safety. We will continue to work towards Vision Zero and the elimination of fatalities from our transport network. We will continue to work with the tram industry across the UK to deliver the Rail Accident Investigation Branch's recommendations on our tram network in south London, following the tragic overturning at Sandilands two years ago. And we will continue to maintain all of our rail and road network to a safe level, despite receiving no share of the financial support the Government provides for road maintenance everywhere else in the country.

We will eliminate our deficit through our savings plans and by growing our non-fare income. Our new growth strategy has a greater focus across our property development, consulting, advertising and retail activities to build our revenues and make the most of



Image 3: Commissioner Mike Brown MVO

commercial opportunities. Those cost savings and new revenues will allow us to keep investing in the new infrastructure London needs to support its growth and remain the economic engine of the UK.

This is a challenging but deliverable plan for the next five years. Our performance over the last two years has shown we can successfully save money and reduce costs quickly and safely. We must become financially resilient, particularly as the UK approaches the uncertainty of leaving the European Union, and this plan will provide that. It will require us to work constructively with the trade unions so that together we can become a more efficient, productive and diverse team. It is the plan we must deliver if we want to continue to give London the transport system it needs to cement its place as a great world city.

A handwritten signature in black ink, consisting of a stylized 'M' followed by a horizontal line and a shorter horizontal line below it.

**Mike Brown MVO**  
Commissioner

# The financial context

We are responding to changing economic conditions and the impact of the delay to the Elizabeth line.

Our 2017 Business Plan set out how we would turn an operating deficit into a surplus by 2021/22 and restore a sustainable cash balance. This would provide both resilience against external shocks and the ability to invest without a long-term capital grant. We provided more detail on the first year of this plan in our 2018/19 Budget.

In the last year, we have more than delivered on that Business Plan and Budget. We have continued to cut costs and expect to significantly beat our financial targets at the end of this financial year. This means that we will have made solid progress in reducing our operating deficit caused by the withdrawal of our operating grant from the Government and changing economic conditions.

However, in response to a subdued national economy, we have had to revise our revenue forecasts down again this year. This means that, over a five-year period, we are now forecasting to receive £2.1bn less in revenue than we had in our 2016 Business Plan (excluding the Elizabeth line) – this is a reduction of seven per cent. We must also respond to the cost impact of the delay, announced by Crossrail Limited, to the opening of the Elizabeth line.

In this Business Plan, we set out a comprehensive programme of investment across London, to deliver

safe and reliable transport services and continue to deliver the Mayor's Transport Strategy. However, we need to adjust our plans to reflect the financial impact of prevailing economic conditions and the delay to the opening of the Elizabeth line.

We will continue to eliminate our operating deficit, but we will achieve a net operating surplus one year later than previously planned, in 2022/23. We are reliant on steady and sustained investment from the Government to support major capital projects. While we are planning to follow the roll-out of new trains on the Piccadilly line with new signalling and then to upgrade the rest of our deep Tube lines, such large-scale investment will not be possible without capital funding from the Government. We will therefore be discontinuing the current signalling procurement while we work with suppliers to find the best way forward. These pressures have a similar effect on major station projects, including the work to transform Camden Town station.

We have no certainty of capital funding beyond 2020 and over the next twelve months we will be making the case to Government for confirmed capital support to enable these critical projects. At the same time, we will continue our successful programme of cost reduction across our organisation, and work to create new revenue streams. ■

## Spotlight

### Meeting the additional costs for Crossrail

On 31 August 2018, Crossrail Limited announced to the joint sponsors, Department for Transport and TfL, that the Elizabeth line would be delayed. This is obviously a huge disappointment. Londoners and businesses had made plans on the basis of the new line opening at the end of this year, but the delay also has specific capital funding and revenue impacts.

Crossrail Limited requires additional capital funding to complete much of the railway infrastructure, including the final fit out of the tunnels and the construction of the stations in the central section. Crossrail Limited must then test the integrated systems to ensure that the finished infrastructure, signalling systems and new trains all work together to deliver a safe and reliable service. As a joint sponsor, alongside the Government, we must find a way of funding the additional capital cost of the delay to the project together.

The interim findings of the KPMG review into Crossrail Limited's finances indicate the capital impact of the delay could be in the region of between £1.6bn and £2.0bn. That includes the £300m already contributed by the Department for Transport and us in July 2018.

The Mayor and the Government have agreed a financing package to cover these additional costs, which will see the Greater London Authority providing TfL with grant funding for £1.4bn of additional

cost, and a loan facility from Government to provide further contingency if needed. This package will see London pay for the additional costs in full over time.

No further capital funding is needed for the train rolling stock contract, as this was arranged for a fixed price. The trains are already in service on TfL Rail and are ready for dynamic testing once the central section infrastructure has been completed.

Separately, the delay means we will not start receiving fares and commercial revenue from the line until later than expected. We expect many customers to continue using existing Tube and DLR services until the Elizabeth line opens. Until a credible and robust schedule has been confirmed, we are making a cautious assumption that our revenue forecast will be approximately £600m lower over the plan period. This will be offset by our savings and revenue growth programmes, allocating a small portion of our business rates funding to operating expenditure, and moving back the date by which we expect to achieve an operating surplus by one year. We will also explore with the Department for Transport the possibility of beginning to operate Reading to Paddington services ahead of the completion of the Elizabeth line.

Our revenue assumption will be revised once the new management of Crossrail Limited have completed their work on a new delivery schedule.



Image 4: We will support the Mayor in creating a safer, healthier and more prosperous London



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# Delivering the Mayor's Transport Strategy

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# The strategy and vision

Investing in air quality and connectivity so London remains globally competitive and an attractive place to live and do business.

The strategy sets out how London can prosper as it grows over the next two decades, supported by huge improvements to the transport system and the Mayor's vision for active, affordable, efficient and sustainable transport.

The Mayor has the aim that, by 2041, 80 per cent of trips will be made on foot, by cycle or using public transport. This Business Plan sets out the progress we expect over the next five years and, beyond that, to set us on the path to achieve this ambition.

## Healthy Streets and healthy people

Investment will focus on improving the experience of being in the places where people live, work, go to school, spend time and travel. Reducing traffic dominance

and prioritising walking, cycling and public transport use will help Londoners live active, healthy lives and help create a city that works well for all of its residents.

### More

cycling and walking



### Transform

junctions for pedestrians and cyclists



### Vision

## Zero

target for road safety



Work towards nobody killed on or by a bus by

## 2030



Purchase only

## zero-emission

single-deck buses from 2020

Develop the infrastructure for

### electric taxis



### World's first

Ultra Low Emission Zone launches



### More

integrated deliveries



## A good public transport experience

The right investment will ensure that public transport becomes an increasingly attractive alternative to using a car. Proper planning for the whole journey will help integrate public transport and

street-level investment. Making sure the right services are available where people need them, reducing overcrowding and keeping fares affordable will help to reduce car dependency.

Keep all TfL fares   
**frozen**  
until 2020

**More**  
bus services for outer London   


**100%**  
step-free access on the Elizabeth line 

**More**  
automatic refunds for maximum fares 

**4**  
  
London Underground lines to get extra capacity

**54**  
new state-of-the-art trains for London Overground 

**Improve**  
taxi rank accessibility 

## New homes and jobs

Transport improvements are vital to the creation of new homes and jobs, and can ensure that London's growth supports healthy lives. Our investment will help to create communities where

local amenities are within walking and cycling distance and public transport is available for longer journeys, protecting the environment and improving quality of life.

 Develop sites for **10,000** homes on our land (50 per cent affordable since May 2016)

Develop plans for **Crossrail** 

**2** new river crossings in east London 

Develop plans to extend the **Bakerloo** line 

## Making the vision a reality

London's economic success has been a key part of the increases we have seen in sustainable travel. More people, more jobs and more investment has meant that Londoners and visitors have increasingly made sustainable choices for how they get around.

## We expect the percentage of trips made on foot, bicycle or public transport to increase to around 65 per cent by 2024 – the highest in London since TfL was formed

This Business Plan comes at a challenging time for London, with a continuing and unprecedented squeeze on incomes and the uncertainty over Britain's future relationship with Europe after exiting the European Union.

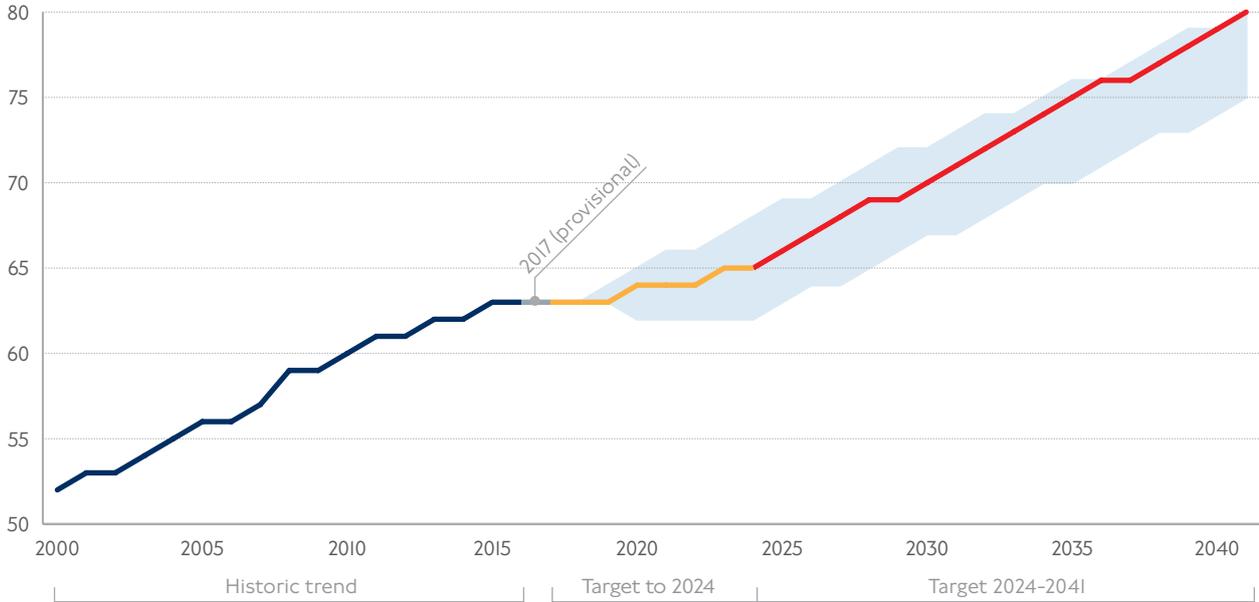
London's growth has slowed in recent years. There are fewer new migrants and lower growth in the number of younger working-aged adults – both groups who are less likely to use cars when travelling. The squeeze on incomes and wider changes in customer behaviour have added to a continued decline in travel around London for shopping and leisure activities.

The future remains uncertain. London's economic position is likely to be affected by the UK's exit from the European Union in at least the short to medium term and there is no clear indication of when disposable incomes are likely to increase.

Our investment programme will make it easier and more attractive to travel by sustainable methods of transport. We expect the percentage of trips made on foot, bicycle or public transport to increase from 63 per cent currently to around 65 per cent by 2024, although this could be slightly higher or lower depending on the factors described above. This is up from 52 per cent in 2000 and would be the highest this has been in London since TfL was formed.

Our work over the next five years will enable faster delivery of the Mayor's Transport Strategy and progress will also increase if London's economy strengthens. We will continue to make the case for steady and sustained investment in London's future and will carry forward policies that will further reduce travel by car, with these trips replaced by increased walking, cycling and use of public transport.

**Figure I: The expected path to achieving the Mayor’s Transport Strategy aim that 80 per cent of trips will be made by foot, by cycle or using public transport by 2041**



The shaded region shows the range of outcomes and risk to achieving the target.

## Healthy Streets and healthy people

Our Business Plan will create Healthy Streets that promote walking, cycling and public transport, and we will ensure the safety and security of everyone in London.

### Safety and Vision Zero

Safety is always our number one priority and we are working to eliminate death and serious injury from our transport network by 2041. Together with our partners, we must take systematic action to achieve the goal of Vision Zero.

The Vision Zero action plan, published in July 2018, sets out our approach with specific focus on improving the safety of the road network. Action includes a proposal to lower speed limits on those parts of the Transport for London Road Network where people are most at risk. We are fast-tracking improvements at a number of locations currently identified in the Safer Junctions programme to reduce danger.

We are implementing a world-leading Bus Safety Programme to drive major improvements in safety across the bus network and reduce the number of people who are killed or seriously injured in, or by, London buses by 70 per cent by 2022, against 2005-09 levels. This includes the development of the world's safest



Image 5: We will make London's streets safer as we work to

buses through the Bus Safety Standard for the city's entire bus fleet, as well as in-depth collision analysis and new, innovative bus driver training.

We will also launch the world's first Direct Vision Standard and an associated Heavy Goods Vehicle (HGV) Safety Permit

# 70% ▼

fewer people killed or seriously injured on, or by, a bus by 2022



# 1 million

more walking trips a day by 2024



towards the Vision Zero target

Scheme to reduce the danger posed by HGVs. As part of the scheme, in 2024 we will ban from London's streets all HGVs with a zero- to two-star rating under the Direct Vision Standard, unless they are fitted with a Progressive Safe System, which could include cameras and sensors.

We will focus relentlessly on improving safety across our rail and Tube networks. We have comprehensive programmes in place to reduce customer and staff injuries, and we are making particular progress in responding to the Rail Accident Investigation Branch's recommendations for our tram network in Croydon and throughout the wider UK industry.

## Spotlight

### Active travel

We are investing record amounts in walking and cycling, supporting efficient and healthy ways to get around the city. Nearly half of car trips by Londoners could be cycled in around 10 minutes, and more than a third could be walked in under 25 minutes. We want people to have the opportunity to do two 10-minute periods of brisk walking or cycling a day, which is enough to avoid the greatest health risks associated with inactivity. We want to enable more than one million additional walking trips a day by 2024.

Over this Business Plan, we are investing £2.3bn on Healthy Streets. This will fund transformative projects to enable more walking and cycling across London. This includes investment in Liveable Neighbourhoods in local areas and the Safer Junctions programme to reduce road danger. London's cycle network will continue to grow, including major new high-quality cycle routes connecting communities between Brentford and Olympia, Tower Bridge and Woolwich, Tottenham and Camden, Hackney and the Isle of Dogs, and from Lea Bridge to Dalston.

Our new Healthy Streets Activation programme brings together the most effective and proven measures, such as projects at schools, to support people using new infrastructure and help Londoners from all communities enjoy walking and cycling.

We have already installed a range of new safety measures on the tram network and will introduce a further new system that will physically prevent trams from speeding in high-risk areas of the network. The tragedy at Sandilands in November 2016 can never be allowed to happen again.

Our work to keep the network safe and secure is always done in close collaboration with the Metropolitan Police Service and the British Transport Police. We will maintain existing investment in policing dedicated to keeping our customers and staff safe across London's roads and public transport network. We will work with our policing partners to identify efficiencies and savings to keep that investment focused on providing dedicated policing on our network.

#### More efficient use of our streets

Using the street network more efficiently will support London's growing population and economy. We will continue to improve our traffic control systems, which will help us tackle congestion, but we must also reduce demand on London's street space. By enabling safe, clean and more efficient freight trips and encouraging people to use more space-efficient methods of transport, we are aiming to reduce

overall traffic levels by 10 to 15 per cent by 2041.

We are working with freight operators, London's businesses and the boroughs to develop plans to make this a reality. This means delivering the same or greater amount of goods with fewer deliveries, retiming and re-routing trips to quieter times and streets, moving freight onto rail and water where possible, and helping more last-mile deliveries to be made on foot, by cargo cycle and using ultra low emission vehicles.

We are working with the boroughs on the development of their Local Implementation Plans, which will include actions to reduce traffic in their local areas. We will continue to investigate new, more sophisticated models of road user charging, including the full range of measures described in the Mayor's Transport Strategy.

Where car trips still need to be made, we will encourage alternative models of car use, such as car clubs. These models can reduce the need for car ownership and private parking, improving the efficiency of street space. Making more efficient use of the street network will improve London's streets for everyone and support future growth in population and employment.



## 28%

reduction in NO<sub>x</sub> pollution through the extension of the Ultra Low Emission Zone



## 10-15%

reduction in overall traffic levels by 2041

Spotlight

## Cleaner bus routes for London

Low Emission Bus Zones are a key part of reducing London bus emissions and support the Mayor’s wider target of raising our entire fleet to at least the ultra-clean Euro VI engine emission standard by 2020.

Together with the Mayor, we are leading by example by implementing 12 Low Emission Bus Zones to tackle the worst pollution hotspots outside central London. We are doing this by concentrating the cleanest buses on the dirtiest corridors. As of autumn 2018, seven zones are live:

- Putney High Street
- Brixton to Streatham
- High Road to Green Lanes
- Camberwell to New Cross
- Wandsworth to St John’s Hill
- A12 Eastern Avenue to Homerton Road
- A5 Edgware Road, Kilburn to Maida Vale

The Low Emission Bus Zones represent the most extensive network of low emission zones of any major world city. Within these hotspots, Londoners have been exposed to some of the highest levels of nitrogen dioxide (NO<sub>2</sub>) pollution, with older buses contributing to road-side emissions.



Image 6: Cleaner bus routes in London

All of our scheduled buses travelling along the Low Emission Bus Zones will meet at least the cleanest engine standard, through a combination of new vehicles and upgrading mid-life buses with ultra-clean exhaust systems.

We are working to launch more zones and we continue to retrofit specialist equipment to older buses along the Low Emission Bus Zones and introduce new buses in line with new contracts. This is bringing immediate benefits to those areas as each retrofitted bus emits a fraction of the harmful emissions, while others are brought up to this ultra-clean standard.

The benefits of operating cleaner buses will be felt across the capital, as the full length of bus routes take them beyond the Low Emission Bus Zones and further from the centre of London. The changes are expected to reduce bus emissions across the 12 zones by up to 80 per cent.

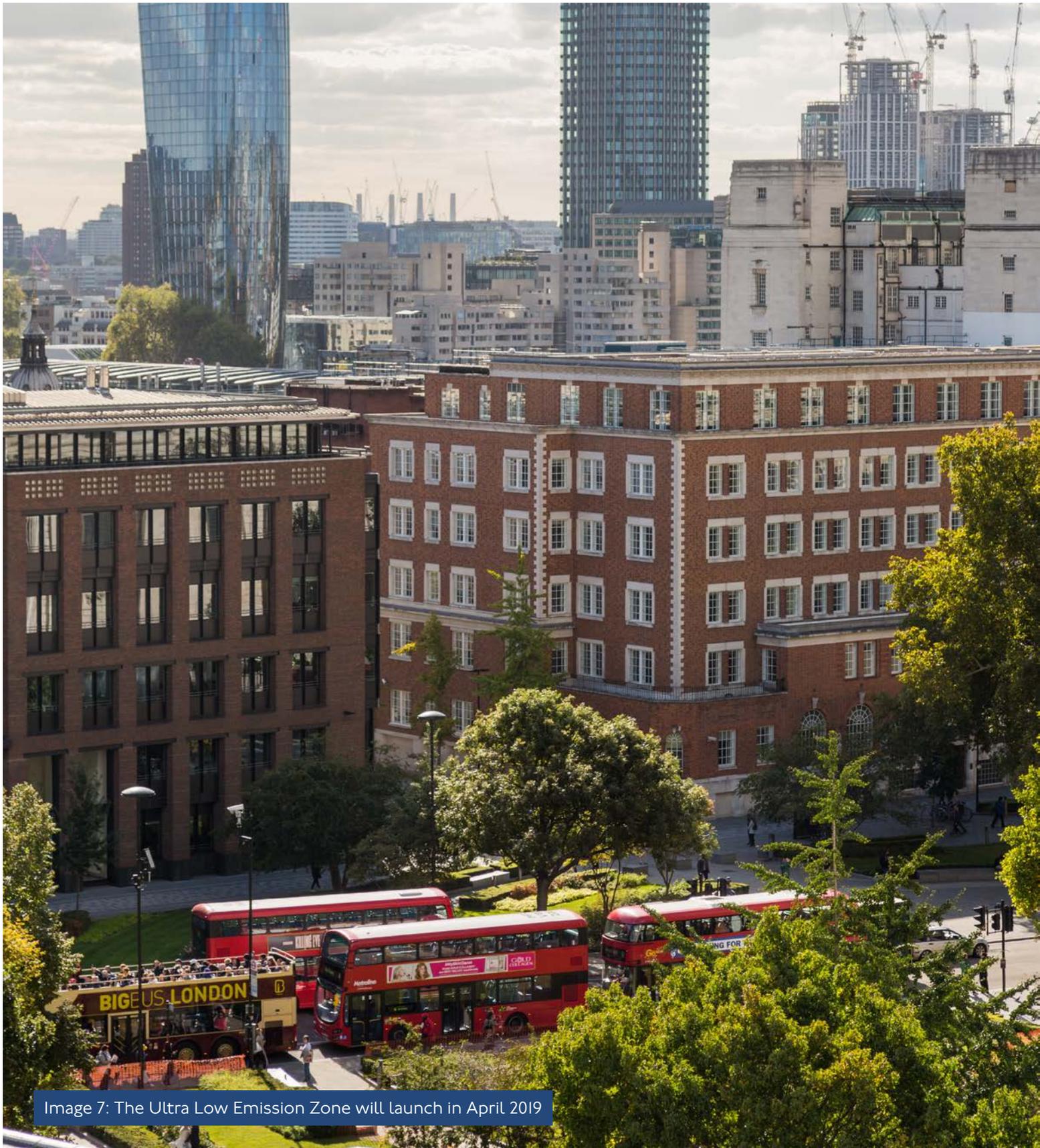


Image 7: The Ultra Low Emission Zone will launch in April 2019

### Improving air quality

We continue to invest significant resources to clean London's air.

The Mayor announced in March 2018 that the Ultra Low Emission Zone will be introduced in central London in April 2019. This will replace the existing T-Charge and will require most vehicle types, including all cars, motorcycles and vans, entering central London at any time of day to pay a daily charge of £12.50, with heavy vehicles, like lorries, paying £100 unless they meet minimum exhaust emissions standards.

## We are delivering Europe's biggest electric double-deck bus fleet, helping us to achieve a zero-carbon city and improve air quality

In October 2020 the Low Emission Zone standard, covering buses, coaches and lorries across London, will be strengthened, with vehicles required to meet the Euro VI standard to avoid paying the daily charge.

The Ultra Low Emission Zone will then be extended to the North and South Circular roads in October 2021 for all vehicles. These schemes will deliver significant improvements to London's toxic air, reducing NOx pollution by 28 per cent.

We need to support people in choosing cleaner ways to travel, and will continue our investment in rapid charging points,

delivering 300 by 2020. A number of these points will exclusively support taxis, because all newly licensed taxis are now required to be zero emission capable.

We must lead the way with our own network and have now introduced seven Low Emission Bus Zones, which are already recording lower pollution levels on some of London's dirtiest traffic corridors. By the end of 2019, we will introduce a further five zones - this is earlier than the Mayor's previous target of 2020. Every new double-deck bus entering the fleet is now either a hybrid or zero-emission vehicle and from 2020, all single-deck buses entering the fleet will be zero emission. We are also delivering Europe's biggest electric double-deck bus fleet, helping us to become a zero-carbon city and improve air quality. Currently there are more than 150 zero emission buses in London and we are working toward making all buses zero emission at tailpipe by 2037.

With a greater need than ever to make sure that our public transport network works for London and enables a healthier city, we are working hard to improve every aspect of journeys for Londoners.

## A good public transport experience

We are expanding the transport network to meet the needs of a growing city. The Elizabeth line opening will be supported by bus service changes and improvements to walking and cycling facilities around stations to deliver an attractive whole-journey experience.

We will open the Northern Line Extension to Nine Elms and Battersea Power Station and also extend the London Overground from Barking to Barking Riverside in east London. We will also continue to develop plans to build Crossrail 2 and to extend and upgrade the Bakerloo line, DLR and tram networks.

### Transforming the world's oldest metro

We continue to modernise the Tube to provide faster and more reliable journeys.

We will deliver state-of-the-art signalling on the Circle, District, Hammersmith & City and Metropolitan lines, significantly increasing capacity at peak times. We will move forward with the modernisation of the Piccadilly line, beginning with new trains to provide more comfortable and reliable journeys. We will continue to make the most of investment on the Jubilee and Northern lines by running more frequent services.

To maximise this investment, we will upgrade capacity at some of our busiest stations, including Bank, and progress the scheme at Holborn, while continuing to add step-free access across the network.

The opening of the Elizabeth line will mark a step-change in transport connectivity, bringing 1.5 million more people within 45 minutes of central London.

## Making London's railways work better

In many places the rail network could be delivering more. We have shown on London Overground how we can improve the service for customers and run one of the best services in the country. We will continue to campaign for local rail services from Victoria, London Bridge and Moorgate to be transferred to us.

We will introduce a fleet of new trains on the London Overground network to increase capacity and frequency. We are introducing new electric trains on the Gospel Oak to Barking route, the extension to Barking Riverside once complete, the Watford Junction to Euston route and on services out of Liverpool Street to Cheshunt, Chingford and Enfield Town. We will also increase capacity and frequency on the Richmond/Clapham Junction to Stratford route. We will continue to progress our plans to introduce a new train fleet for the DLR network, increasing its capacity and helping people to live and work in east London.

### Modernising our bus network

With more than six million journeys a day, buses provide safe, affordable and accessible travel across all parts of London.

To support the Vision Zero action plan across the transport system, we are delivering a world-leading Bus Safety Standard. We will invest in bus priority initiatives and the bus fleet to deliver better, more reliable journeys by cleaner buses.

Construction of the Silvertown Tunnel will provide an opportunity to create new cross-river bus links in east London. We will also expand bus services in outer London, with new services like the express XI40 from Heathrow to Harrow, connecting more Londoners to high-quality public transport and supporting the delivery of new homes.



## Spotlight

### Working with London's boroughs and local communities

It has been a big year, both for transport in London and for the boroughs, following the local elections in May.

We are committed to working in close partnership with the newly elected and re-elected borough administrations, as well as the City of London Corporation to understand their priorities.

From improving the affordability and accessibility of local public transport to creating healthy streets, new homes and jobs, we will work together to deliver the many hundreds of schemes that will fundamentally change the way people live and move around our city.

We know that many of these areas are complex and that we will need to work collaboratively to make it all happen.

That is why we have made a commitment to work more closely with the boroughs and local communities to have a better understanding of the priorities so more people have an opportunity to get involved in creating plans.

From holding regular meetings with elected members and transport officers, to attending a wide variety of neighbourhood forums and community group events, we want to connect the local conversations back into our business.

London's boroughs have told us that they need stable, long-term funding to be able to plan properly and deliver effectively. This Business Plan maintains overall borough funding at the levels of our previous plan.

**Making rail travel more accessible**

We are continuing to invest in improvements to make the Tube more accessible for all Londoners. Following the introduction of step-free access at Buckhurst Hill, Victoria and Newbury Park stations in 2018, there are now 76 step-free Tube stations on the network. This represents 28 per cent of all London Underground stations.

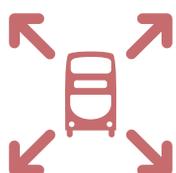
Finsbury Park and South Woodford will be the next stations to benefit from investment in accessibility and we will be building new lifts and walkways to provide step-free access at a further 12 stations. Osterley, Amersham, Harrow-on-the-Hill, Cockfosters, Mill Hill East, Burnt Oak, Debden, Northolt, Sudbury Hill, Wimbledon Park, Hanger Lane and Ickenham will be step-free by spring 2020. As well as these 15 stations, which are part of the London Underground accessibility programme, other stations are also being improved for accessibility as part of other programmes, such as the Elizabeth line stations including Ealing Broadway and Whitechapel. That means, by 2020, 34 per cent of all London Underground stations will be step-free.

We are also working to deliver further step-free stations, including Boston Manor, Ruislip, North Ealing, Snaresbrook, Park Royal and Rickmansworth. These stations remain funded but will be

delivered by the end of 2023/24, two years later than planned. We are also investigating more efficient ways of making stations step-free, such as awarding a new lower-cost lift contract and building components off-site.

Alongside our improvements to accessibility on the London Underground network, we are seeking funding to make more of London's rail stations step-free. Together with the Mayor, we submitted a recommendation to the Government for the next tranche of Access for All funding on 16 November. This covers the period from 2019 to 2024. Our recommendation includes 21 stations on the National Rail network where we consider that improvements to accessibility should be prioritised to deliver the objectives of the Mayor's Transport Strategy, as well as those specified by the Department for Transport.

The Department for Transport manages the Access for All fund and will determine which stations are successful. A final decision by the Department for Transport is expected in spring 2019. Any stations selected will be subject to a design process before they are considered for progression to the construction and delivery phase to ensure that the provision of step-free access is economically feasible at the station concerned.

**Expanding**

bus services in  
outer London

**34%**

of Tube stations will  
be step-free by 2020

## Spotlight

### Our vision for the future of London's bus network

The role of the London bus is evolving. Our network sees more than six million journeys every day with more than 9,300 buses, 25,000 drivers and 675 routes.

Buses connect communities across London and help everyone to get around, whoever they are and whatever they do. To run these vital services, by 2020, we will subsidise it by more than £700m a year. This is an increase of 25 per cent since 2015/16 and will be the highest annual bus subsidy in our history. We must make sure that we use this money to deliver a modern, efficient bus service.

Our ambitious plans will see us deliver the world's biggest and greenest bus network outside China. This will help to achieve the Mayor's vision of more journeys by active, efficient and sustainable services, costing less to run and attracting more customers.

To do this, we must target the network more effectively – making sure buses are in the right places at the right times, to deliver the best service. There is now a clear opportunity to adapt the bus network in central London, in response to a combination of lower bus demand, enhancements to the Tube, improvements for walking and cycling, and the introduction of the Hopper fare, which enables passengers to make unlimited bus journeys for the price of one if changing buses within the hour.



Image 9: We are modernising the bus network

By restructuring the bus network, we can still provide a high-frequency service in central London, while investing in other London routes. This is crucial not only to control our year-on-year operating costs and deliver an affordable transport system for Londoners, but to enable the network to be expanded in parts of London where better public transport will have the biggest impact on reducing car use and delivering healthier streets.

We are innovating bus service provision, including trialling a demand-responsive service in outer London and considering plans for new tram-like bus transit schemes in areas with major growth.

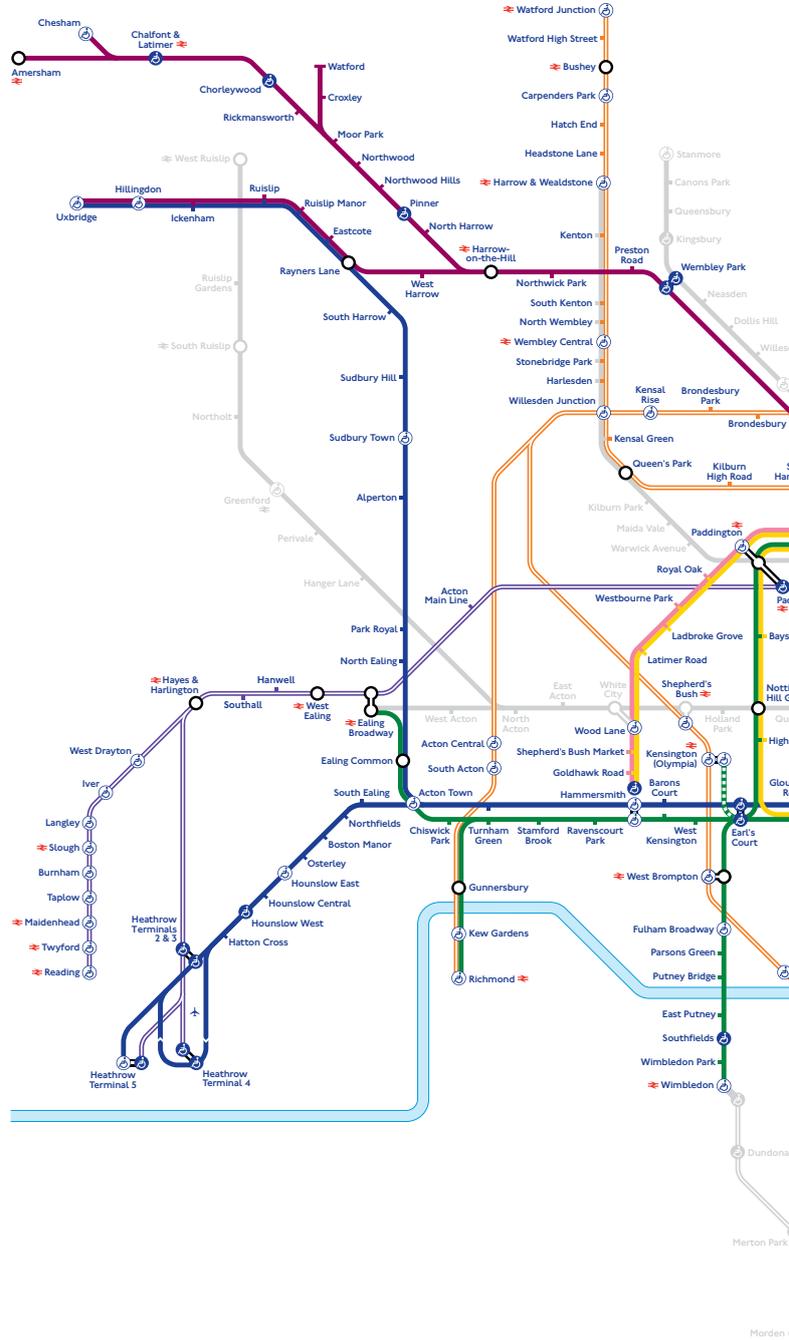
**Figure 2: Improving travel across London**

Our investment programme covers almost all of our network. Over the next five years we will complete a number of significant infrastructure schemes and kick off more major projects – transforming people’s experience of public transport in London.

Journeys have already been improved by new trains on the Circle, District, Hammersmith & City and Metropolitan lines. By 2023, we will have brought in new state-of-the-art signalling on those lines and be on the way to bringing in new trains on the Piccadilly line.

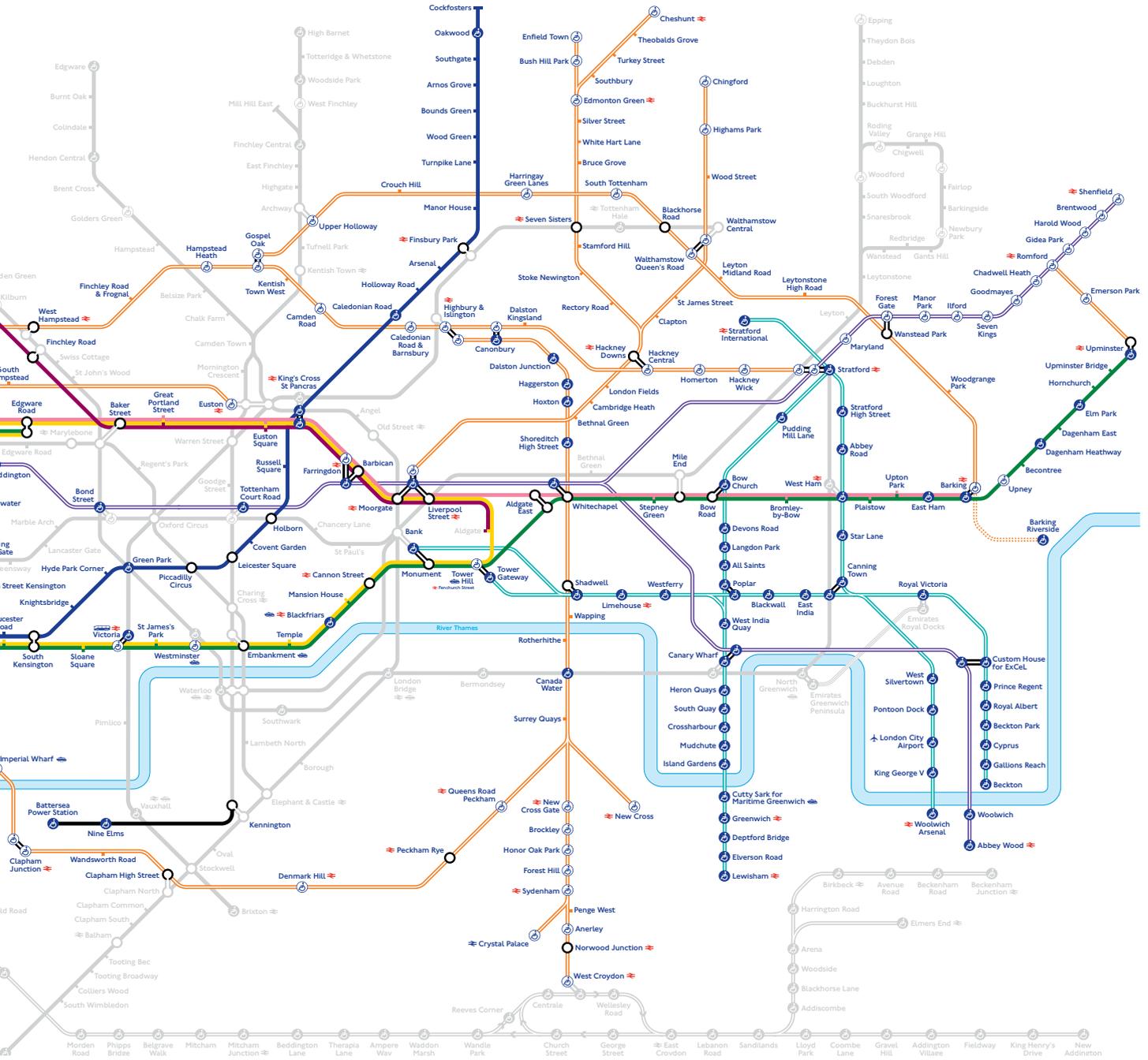
We are introducing new trains on the Overground network and progressing the procurement of new trains on the DLR. The new trains will improve frequency and increase overall capacity.

The Elizabeth line will have opened and we will have begun construction on the extension of the London Overground to Barking Riverside.



**Key to lines**

<b>Elizabeth line</b>	<hr style="border: 1px solid black;"/>	<b>Four Lines Modernisation</b>	<hr style="border: 1px solid black;"/>	<b>Line extensions</b>	<hr style="border: 1px solid black;"/>
Elizabeth line	<span style="color: purple;">==</span>	Circle line	<span style="color: yellow;">—</span>	Northern line	<span style="color: black;">—</span>
<b>Deep Tube</b>	<hr style="border: 1px solid black;"/>	District line	<span style="color: green;">—</span>	Barking Riverside	<span style="color: black;">—</span>
Piccadilly line	<span style="color: blue;">—</span>	Hammersmith & City line	<span style="color: pink;">—</span>	London Overground	<span style="color: orange;">⋯</span>
		Metropolitan line	<span style="color: purple;">—</span>		



New rolling stock programmes

- DLR —
- London Overground —



Image 10: New schemes are designed to encourage more people to cycle and walk

## New homes and jobs

We will work to improve all of our transport services, which directly support London's growth.

### Embedding sustainable travel

London can only continue to grow if we encourage more journeys to be made by space-efficient modes, such as walking, cycling and using public transport. The Healthy Streets Approach, which provides a framework for promoting active travel, is being embedded across our organisation and the boroughs. All new developments will need to encourage walking and cycling, and reduce car use, in order to tackle congestion and help Londoners to live active, healthier lives.

Major new schemes to unlock growth are being developed to deliver Healthy Streets outcomes. An extension and upgrade to the Bakerloo line is one of the best examples of how we could improve connectivity, increase the capacity of the transport network and reduce journey times to key destinations. This would support development and regeneration in southeast London and, in particular, the provision of vital new homes. Over the next five years, we will work to refine the proposals to extend and upgrade the Bakerloo line and explore delivery options.

A new cycling and walking crossing between Rotherhithe and Canary Wharf would create a sustainable transport link between two Opportunity Areas, that together, are expected to support more than 36,000 new homes and 112,000 jobs.

We are working with the boroughs to develop proposals to support active travel within suburban areas through our Liveable Neighbourhoods programme, which will help to create higher density development, particularly in outer London.

### Unlocking opportunities

As part of this Business Plan, we will continue to develop proposals for Crossrail 2, so that a Hybrid Bill can be submitted to Parliament. The scheme is a catalyst for growth across London, unlocking up to 200,000 new homes and supporting 260,000 new jobs throughout the lifecycle of the project. We continue to work closely with Government and Network Rail on this nationally significant infrastructure project.

This year, we received powers from the Government to build and operate the Silvertown Tunnel, a river crossing that will help to address the lack of cross-river connections in east London and reduce the environmental impact of traffic congestion. We will build the crossing over the next five years so that when it opens



10,000

homes started on our land by the end of 2020/21



Silvertown

Tunnel

will improve connectivity in east London

## Case study

### New homes for London

We continue to be on track to start on property development sites that will provide 10,000 new homes by the end of 2020/21. This means that half of the units brought to market since May 2016 will be affordable. We already have development partners in place for 7,000 homes and by the end of this financial year we will have partners in place for all 10,000 homes.

These homes will cater for every aspect of the market. We will continue to deliver a number of large sites through our Property Partnerships Framework and the London Development Panel, and encourage smaller providers through the Greater London Authority's Small Sites Framework and other innovative routes. We are searching for an investment partner to deliver our 3,000 Build to Rent homes targeting long-term revenue over capital receipts.

We are determined that our projects provide a lasting legacy for London. This is why we are working closely with the Mayor's Design Advocates to make sure we achieve exemplary design standards and that we are embedding the principles of Good Growth by Design and Healthy Streets in our schemes. We will help Londoners from all backgrounds develop the skills that they need to find a job in the construction industry through establishing a Mayor's Construction Skills Academy hub.

from 2024, alongside a package of cross-river public transport enhancements, it will help improve connectivity for residents and help support growth and regeneration both north and south of the river.

Further east, we will continue to build the case for more public transport links across the River Thames, including a DLR extension to Thamesmead, which would unlock more than 15,000 new homes. We will also begin building an extension of the London Overground to Barking Riverside to support 10,800 new homes.

In west London, we are continuing to develop proposals for a new West London Orbital rail link which will connect a number of major growth areas. In south London we are working with the local authorities to develop the Sutton Link, which would support growth between Morden and Sutton town centres.

It was recently announced that our bid with the Greater London Authority for the Government's Housing Infrastructure Fund was successful. This funding will provide additional funding to upgrade the transport network and unlock tens of thousands of new housing units and jobs.

Our Growth Fund continues to support transport infrastructure schemes that lead to more homes and jobs, and unlock development and regeneration opportunities in some of London's most important growth areas. This year we allocated funding to new schemes that will help support more than 10,000 new homes as well as a range of transport and regeneration benefits, including essential capacity and step-free upgrades to local stations. ■



Image II: Our schemes will support the development of new homes and jobs across London

# Business at a glance

## How we report on our business

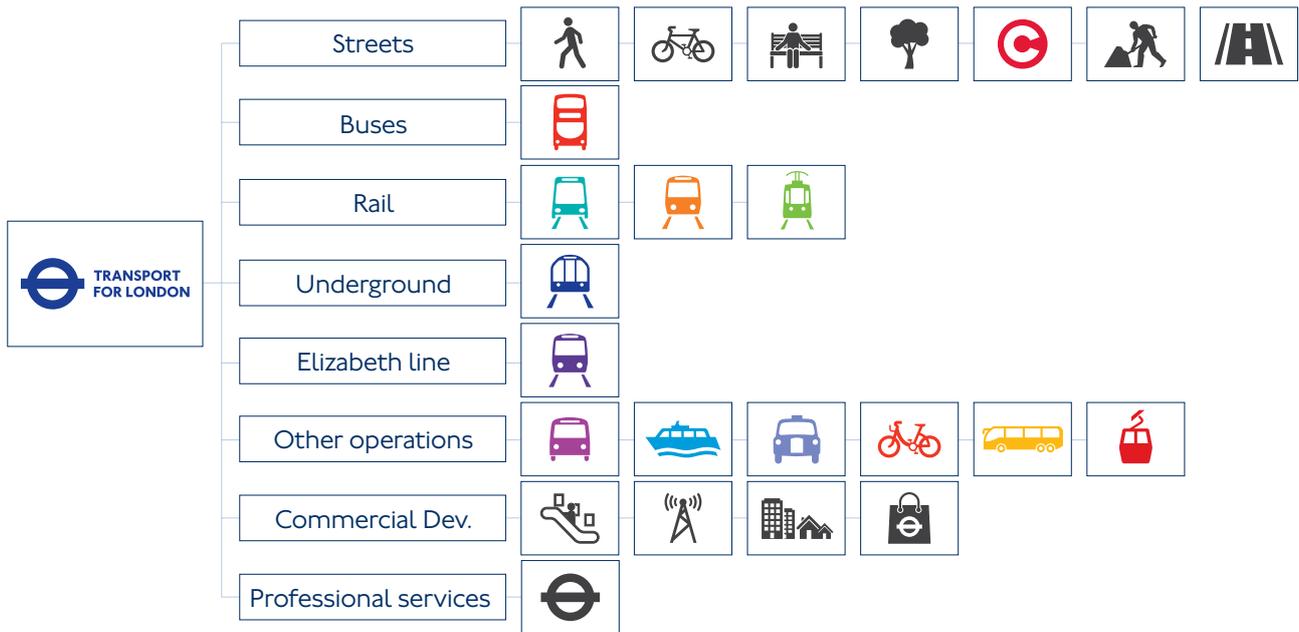
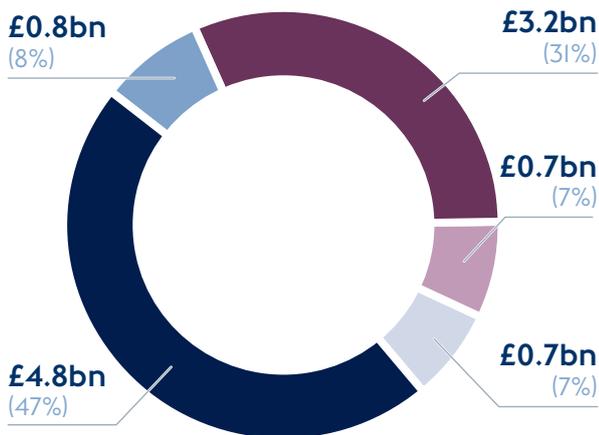
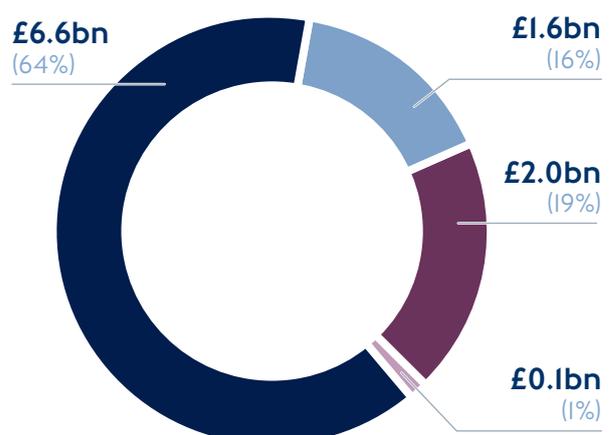


Figure 3: Sources of funding

2018/19 – projected



2023/24 – plan



Total: **£10.2bn**

Total: **£10.3bn**

Passenger income
  Grant funding
  Other income
  Property and asset receipts
  Use of borrowing and cash reserves

The 2018/19 grant funding includes Crossrail funding sources

Facts and figures

By 2023/24...

**790km**  
of track on our rail and Underground routes (from 725 km in 2018/19)

**100%**  
of the bus fleet will have Euro VI engines (from 65% in 2018/19)

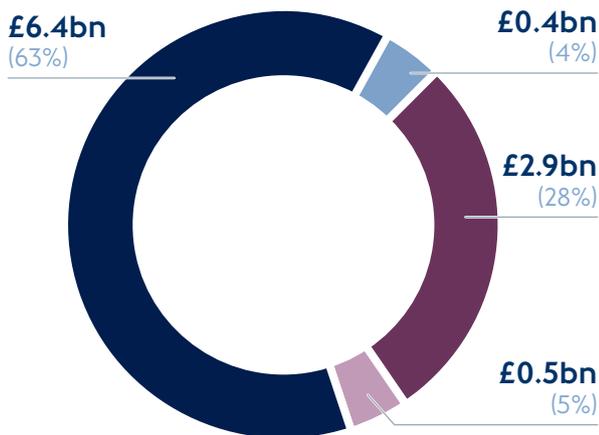
**2** new, auto-mooring, accessible, hybrid-powered ferries

**985**  
trains on our network (from 970 in 2018/19)

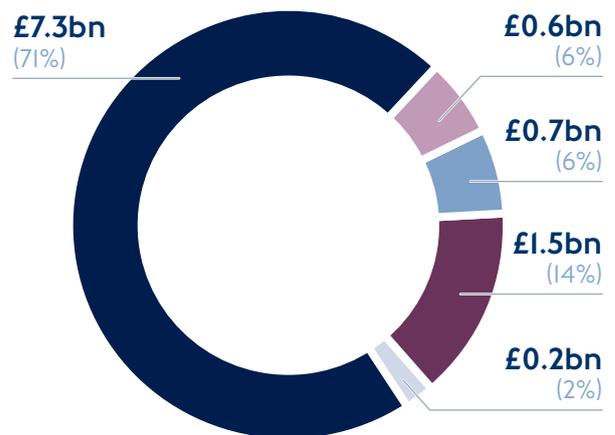
**32,000**  
daily cycle hire journeys (from 29,000 in 2018/19)

Figure 4: Total costs

2018/19 – projected



2023/24 – plan



Total: **£10.2bn**

Total: **£10.3bn**

■ Operating costs   ■ Net financing costs   ■ Capital renewals   ■ New capital investment   ■ Increased cash reserves

The 2018/19 new capital investment includes Crossrail capital expenditure



Image I2: We are planning for London's future against a backdrop of economic uncertainty



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# Forecasting and trends

38 Forecasting

44 Operational trends

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# Forecasting

We make decisions on London's future transport in a complex environment.

As with all forecasts, this Business Plan is built on a set of assumptions, which we regularly review and update in line with actual events and information from external independent bodies. This ensures that we use the latest information available to make decisions to ensure we are financially sustainable over the Business Plan period and beyond.

We also review the assumptions as part of setting the annual budget, published every March. This is an opportunity to update the first year of the Business Plan in light of actual developments.

As with all businesses, there is a range of indicators that influence our revenue and cost forecasts and these may depend on a number of external variables. By monitoring these and responding, we can manage our resources and take action when the revenue/costs are different from the forecasts.

Passenger revenue is an example where indicators are affected by external variables. These include economic forecasts for London's growth, household consumption, employment and UK inflation. The actual path of each variable can have a different impact on the level of demand, and they may affect each other. For example, population growth may be linked to employment growth.

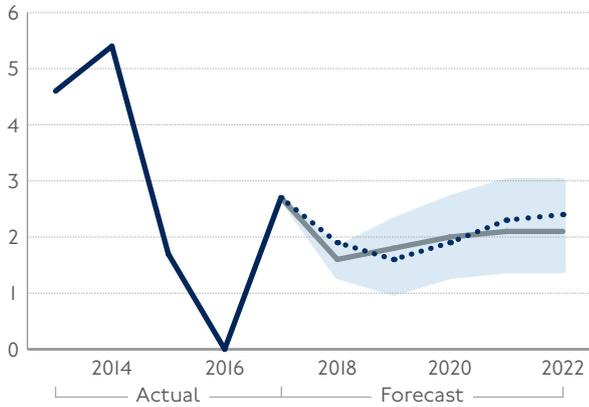
The graphs opposite illustrate how a range of outcomes are possible for each variable. As these ranges are modelled for each indicator, we gain a view of best to worst case scenarios and aim to take a prudent and realistic position on these to derive a central forecast based on the information available to us at the time.

We factor in assumptions on changes to our services, including future planned events, closures or upgrades across the network, the opening of new services, service frequency and policy decisions, such as the Hopper fare.

This analysis is applied across the business, taking into account the controllable and non-controllable variables. For instance, costs will be affected by inflation and the progress of our modernisation and cost savings programmes. Advertising revenue will be influenced by market conditions. Estimates for the Congestion Charge will depend on forecasts of traffic volume and the number of exempt vehicles.

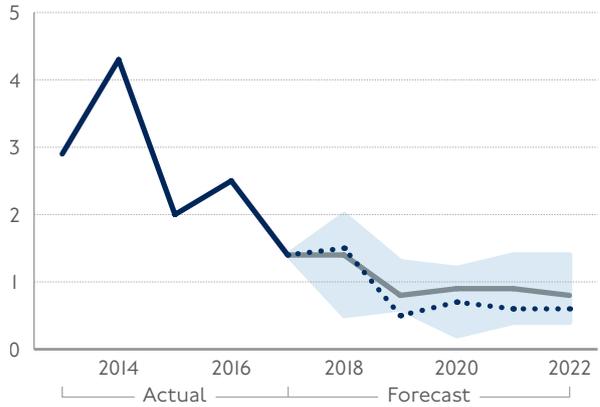
This complex picture means we actively evaluate any emerging risks and opportunities as part of our strategic risk management, which assesses how external forces may impact our business. This shows us where in the range of scenarios we are so we can adapt and manage our resources to the prevailing conditions.

**Figure 5: Year-on-year growth in gross value added (%)**



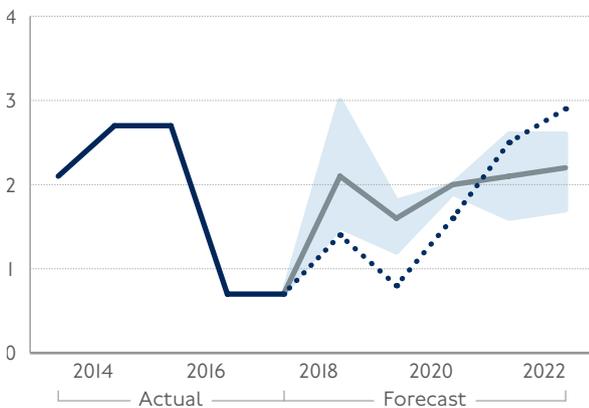
Growth in gross value added in London is a measure of the value of all goods and services produced in London.

**Figure 6: Year-on-year growth in employment (%)**



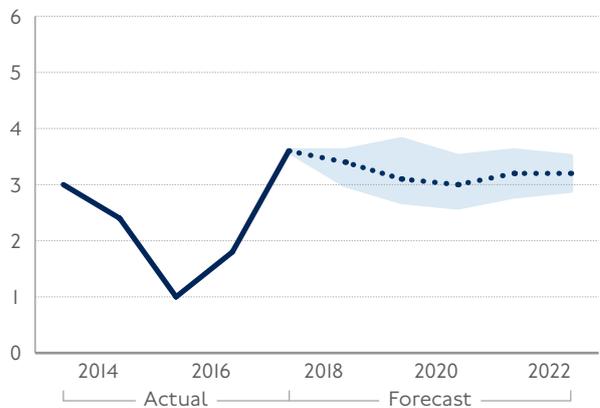
Growth in employment in London is defined as the total number of jobs (skilled and unskilled) available in London.

**Figure 7: Year-on-year growth in consumption (%)**



Growth in consumption in London is the extent to which goods or services are used, and reflective of the portion of household income spent (not saved).

**Figure 8: Retail price index inflation (%)**



UK retail price index inflation reflects the change in cost of retail goods and services across the UK.

■ Historic actuals and forecast used    ■ Average of external forecast    ■ Range of external forecast

The data in these graphs is sourced from the Office of National Statistics, Experian Economics, the Bank of England, GLA Economics modelling, GLA Economics forecasts and HM Treasury Summary of Independent forecasts.

### The developing context

For much of the period since 2000, London saw rapid population growth, which fed through to increased demand for travel. Usage of the key public transport networks grew, often at a more rapid rate than population. This reflected growing demand and sustained investment, such as early investment in the bus network, followed by the Tube Upgrade programme and the transformative development of the London Overground, innovations such as Oyster, as well as recovery from the 2008 recession, with increased employment.

### London's rate of population growth, which had typically been up to 1.5 per cent per year over the previous 10 years, fell to around 0.6 per cent in 2017

Meanwhile, road traffic consistently fell, reflecting increasing constraints on the road network, the impact of the Congestion Charge and an underlying overall progressive change away from the private car and towards more attractive public transport, walking and cycling.

We are now starting to see a change in those trends. With uncertainty in some parts of the economy, and evidence of a recent slowdown in the rate of population growth in London, public transport growth has levelled off. Meanwhile, in some parts of London there have been some increases in road traffic, primarily reflecting changes to freight and distribution in the capital.

There is also accumulating evidence of an unprecedented squeeze on personal disposable incomes and that more general lifestyle changes, evident for several years, may now be more materially affecting travel demand, such as flexible working and internet shopping, become ever more widespread. All these changes have acted in combination to impact progress towards our strategic ambitions.

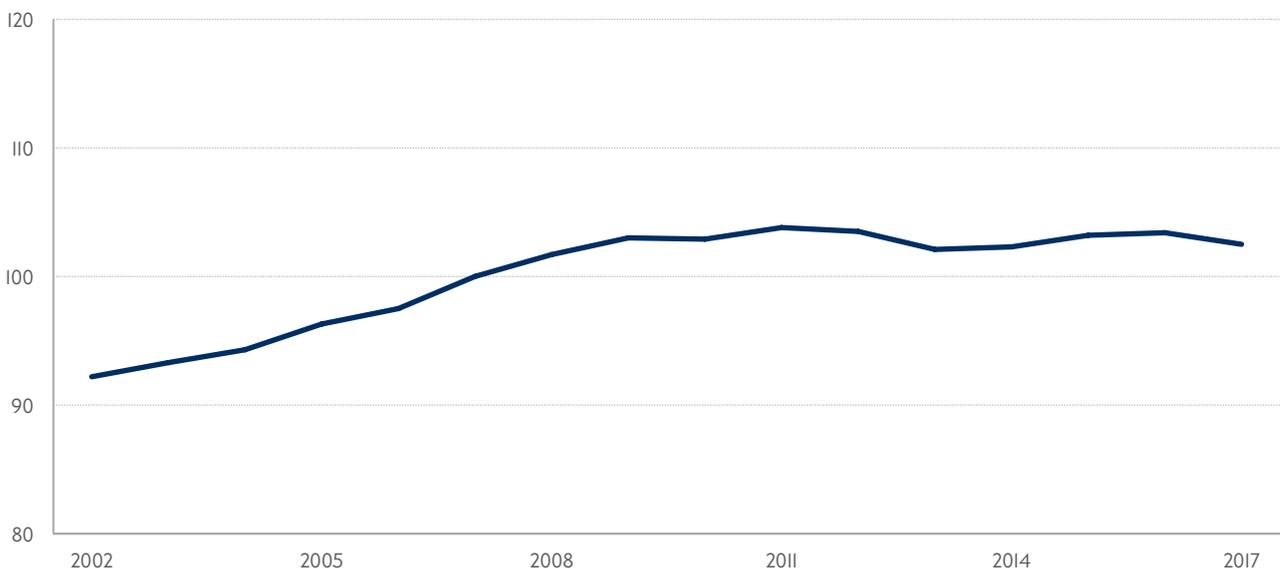
On the best available evidence, London's rate of population growth, which had typically been up to 1.5 per cent per year over the previous 10 years, fell to an estimated 0.6 per cent in 2017. This was primarily driven by a reduction in European Union migration and a reduction in people moving to London from the rest of the UK, particularly young people. London is still growing, but at a much slower rate than typical of recent years. Although the short-term prospects for this are unclear, most commentators still expect substantial population growth in London over the medium-long term.

While London’s employment remains buoyant, the economic structure of employment is changing rapidly. Londoners’ incomes are being squeezed, primarily reflecting housing and rental costs, which disproportionately affect younger people. Young people are traditionally more frequent users of public transport, particularly for off-peak journeys, such as going out and shopping. In turn, it is thought that fewer young migrants are moving to London, contributing to slowing population growth and underlying a softening of the rate of growth for public transport travel.

Evidence over several years shows that Londoners are making – on average – slightly fewer trips per day each year. This is paralleled across the UK and in other major cities worldwide. To some extent, this trend had been masked by historic growth in London’s population.

Data suggests that lifestyle factors, such as flexible working and internet shopping, could be acting alongside demographic and economic factors to depress overall demand growth for travel.

**Figure 9: London population estimate, 17-24 year olds (index chart – 2007 is 100)**



There is lower growth in demand among young adults, who are traditionally more frequent users of public transport.

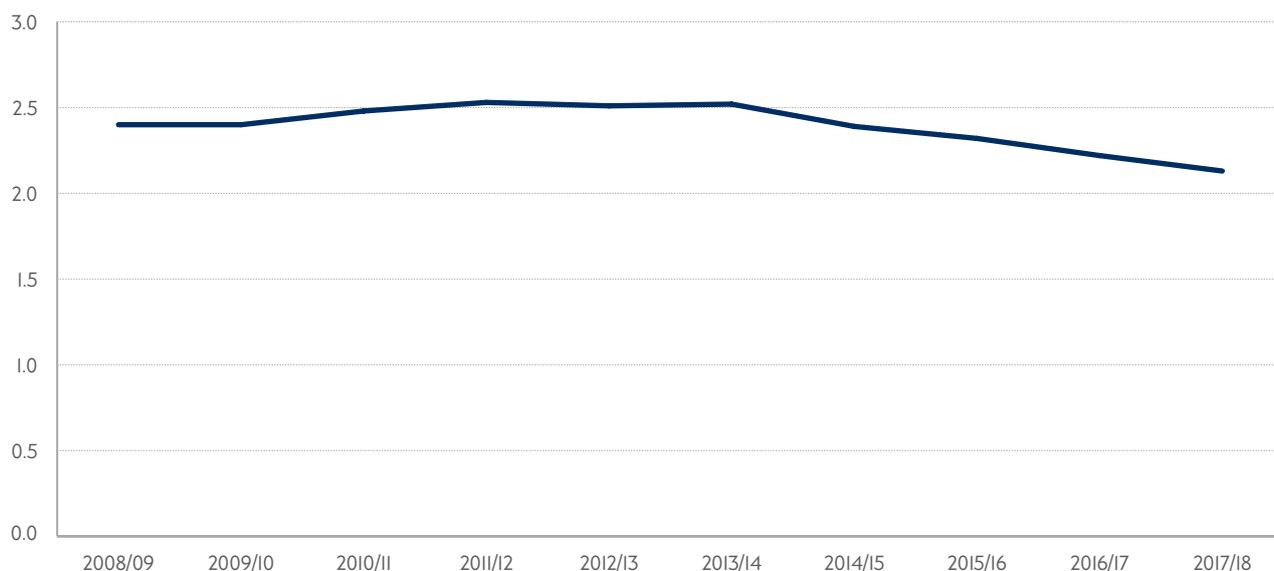
The last two years have also seen some specific developments that will have adversely affected travel demand in London. These include large-scale infrastructure works and prolonged industrial disputes on National Rail, affecting demand on key interchanges between services such as the Tube, as well as several terror incidents.

These trends largely post-date the evidence base for the Mayor's Transport Strategy and may not be sustained beyond the short term, but they have all had a short-term impact. London is still growing, albeit more slowly than before, and uncertainty relating to the UK's departure from the European Union is currently overhanging business confidence and planning, but again this is generally expected to be a short-term

issue. However, the possibility of more fundamental changes to travel behaviour is a complex issue and there is no consensus about likely future trends. All of these developments serve to intensify the need for the kind of policies outlined in the Mayor's Transport Strategy if transport is to continue to play a key enabling role for London's future economic and social success, whatever the wider international and domestic context.

Against this backdrop, we continue to provide high levels of service and reliability on key networks. Large-scale investment is being made, with more planned, for London's streets to make them more attractive for walking and cycling, and the Elizabeth line will shortly provide a step-change in public transport connectivity to, from and within central London.

**Figure 10: Declining average daily trip rates by London residents**



Travel demand, in the last two years, has been adversely affected in the short term by some specific developments and the slowing down of London's growth.



Image I3: We are adapting our services to respond to changes in demand

# Operational trends

How changing demands for transport in London will affect our services.

Over the next five years, the opening of the Elizabeth line is the biggest single change to the network, adding 10 per cent more capacity in central London once fully open.

This capacity growth impacts our other services too. In the first years of the Business Plan, we expect demand to temporarily decrease on the Underground and DLR as passengers migrate to the Elizabeth line.

In the latter years, we expect the capacity that has been freed up to be filled by the new, network-wide demand generated by the Elizabeth line and growth in both population and the economy.

Over the course of this plan, capacity on the Underground and rail networks will increase as a result of investment in new trains, signalling and line extensions. This will enable enhanced services with more frequent trains on several lines. Population growth will also contribute to an overall increase in demand.

The Elizabeth line also gives us an opportunity to reconfigure the bus network in outer and inner London. This will enable us to meet changing demand, address need in outer London and make better use of the alternatives available in inner London. This will also help meet the sustainable travel aims of the Mayor's Transport Strategy.

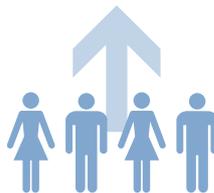
We expect the number of cycle hires to rise steadily with our continued investment in cycling. We anticipate modest year-on-year growth in people using London River Services. Dial-a-Ride journey numbers are expected to remain unchanged.

These activities are set within the context of significant economic uncertainty, meaning that current demand forecasts are particularly sensitive to changes in London's economic prospects. As with our financial forecasts, we monitor and review the operational trend risks and opportunities. This helps us adapt and ensure we deliver what London needs. ■



**4.2bn**

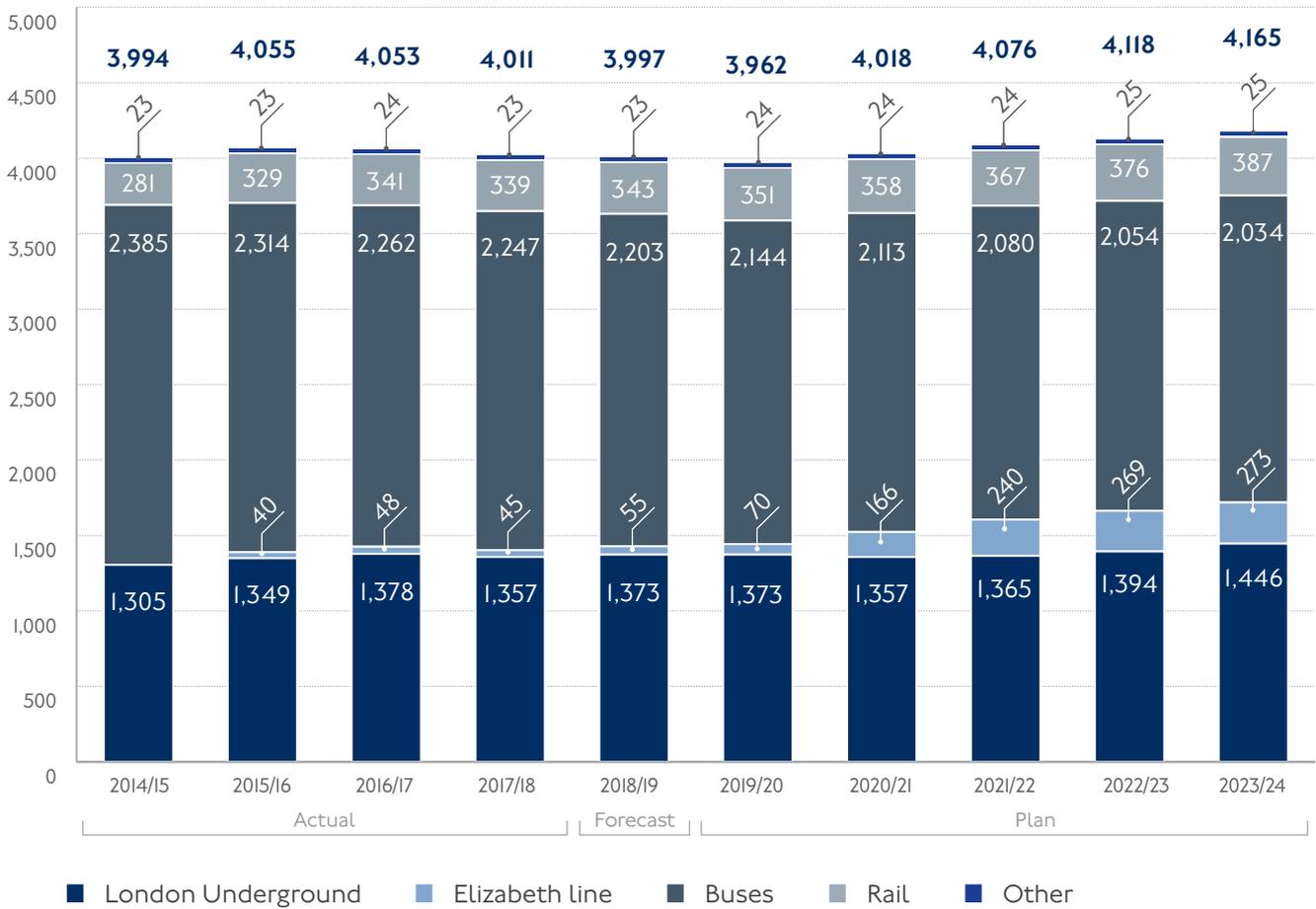
total passenger  
journeys anticipated  
by 2023/24



**4%**

increase in  
passenger journeys  
by 2023/24

Figure II: Passenger journeys (millions)



Passenger journeys are forecast to increase year-on-year from 2019/20 with the introduction of services on the Elizabeth line.



**10%**  
more rail capacity in central London once the Elizabeth line is fully open



**45mins**  
commuting time to central London on the Elizabeth line for 1.5 million more people



Image I4: We are adapting our bus services to meet changing customer demand and become sustainable



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# Building a sustainable business

- 48 Building financial stability
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  - 60 Facing our challenges
  - 62 Developing diversity
-

# Building financial sustainability

We are strengthening our resilience and making unprecedented cost savings.

This Business Plan continues our huge programme to reduce costs, increase revenue and become more efficient, while maintaining safety, frontline services and vital investment.

There are four major factors affecting the outlook over the next five years:

- Adapting to the loss of, on average, £700m per annum operating grant from central Government, which used to offset the cost of day-to-day services
- A subdued national economy, which has affected passenger numbers on public transport nationally
- The delay announced by Crossrail Limited to the opening of the Elizabeth line, which affects both capital costs and operating revenue
- The absence of any funding from central Government for the maintenance of London's strategic road network

There is also an increasingly challenging economic climate. Through our continued drive to reduce costs across the organisation and capitalise on commercial opportunities we are working towards achieving a net operating surplus covering the cost of financing and renewals by 2022/23. This is one year later than previously planned.

We are more focused than ever before on the need to build our financial resilience. This includes careful forecasting of factors affecting our income and costs.

Last year we forecast that demand for our services would soften following a period of slower than anticipated growth. This was a reflection of the impact of changing economic factors that affect how and when people travel. Demand on London Underground has been slightly above these revised assumptions, while demand on buses has been lower. The financial impact of this equates to £2.1bn



## 46%

cut in external  
funding since 2011



## £111m

annual operating  
model recurring savings  
delivered to date

lower fares revenue, compared to our 2016 Business Plan (excluding the Elizabeth line). The delay in the opening of the Elizabeth line also means the uplift in passenger income will begin later than previously modelled. These changes are built into this plan, which also assumes the Mayor's freeze on TfL fares is maintained until 2020. Our approach to forecasting is set out earlier in this document.

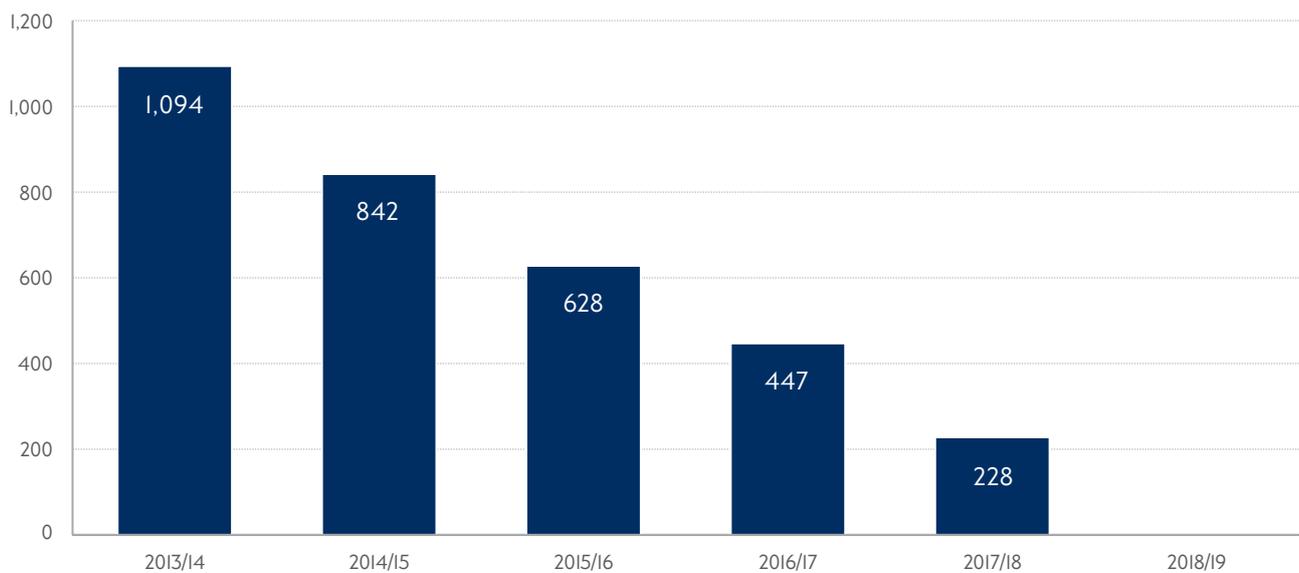
In order to achieve financial break-even, after renewals and finance costs, by 2022/23, we will need to make further savings. We have a proven track record of delivering on this. We exceeded our plans to reduce year-on-year operating costs in 2016/17 and further reduced like-for-like costs in 2017/18. In 2018/19, we now expect our net cost of operations to be just over

£700m, more than £200m better than forecast in our last Business Plan.

These efficiencies mean that, over the life of this Business Plan, operating costs (excluding one-off exceptional items and the new services on the Elizabeth line) will go down in real terms (after adjusting for inflation).

We are developing new revenue streams, including a new consulting arm that shares our experience, skills and expertise around the world, building on recent deals, such as the sale of our ticketing technology to Miami, New York and Boston.

Figure 12: Operating grant (£m)



The historic operating grant that was received from central Government to support our subsidised services.

We will do more to leverage our world-leading position in fares and ticketing technology, telecommunications, new transport-related technology and intellectual property.

We are also maximising the commercial opportunities we have as one of the capital's largest landowners. By the end of this financial year we will have partners in place for work to start on sites capable of delivering 10,000 new homes by March 2021. Since 2016, 50 per cent of the homes brought forward will be affordable. In addition to unlocking land for the development of new homes, we are proactively making smarter use of our assets – through retail units, advertising, licensing and consulting – to generate vital, long-term revenue to reinvest in the transport network.

Part of staying resilient is keeping a close eye on – and helping to shape – innovation and development in and around the transport sector. We are assessing new business models and services by gathering evidence and running trials, helping us to manage risks and determine which new models and services we should explore further.

## Spotlight

### Our revenue

We generate more than £10bn of income and funding a year, which we use to run day-to-day operations and invest in assets to maintain and enhance the network.

Like other businesses, our income is affected by several interacting variables such as economic conditions and population growth. Some aspects of our income are decided by the Mayor – such as the Mayoral regulated fares we charge and our allocation of London's retained business rates.

This plan assumes the Mayor's freeze on TfL fares is maintained until 2020. From January 2021, our Business Plan assumes that fares could rise by around RPI plus one per cent to support vital investment in public transport. This is only a TfL Business Planning assumption, as our fares are set on an annual basis by the Mayor.

The Mayor also determines the range of travel concessions we provide – some of which are unique to London and ensure affordability and accessibility of transport. The concessions we currently offer are shown in Figure I3.

We look for further opportunities to generate long-term revenue, by using our skills and assets as well as our property and advertising estates.

By broadening our sources of funding we can continue to reinvest in the transport network.

### Our concessions

Our comprehensive range of travel concessions is an important investment we make as part of providing affordable travel for Londoners. Alongside the Mayor's freeze on TfL fares and the introduction of new ticketing options such as the Hopper fare, they provide a way for people to move around London whoever they are, and whatever their circumstances.

We are committed to preserving this range of concessions, including the 60+ Oyster photocard, which bridges the gap for people over the age of 60 but below the age of eligibility for the Freedom Pass.

**Figure I3: Travel concessions**

Concession	Description	Estimated revenue foregone in 2017-18
Zip Oyster photocards for under 16s	Free bus travel; free travel on rail for under 11s; subsidised travel fares for 11 to 15 year olds on rail.	£90m
16+ Zip Oyster photocard	Free bus travel for London residents; half-rate Travelcard and Bus Pass season tickets and discounted pay as you go fares for 16 to 18 year olds.	£75m
18+ Student and Apprentice Oyster photocards	30 per cent off Travelcard and Bus Pass season tickets for London students and apprentices.	£30m
Bus and Tram Discount photocard	Half adult-rate Bus Passes and bus pay as you go fares for Londoners receiving Income Support, or Employment and Support Allowance.	£27m
Jobcentre Plus	Half adult-rate fares on any services for those claiming Jobseeker's Allowance.	£5m
Freedom Pass	Free travel at all times on all TfL services. We fund travel in the morning peak, the boroughs compensate us at other times.	£21m
60+ Oyster photocard	Free travel on TfL services 24/7, and on National Rail services after 09:30 on weekdays, for Londoners aged over 60 but below the Freedom Pass eligibility age*.	£69m
Other schemes	School party free travel; Olympic elite athletes; injured veterans; armed forces personnel in uniform; some National Rail-operated Railcard holders; assistance dog trainers.	£1m

\* The Freedom Pass eligibility age for people born on or after 6 October 1954 is 66 years old. For those born before, it is 60 years old.

### Operational breakeven

This Business Plan achieves breakeven on the cost of day-to-day operations in 2022/23, a year later than the previous Business Plan. This is as we absorb the revenue impacts of the Elizabeth line delay and continued demand weakness, particularly in buses.

Last year we took the difficult decision to significantly reduce the programme of proactive road maintenance, on both our roads and borough roads, while

maintaining safety as our top priority. Despite driving record efficiencies, we have had to continue this position. London is the only part of the UK without routine government funding for its strategic road network. We are therefore left with subsidising this maintenance activity from public transport fares income. A long-term funding source for our roads must be identified.

**Figure 14: Operating account**

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
(£m)	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	4,643	4,763	4,821	5,191	5,742	6,168	6,552
Other operating income	750	793	1,128	1,316	1,585	1,552	1,605
<b>Total operating income</b>	<b>5,393</b>	<b>5,556</b>	<b>5,949</b>	<b>6,507</b>	<b>7,327</b>	<b>7,720</b>	<b>8,157</b>
General grant	228	-	-	-	-	-	-
Mayoral business rates	854	948	954	954	954	854	854
Other revenue grants	84	74	49	13	11	11	10
<b>Total operating income</b>	<b>6,559</b>	<b>6,578</b>	<b>6,952</b>	<b>7,474</b>	<b>8,292</b>	<b>8,585</b>	<b>9,021</b>
Operating cost	(6,240)	(6,424)	(6,909)	(7,076)	(7,138)	(7,209)	(7,340)
<b>Net operating surplus</b>	<b>319</b>	<b>154</b>	<b>43</b>	<b>398</b>	<b>1,154</b>	<b>1,376</b>	<b>1,681</b>
Capital renewals	(536)	(425)	(456)	(576)	(653)	(635)	(651)
<b>Net surplus/(cost) of operations before financing</b>	<b>(217)</b>	<b>(271)</b>	<b>(413)</b>	<b>(178)</b>	<b>501</b>	<b>741</b>	<b>1,030</b>
Net financing cost	(428)	(451)	(484)	(509)	(548)	(597)	(596)
<b>Net surplus/(cost) of operations</b>	<b>(645)</b>	<b>(722)</b>	<b>(897)</b>	<b>(687)</b>	<b>(47)</b>	<b>144</b>	<b>434</b>

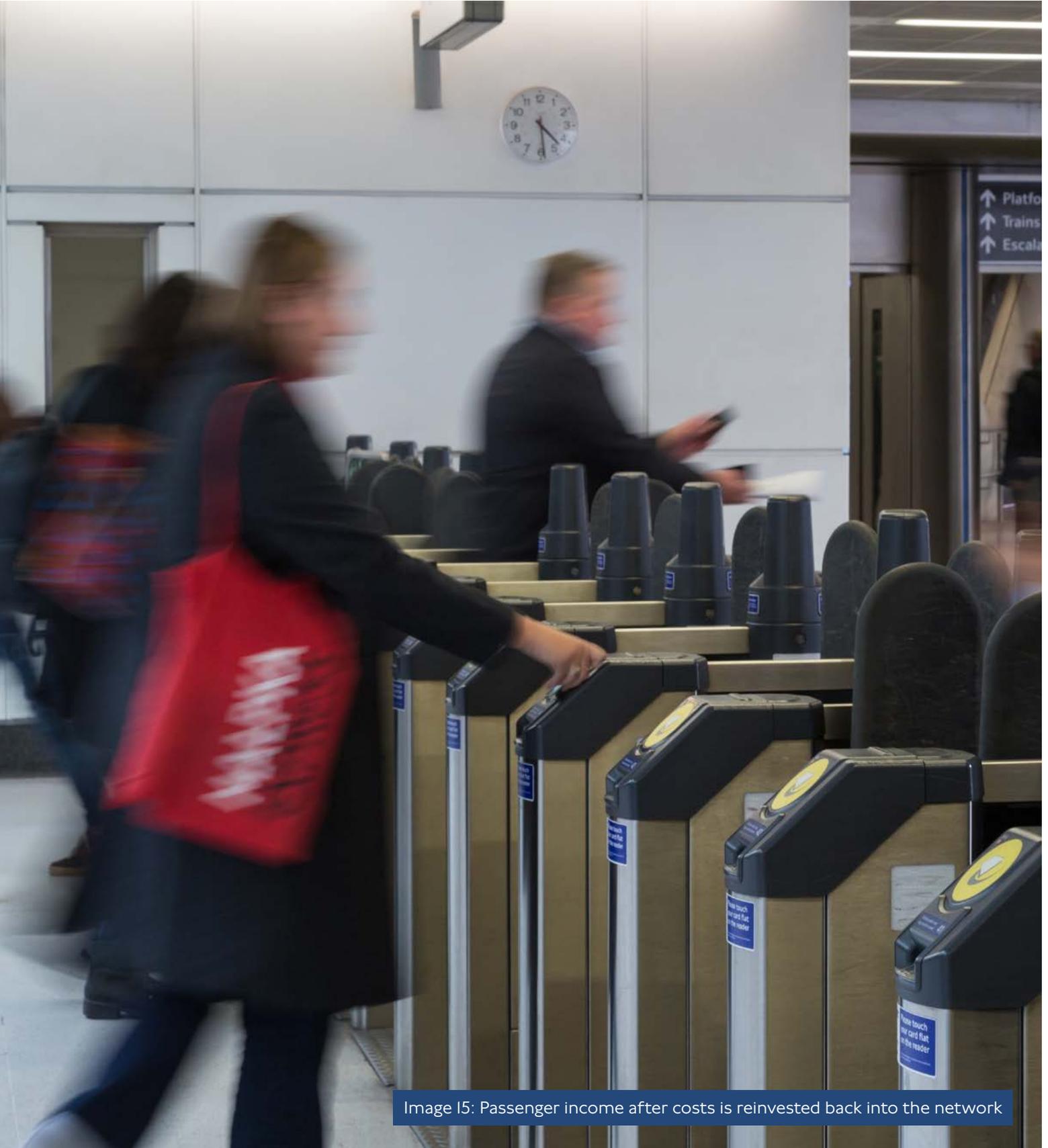


Image I5: Passenger income after costs is reinvested back into the network

Figure 15: Capital account

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
(£m)	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
New capital investment	(1,420)	(1,474)	(1,516)	(1,475)	(1,228)	(1,271)	(1,470)
Crossrail investment programme	(1,530)	(1,403)	(1,196)	-	-	-	-
<b>Total capital investment</b>	<b>(2,950)</b>	<b>(2,877)</b>	<b>(2,712)</b>	<b>(1,475)</b>	<b>(1,228)</b>	<b>(1,271)</b>	<b>(1,470)</b>
<b>Funded by:</b>							
Investment grant	960	976	893	910	930	1,051	1,072
Property receipts and asset sales	59	720	211	299	53	207	140
Borrowing	620	820	800	580	500	500	-
Crossrail funding sources	108	999	1,004	20	85	51	-
Other capital grants	183	210	275	120	12	15	15
<b>Total</b>	<b>1,930</b>	<b>3,725</b>	<b>3,183</b>	<b>1,929</b>	<b>1,580</b>	<b>1,824</b>	<b>1,227</b>
<b>Net capital account</b>	<b>(1,020)</b>	<b>848</b>	<b>471</b>	<b>454</b>	<b>352</b>	<b>553</b>	<b>(243)</b>

Figure 16: Cash flow summary

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
(£m)	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Net cost of operations	(645)	(722)	(897)	(687)	(47)	144	434
Net capital account	(1,020)	848	471	454	352	553	(243)
Working capital movements	1,636	(490)	52	64	98	(95)	30
<b>Increase/(decrease) in cash balances</b>	<b>(29)</b>	<b>(364)</b>	<b>(374)</b>	<b>(169)</b>	<b>403</b>	<b>602</b>	<b>221</b>

### Capital investment priorities

Our total capital programme, including renewals, balances the need to meet our safety and performance priorities with investing, on average, £2bn a year over the next five years – this is in line with last year's plan. This will not only improve transport to support London's growth through increasing capacity on the network, but also enhance the lives of Londoners through continued investment in Healthy Streets.

In addition, certain items that are capital in nature are accounted for as operating expenditure, as required by the local authority accounting rules. For example, Local Implementation Plan funding for London boroughs is funded through our operating expenditure, but is classified as capital by the boroughs. Another example is the bus contracts, where capital investment in vehicles, premises and plant made by bus operators appear as operating expenditure for us, as these assets are owned by the bus operators.

Additional Crossrail construction costs are funded through the agreement that has been announced by the Mayor and the Government. Ongoing economic challenges, uncertainty relating to the UK's exit from the European Union, added capital pressure relating to Crossrail construction and the delayed opening of the Elizabeth line mean we have had to scrutinise and re-prioritise our investment programme, to ensure we deliver projects that add the most value to Londoners while remaining financially sustainable.

We will continue to make the case that London needs steady and sustained investment so that we can drive the maximum value and productivity and keep London working and growing.

With £2bn investment a year over this plan, we will:

- Complete the Northern Line Extension to Battersea, supporting 25,000 jobs and 20,000 new homes
- Upgrade the signalling on the Circle, District, Hammersmith & City and Metropolitan lines
- Take forward the upgrade of our remaining deep Tube lines, beginning with the introduction of new longer, more spacious and comfortable walk-through trains on the Piccadilly line
- Deliver Bank station upgrade
- Continue to modernise the London Overground and introduce new trains on the London Overground and progress our plans to procure and introduce new trains on the DLR networks
- Make air quality and environmental improvements, including the implementation of the Ultra Low Emission Zone and making the entire bus fleet Euro VI compliant
- Work with the 32 London boroughs and the City of London on the TfL Road Network and borough roads and assets
- Unlock land for the development of new homes and actively make smarter use of our assets – through, for instance, retail units and advertising, to generate long-term revenue

### Managing our cash flow

The successful delivery of our operational and capital plans, as well as effective cash management, will ensure our cash balance is maintained at a level that optimises liquidity and ensures we have enough cash to meet our financial obligations.

# Borrowing

Prudent borrowing is an important source of financing and supports our capital investment programme.

Transport infrastructure has high upfront costs – borrowing enables us to invest today to improve the network and spread the costs over time.

Borrowing raised over the period of this plan will finance our investment programme, including line upgrades on the Tube and rail networks and new DLR trains. We regularly review the amounts we can borrow to support capital investment, ensuring that it is prudent, affordable and sustainable.

The total incremental borrowing to be raised by March 2021 is within the limits

agreed with the Government in its March 2017 funding letter, and in the £750m contingency loan facility made available to us to support the completion of the Crossrail project. Our borrowing is expected to reach £11.3bn by the end of 2018/19. It is then expected to increase by £500m in 2019/20 and £580m in 2020/21 for general corporate purposes. In addition, we assume that we may require £300m in 2019/20 under the Crossrail contingency facility, making our total borrowing £12.6bn by the end of 2020/21. This plan assumes we will raise an additional £500m in borrowing in both 2021/22 and 2022/23 for general corporate purposes.

**Figure 17: Total nominal value of borrowing (£m)**

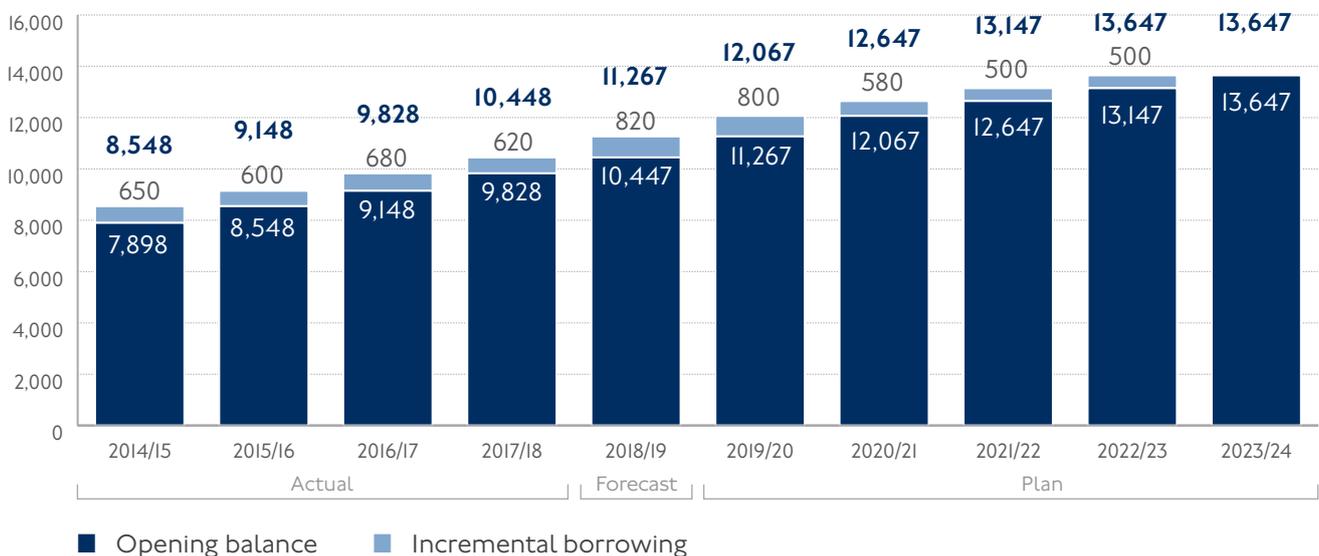




Image I6: Our borrowing programme will finance vital improvements on our network

# Long-term capital plan

Steady and sustained investment is vital to keeping London moving and growing.

The Mayor's Transport Strategy shows how we can support London's growth by making the most of our existing infrastructure and assets, and investing in new infrastructure.

We are partway through our programme to transform the Tube network to a modern, digital metro. Once fully installed in the early 2020s, and including the newly introduced S-stock trains, customers will benefit from a 33 per cent increase in service frequency on the Circle, District, Hammersmith & City and Metropolitan lines. In November 2018, we awarded a contract to build 94 new state-of-the-art trains that will be delivered on the Piccadilly line from 2023 and be in service from 2024, enabling up to 27 trains-per-hour to operate at peak times by the end of 2026. This is a train every 135 seconds at the busiest times and will improve connectivity, unlocking capacity on a key section of the network across London, through the West End and to Heathrow.

Station upgrades are happening across the network. Bond Street was completed last year, while Victoria and Finsbury Park will be completed this year and next year respectively. Work is well under way to install step-free access across the network, and by 2020, we will have made 15 more stations step-free.

Working with the boroughs, our Healthy Streets portfolio starts to address our strategic goals for the road network and we have invested in hundreds of schemes across London.

We need long-term funding certainty to commit to large-scale projects. We estimate, that to support London's growth and achieve the outcomes in the Mayor's Transport Strategy to 2041 would require, on average, £3.3bn of new capital investment per year, with an additional £0.7bn for renewals. This figure, in 2017 prices, is more than double our current level of investment and very similar to the National Infrastructure Commission's recommended spend on infrastructure of 1.2 per cent of total gross domestic product, the equivalent of which would be around £4.8bn.\*

This re-emphasises the need for steady and sustained investment in London, and we will continue to work with the Government and other stakeholders to identify ways in which that investment can be funded and financed.

We must continue to deliver this level of investment while also working with our stakeholders to identify sustainable recurring funding options for major infrastructure schemes, such as the upgrade and extension of the Bakerloo line. These are critical to unlocking affordable housing potential.

\* The £4.8bn figure includes small amounts for non-TfL capital spend in London.



Image 17: New state-of-the-art Piccadilly line trains will be delivered from 2023

# Facing our challenges

We will continue with our programme of cost savings, efficiencies and looking to develop new forms of revenue.

We are committed to providing the most efficient and cost effective transport service for Londoners that we can. As with all modern organisations working in a changing world, we constantly need to adapt our organisation to best deliver what London needs.

We have a strong track record of out-performing highly challenging savings targets.

## Savings in the bank

We have redesigned 30 business areas and reviewed more than 10,000 roles, creating a leaner, simpler structure, enabling decisions to be made more efficiently and making us easier to do business with. We have consolidated activity, including creating single Engineering and Major Projects functions. We have significantly reduced the size of our management team by reducing the number of management layers from 13 to seven, cutting the number of senior managers by 13 per cent. Over the last two years we have removed more than 2,700 roles from our organisation overall.

That has delivered huge, recurring savings. We have had two record-breaking years, each time reducing our year-on-year, like-for-like operating costs, and we are on

track to come in ahead of our target for this year. These are not just one-off savings – the work we have done over the last three years to make our operating model leaner and more efficient has secured £111m of annual recurring savings.

Through careful management of the costs of restructuring, we have managed to achieve these savings while limiting one-off severance costs to £87m to date – meaning that our severance costs will have paid for themselves within one year.

## Continuing to grip costs

We will continue with this programme as part of offsetting the new financial headwinds of losing our operational grant from central Government; not receiving funding for roads; the subdued economy and the delay in the opening of the Elizabeth line – adding more pressure to our operating account. We have recently agreed a package with the Government so that the construction costs of the delay to opening the Elizabeth line can be met, but it will still see London paying for the entirety of that cost over time. As described elsewhere in this plan, macroeconomic conditions mean we need to be cautious about the outlook for future fares revenue.

Our structural cost reduction work so far has focused on examining individual business areas. That has enabled us to make significant progress in reducing our operating costs by removing duplication, reducing management layers and streamlining teams. We are now looking at further potential cost reduction by improving end-to-end processes and identifying further structural integration opportunities across the organisation.

We have already created a new, single Business Services function that brings together operational activity currently within HR and Finance. By bringing the teams together, there will be further opportunities to streamline common processes, standardise reporting and look for other ways in which to deliver a better service at reduced cost.

This is one example of how we will further reduce our back and middle office costs across the entire organisation. Over the next three years, we will cut the cost of these areas by 30 per cent. This will only be possible by looking at all the ways we can deliver a better service at reduced cost, including reducing the number of roles in our back and middle office functions, building on what we have already achieved in these areas. As always, where any headcount reduction is necessary, we will engage in full and meaningful consultation with our people and trade unions.

In parallel, we will continue to scrutinise all of our activities to identify opportunities to cut our operating costs, including continuing to modernise London Underground, driving greater efficiency from our supply chain, and reviewing and re-tendering bus contracts.

## Case study

### Building for the future

We have been at the forefront of many innovations, including Oyster cards, contactless ticketing, Congestion Charging, world-leading transport and development planning. Across the globe, cities are facing similar challenges to us and we have made strong strides in commercialising this knowledge, such as selling our experience with contactless ticketing to New York.

Across our business we face opportunities to maximise commercial return. This strengthens our sustainability, provides income to reinvest in our services and builds the skills and capability to further enhance them.

We will do more across our property development, consulting, advertising and retail activities. Each of these will have dedicated resource, clear financial targets, the right leadership and appropriate governance. This sets us up to make the most of the commercial opportunities, growing our business out of the financial uncertainty we currently face.

Our returns across these four areas will grow. This includes major schemes at Nine Elms, with 332 Build to Rent homes; applying our expertise to make Hong Kong more walkable; an enhanced Tube digital advertising offering; and 31 regenerated railway arch retail spaces at Wood Lane. These all show the ambition and focus that we are applying to these income sources.

# Developing diversity

We are working to become as diverse and inclusive as the city we serve.

We have a major role to play in contributing to London's growth by providing a safe, inclusive and accessible transport network. Through our efforts to ensure every person can access the network, we will help all sectors of society actively participate in public life.

Health inequalities are different by borough and we know that different groups experience different social outcomes. We are committed to ensuring everyone can access our walking and cycling facilities, and that they meet their needs.

Working with the Metropolitan Police and British Transport Police, we will maintain our strong stance against hate crime, through #WeStandTogether. This work is designed to reassure all communities that public transport is safe and that everyone is welcome. We do not tolerate abuse or hate crime against our staff and customers.

## A more accessible network

The ability for all people to travel spontaneously and independently is at the heart of our approach to accessibility. As well as looking at the physical infrastructure, the Mayor's Transport Strategy addresses overcrowding, safety and affordability.

We have joined the Mayor in committing to London becoming a dementia-friendly city. We will place inclusive design at the heart of our renewed strategy to improve accessibility for all. It is critical that we also design for 'hidden disabilities' and engage with our stakeholders to get this right.

This year, we have built on our Please offer me a seat campaign by launching the Look Up campaign, started by customer Corry Shaw. This asks people travelling on public transport to look up to see if someone is in greater need of their seat.



## 51%

of senior appointments in 2017/18 were female (from 15% in 2015/16)



## 250

people with mild to moderate learning disabilities have been offered work experience

Our Independent Disability Advisory Group provides us with valuable scrutiny and support, and we liaise with advocacy groups across London.

### Reflecting the city we serve

Our aim is to recruit, retain and develop a diverse workforce and make sure our people have the opportunities to become the best they can be.

We are producing an innovative and bold strategy in line with Inclusive London, the Mayor's new Equality, Diversity and Inclusion strategy. This will focus on the promotion of equality, diversity and inclusion for our people, our passengers, partners and suppliers. This vision is reliant on creating a workforce whose strength is its diversity of thought, background and experience – a strength harnessed by an inclusive culture.

We have taken steps to ensure that women and people from black and minority ethnic communities are able to access senior, higher-paid roles. We are already widening access to mentors and coaches and introducing targeted development programmes to identify the next generation of leaders from groups that are typically under-represented.

In April, we reaffirmed our commitment to employing, supporting and promoting disabled people in our workplace by signing up as a Disability Confident committed employer. This self-assessment process includes a measure to encourage disabled people to apply for jobs with us by offering an interview to those who meet the minimum criteria for the job.

In addition, we have a strong commitment to supporting adults with learning disabilities into work via the Steps into

## Spotlight

### Supporting diversity



Image I8: Diversity Director Staynton Brown

One of London's major strengths as a city is its incredible diversity and all the benefits that come from that, while remaining inclusive of all.

Our aim is to meet the Mayor's ambition to create an inclusive and accessible transport network, with a workforce fully representative of London. By working to create a workforce whose strength is its diversity of thought and background, we will foster innovation, improve safety and enhance creativity.

A world-leading organisation is only as successful as its people. We need to make sure we have the right skills, not just for now, but for the future. My role is to strengthen our approach to unlock everyone's talents across the business and put people in a position to succeed.

We are committed to removing barriers for our customers, passengers and workforce, so that they can realise their fullest potential, and make every journey matter.

Work project. This scheme has offered 250 people with mild to moderate learning disabilities the chance to gain skills and work experience. Many of the people who participated said that the scheme has been life-changing and has boosted their confidence, especially as they had struggled to get paid employment before.

We are putting in place innovative evidence-based programmes to help talented people to move around in the organisation. Our new approach will see more projects created to identify what works to improve career development, reduce our pay gaps and realise the talent and potential of everyone in our workforce.

We are committed to creating a culture of continuous learning and improvement. This is why we are placing a strong focus on internal mentoring over the coming year. This is a chance to explore individual personal goals and get a different perspective on careers and development opportunities in the organisation.

We will continue to further strengthen and embed best practice in improving mental health and wellbeing for all our employees.

We will launch a new approach to improving diversity outcomes with our suppliers, placing collaboration and co-design at the heart of tackling issues together. An example of this approach saw the successful launch of our first ever cross-company mentoring scheme with Fujitsu, for high-potential staff from black and minority ethnic communities.

We will continue to run the Stuart Ross black, Asian and minority ethnic internship programme in our Press Office. This programme launched in 2007 to address the continued under-representation of people from diverse backgrounds across the communications industry.

We will also pilot an expanded version of the successful programme into other areas of our communications team: our Public Affairs and External Relations team, Customer team and Travel Demand Management team.

The scheme will be run by our Head of Media, Victoria Harrison-Cook, who was awarded an MBE in June in the Queen's Birthday honours list for services to diversity in PR.

We will take on three new people – one for each of the teams – for the 11-month internship, which will begin in September 2019 during the pilot phase of the extended scheme. Interns will receive a bursary paid at the London Living Wage, as well as 28 days of annual leave, free travel across London and also a pension, to ensure the programme is accessible to the widest possible demographic. ■



In March, we won the Recruitment Team of the Year award at the FIRM Awards for our work, including the Women on the Front-Line campaign.

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Image I9: We are creating a workforce that is as diverse as the city we serve



Image 20: Our aim is to make every journey safe, reliable and secure



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# Our services

- 68 Streets
  - 78 Buses
  - 86 Rail
  - 94 London Underground
  - 102 Elizabeth line
  - 106 Other operations
  - 114 Commercial Development
  - 120 Professional services
-



Image 2I: Safety is at the heart of our projects as we work towards the Vision Zero target

# Streets



Transforming our city by making London's streets better places for people to travel and spend time.

We must prioritise sustainable journeys by investing in walking, cycling and public transport. This investment will reduce road danger and improve air quality, while enabling continued freight access in streets designed to reduce the dominance of cars. As part of our measures to improve air quality, we will also introduce the Ultra Low Emission Zone (see page 112).

National funding sources for local roads maintenance are either not available, or it is unclear whether London can or will be eligible. Collaborative partnerships with the boroughs, communities, local businesses and developers will therefore be essential to deliver these plans. Improving London's streets will, in turn, support increased use of public transport.

Safety is at the heart of all our projects as we continue to work towards Vision Zero of eliminating deaths and serious injuries on London's roads. We will create half of the 73 Safer Junctions by May 2020,

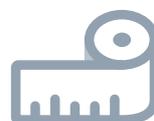
roll out 20mph speed limits and enhance policing and enforcement. We will also:

- Deliver major safety improvements, including the removal of Old Street and Vauxhall gyratories
- Continue to implement a network of high quality, safe, connected cycle routes across London
- Continue significant funding for the boroughs, including schemes in Stratford and Tottenham Court Road
- Deliver a world-leading road management system to control London's traffic signals by 2020
- Progress delivery of two major new river crossings in east London: at Silvertown (road tunnel) and between Rotherhithe and Canary Wharf (pedestrian and cycle crossing) subject to consultation and consents



**8.9km**

of our roads in central London will be converted to 20mph zones by 2020



**580km**

of our carriageways represent 5% of the city's roads, but carries up to 30% of its traffic

### Safety and security

We will lower speed limits in central London to reduce vehicle dominance and make our streets safer and more attractive for walking and cycling. Action will focus on junction improvements at the 73 locations with the poorest safety record for vulnerable road users, including Baker Street/Marylebone Road, Highbury Corner, Euston Road, Edgware Road and Millbank, alongside an enhanced programme of policing and enforcement activities targeting drivers and vehicles posing the greatest risk.

We will work with the police, and other delivery partners, to embed a new framework for information sharing and post-collision learning, and establish a group to review our response to major collisions.

We will work with the boroughs, law enforcement and security agencies to design and implement protective security measures proportionate to London's risk of terrorism and consistent with the Healthy Streets Approach.

The target set out in the Mayor's Transport Strategy is a 65 per cent reduction in the number of people killed or seriously injured by 2022 against the 2005-09 baseline.

In 2017, 3,881 people were killed or seriously injured on London's roads. This is an estimated 39 per cent reduction against the 2005-09 baseline, following a one percentage point increase between 2016 and 2017. This includes a concerning increase in the number of pedestrians killed or seriously injured in collisions involving goods vehicles.

The current trend-based forecast for 2022 falls short of the target. This forecast takes into account road safety interventions that have happened to date and assumes the same rate of progress into the future.

The Business Plan includes funding for a series of targeted interventions, set out in the Vision Zero action plan, published in July 2018. These are designed to deliver further reductions in road danger and to help put us back on track to achieve the Mayor's road safety target by 2022.

**Figure 18: Safety and security**

	Forecast	Plan	Plan	Plan	Plan	Plan
Safety and security measures	2018	2019	2020	2021	2022	2023
Reduction in people killed or seriously injured London-wide – % reduction against a 2005-09 baseline*	42.0	47.7	50.4	53.0	55.4	57.7

\* Forecasts liable to change as more data becomes available.

### Journeys

With seven Cycle Superhighways, 100km of Quietways and a number of Mini-Holland schemes now constructed, plus further significant additions to the network expected to complete from 2019, levels of cycling are forecast to increase by approximately 40 per cent by the end of the plan to an average of 1.2 million journeys each day.

Through the Healthy Streets Approach, walking will also become a more attractive and viable journey option, supporting our aim to increase the number of trips made on foot each day by an additional one million by 2024.

### Customer satisfaction

Our investment in maintenance and renewals aims to ensure network safety. Using a risk-based approach, we will prioritise activities to get the best results for our investment. However, we are expecting slightly lower satisfaction ratings for our road infrastructure than in previous years, due, in part, to reductions in routine maintenance activities, such as grass cutting, graffiti removal and pothole repairs.

In addition, satisfaction is expected to be temporarily affected during the development stages of our major transformational infrastructure schemes, including at Highbury Corner and Old Street.

### Road disruption

We have established a new metric to better reflect the impact of disruption on our roads, with each year baselined against the previous year's performance.

Our 24/7 control centre will continue to monitor the road network and intervene quickly to respond to disruption, making effective use of police enforcement and our resources, including cameras and on-street officers.

We will continue our work with utility companies and the London boroughs to coordinate road works effectively. However, we anticipate increased disruption for road-users year-on-year, due to the combined impact of increasing traffic volumes, road works associated with major transformational infrastructure projects and operational mitigations necessary to maintain a safe network.

### Operational improvements to sustainable travel

We review the timings of 20 per cent of London's 6,000 signals every year. This new metric measures the cumulative impact of these signal re-timings for people choosing sustainable transport methods – walking, cycling or bus travel. Through these changes, we aim to save 15,000 hours per day for people using sustainable methods of transport. The development of our new Surface Intelligent Transport System technology, to give priority to people using sustainable transport methods at traffic lights, may further improve these delay savings.

**Figure I9: Operational performance in the future**

	Forecast	Plan	Plan	Plan	Plan	Plan
<b>Asset condition</b>	<b>2018/19</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>	<b>2022/23</b>	<b>2023/24</b>
State of good repair – carriageways (%)	90.0	88.5	87.5	87.5	87.5	87.5
State of good repair – footways (%)	93.4	90.4	89.9	89.9	89.9	89.9

	Forecast	Plan	Plan	Plan	Plan	Plan
<b>Cycling and walking performance</b>	<b>2018/19</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>	<b>2022/23</b>	<b>2023/24</b>
Journey numbers – walking	2,451	2,476	2,501	2,526	2,551	2,576
Journey numbers – cycling	290	317	344	371	398	423

	Forecast	Plan	Plan	Plan	Plan	Plan
<b>Transport for London road network performance</b>	<b>2018/19</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>	<b>2022/23</b>	<b>2023/24</b>
Customer satisfaction score	69	69	69	70	70	70
Pedestrian and cycling customer satisfaction score	69	69	69	70	70	70
Road disruptions to average London journey times* – within % of previous year's performance	Within 15% of baseline	Within 10% of baseline	5-10% of baseline	5-10% of baseline	5-10% of baseline	5-10% of baseline
Operational improvements to sustainable travel* (hours)	15,000	15,000	15,000	15,000	15,000	15,000

\* New measure. Forecasts liable to change as more data becomes available.

### Financial summary

London's streets are the only part of the UK's strategic road network that receives no routine funding from the Government. This means that we are forced to cross-subsidise their operation and maintenance from our other sources of funding. This is not sustainable and new funding sources need to be identified for London's roads.

Through our wider work to tackle congestion across London, we are pleased to see reducing numbers of cars entering the Congestion Charging zone.

In 2019/20, we will be increasing spending on maintenance for our road network as part of our strategy to ensure we have a safe and reliable network. Part of this approach is to ensure we have enough police officers patrolling the network and that we remain committed to supporting activities to reduce crime and anti-social behaviour across London. We continue to focus on delivering efficiencies and getting value from our suppliers.

**Figure 20: Financial summary (£m)**  
Streets

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	-	-	-	-	-	-	-
Other operating income	314	317	314	320	345	348	341
<b>Total operating income</b>	<b>314</b>	<b>317</b>	<b>314</b>	<b>320</b>	<b>345</b>	<b>348</b>	<b>341</b>
Direct operating cost	(502)	(480)	(494)	(480)	(498)	(516)	(531)
<b>Direct operating deficit</b>	<b>(188)</b>	<b>(163)</b>	<b>(180)</b>	<b>(160)</b>	<b>(153)</b>	<b>(168)</b>	<b>(190)</b>
<b>Net capital investment</b>	<b>(186)</b>	<b>(161)</b>	<b>(255)</b>	<b>(406)</b>	<b>(445)</b>	<b>(457)</b>	<b>(432)</b>

**Capital investment**

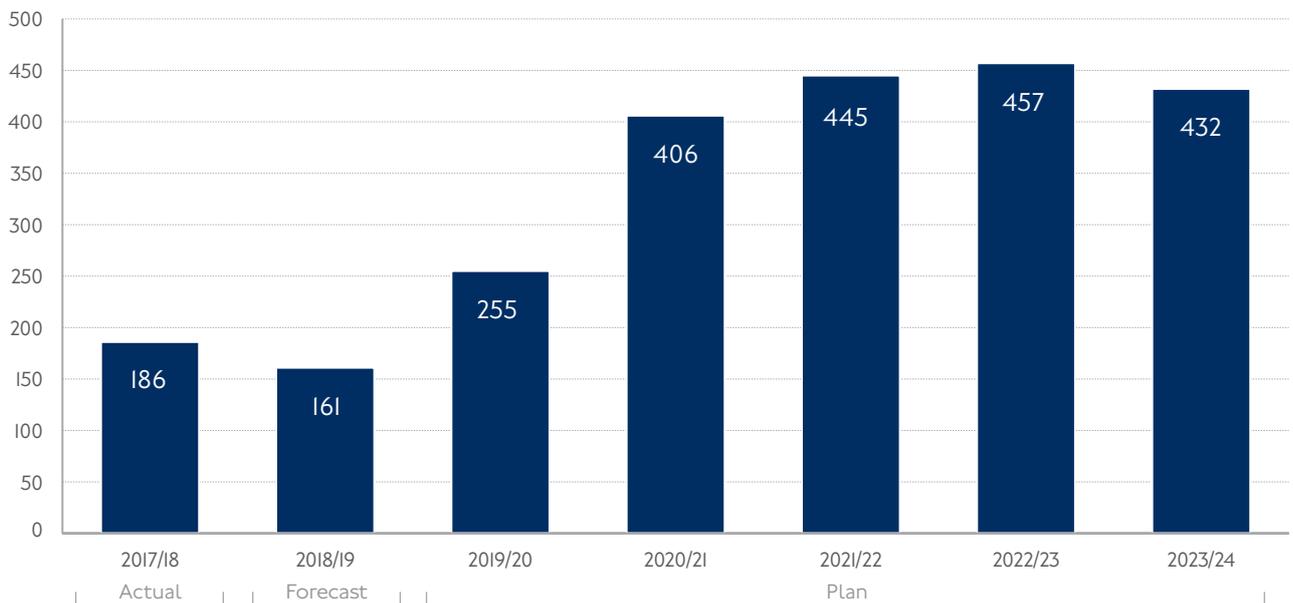
Our investment in London's roads consists of three distinct areas: the Major Projects Directorate, the Assets portfolio, and the Healthy Streets portfolio.

The Major Projects Directorate is responsible for delivering the new Silvertown Tunnel, a large and important project that will help congestion and travel in and around the Blackwall Tunnel. The Assets portfolio delivers capital renewals on London's roads, including bridges and tunnels. One of

the key projects over the next few years is the renewal of the Rotherhithe Tunnel.

The Healthy Streets portfolio is a large portfolio delivering a number of important outcomes, including cycling, borough-sponsored schemes through our Local Implementation Plan programme, improvements and enhancements to our roads, and strategic projects such as the new bridge between Rotherhithe and Canary Wharf, which will give pedestrians and cyclists a fantastic option to cross the river in a busy part of London.

**Figure 21: Capital investment (£m)**



**76%**  
of collisions in London occur at junctions



**41 of 73**  
Safer Junctions will be completed by May 2020

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## Key projects/programmes

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### A cycle network for London

Our vision is to make London a byword for urban cycling around the world. In addition to the existing seven Cycle Superhighway routes, the 100km of Quietways and the Mini-Hollands schemes already constructed in partnership with the boroughs, we will continue our record investment levels with construction planned to start on eight major routes by the end of 2019. By 2020, more than 100km of additional new, protected cycle infrastructure will have been delivered, or will be in construction. This represents a tripling of the 50km network of routes that were in place in May 2016.

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### Silvertown Tunnel

In May 2018, the Secretary of State granted approval for a Silvertown Tunnel linking the Greenwich Peninsula and the Royal Docks. This will improve the reliability of the Blackwall Tunnel crossing, increasing the resilience of the road network in east London, and enabling a step change in cross-river bus links. Construction is expected to begin in late 2019, with the new crossing open and available for use in 2024.

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### Old Street Roundabout

We will start work in 2018 to remove the roundabout and to provide segregated cycle lanes, alongside the creation of a new public space.

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### Safer Junctions programme

We will deliver 20 more Safer Junctions by May 2020, increasing the total number delivered from 21 to 41. This will mean 56 per cent of the Safer Junctions programme is complete by May 2020. Junctions targeted for improvement in 2019/20 include Baker Street/Marylebone Road, Highbury Corner, Camberwell Green, Tooting Broadway, Edgware Road and Holloway Road. Further construction start dates will be announced throughout the year as projects move to delivery stage.

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### Lowering speed limits

By May 2020, we will introduce a 20mph speed limit on all of our roads within the Congestion Charge zone, to reduce the frequency and severity of collisions in central London as part of our commitment to Vision Zero. Beyond 2020, we will expand this approach to lower the speed limit on the Inner Ring Road and a number of outer London town centres.



**1,500m<sup>2</sup>**

of additional walking space for pedestrians at Old Street



**200%**

increase in the length of protected cycle infrastructure by 2020

### Nine Elms Battersea, Fiveways Croydon and Bow

Working with the boroughs, we continue to support regeneration at locations such as Nine Elms Battersea, Fiveways Croydon and Bow, through the improvements to bus, walking, and cycling routes.

### Liveable Neighbourhoods

A key part of the Mayor's Transport Strategy, this borough-led programme delivers attractive, healthy and safe neighbourhoods, to encourage public transport use and reduce car journeys. Designs are under way for the first seven Liveable Neighbourhoods in Ealing, Greenwich, Hackney, Haringey, Havering, Lewisham, and Waltham Forest. We will announce the next wave of Liveable Neighbourhoods in early 2019, following a competitive bidding process.

### Waterloo and Vauxhall

We will remove one-way traffic systems at these locations, creating new public space and providing improved walking, cycling and public transport interchange facilities.

### Rotherhithe to Canary Wharf

We are proposing a new river crossing between Rotherhithe and Canary Wharf for pedestrians and cyclists. This will provide an alternative to the Jubilee line, supporting employment and population growth and offering a more direct and attractive route for pedestrians and cyclists between south and east London. We expect to submit a Transport and Works Order application for the powers to build and operate the new crossing in 2019/20.

### Surface Intelligent Transport System

We will replace London's current traffic light control system, to enable us to better manage London's road network, tackle congestion, improve air quality and increase the convenience of travelling by sustainable methods of transport. The new system is expected to be delivered in late 2020.



## 6,000+

traffic lights that we operate – timings of 1,200 are reviewed each year



## 7

new Liveable Neighbourhood designs under way



Image 22: We are considering options for a new walking and cycling crossing between Rotherhithe and Canary Wharf

# Buses

Connecting people and places across London with a safe, reliable, inclusive and sustainable network, 24 hours a day, seven days a week.

Our iconic bus fleet provides an accessible service to schools, hospitals, workplaces and homes across London, with more than two billion journeys made each year.

To support London's growth and achieve the Mayor's 2041 target of 80 per cent of all journeys being made by sustainable methods, bus patronage will need to increase by 40 per cent. This is in the face of recent trends, whereby increased congestion, particularly in central London, has led to declining speeds and contributed to falling demand.

Steps will need to be taken to make the bus network more attractive. Working with bus operators, the boroughs, developers and customers, we will:

- Ensure the safety and security of our customers and people, by introducing measures like the Bus Safety Standard
- Reshape services in central and inner London to better match demand. In turn, this will enable capacity uplifts in outer London to support growth
- Improve journey times and reliability by investing in bus priority initiatives
- Improve the customer experience, including better customer information, before and during journeys
- Ensure greener, cleaner buses by meeting the ultra-clean Euro VI engine emissions standard for the entire fleet in 2020 and from there, working towards all buses being zero emission at tailpipe by 2037



## 9,312

buses on our network



## 675

bus routes on our network



## 6

bus operators trialling safety technology that we are funding



Image 23: We are reshaping London's bus services to meet a changing demand

## Safety and security

Crime on the bus network has decreased significantly over the past ten years and we are committed to maintaining a low volume of crime. We will continue to fund and work with the Metropolitan Police Roads and Transport Policing Command to prevent crime, anti-social behaviour and fare evasion. We expect this collaborative effort to continue to mitigate the broader crime challenges currently facing London, so that travelling by bus will be safe – and feel safe – for all our customers.

The predicted reduction in bus patronage in the early years of this plan means we anticipate a very slight rise in the crime rate for 2019 and 2020 compared to this year, although we anticipate the absolute number of bus-related crimes will remain stable. Further reducing crime on our network is one of our highest priorities, and as our joint initiatives with our policing partners, and their wider work across London, deliver results, we expect the crime rate to fall in the later years of the plan.

We are committed to understanding and responding to the concerns of our customers better, particularly those that deter travel by bus. Safeguarding our most vulnerable passengers, including children, rough sleepers, and people with mental health issues is a priority for us. We are committed to tackling serious offences such as hate crimes, sexual offences and assaults on our staff.

Buses will play a key role in our Vision Zero approach. We will introduce a world-leading Bus Safety Standard for the entire bus fleet, which will be incorporated into new bus operator contracts from the end of 2018. Measures include Intelligent Speed Assistance, which prevents buses from exceeding the legal speed limit and trials of automated emergency braking systems. New bus interior designs will be implemented to reduce the frequency and impact of passenger slips, trips and falls.

We will also provide bus driver safety training, which will focus on vulnerable road users, reduce operating risks and contribute to the Vision Zero targets.

**Figure 22: Safety and security**

	Forecast	Plan	Plan	Plan	Plan	Plan
Safety and security measures	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Recorded crimes per million passenger journeys – bus network	6.6	6.8	6.8	6.4	6.1	5.0

Safety and security measures	2018	2019	2020	2021	2022	2023
Killed or seriously injured on or by a bus – % reduction against 2005-09 baseline*	58.7	64.0	66.8	69.3	71.7	73.9

\* Forecasts liable to change as more data becomes available.

### Operational performance in the future

Population and economic activity are key drivers of bus demand. The uncertainty relating to the UK's exit from the European Union means that our forecast for bus demand is more uncertain than previous years. However, the continuing and unprecedented squeeze on incomes, lower growth in the number of younger adult passengers and wider changes in customer behaviour are likely to continue to reduce demand in the short to medium term. This is despite reliability and customer satisfaction being at historically high levels.

We will continue to optimise the service to better meet this changing demand. The introduction of the Elizabeth line, and Hopper fare, are the catalysts to enable us to simplify our network, making it more customer-friendly and reducing inefficiency.

In outer London, service volume will grow by five million kilometers over the period of this plan. To meet the Mayor's sustainable transport target by 2041, this service growth will be targeted at areas where people are most likely to switch to buses and where demand is expected to increase. In inner London, where there are more sustainable alternatives and many instances of bus congestion, the network will be reduced in a targeted way, while we focus on enabling growth in outer London.

### Customer satisfaction

Our customer satisfaction scores are forecast to remain high. We plan to incentivise bus operators to provide excellent customer service, such as better interaction with customers and smoother journeys. We will also provide better information, particularly during disruption.

**Figure 23: Operational performance in the future**

	Forecast	Plan	Plan	Plan	Plan	Plan
Bus forecasts	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger journeys (millions)	2,203	2,144	2,113	2,080	2,054	2,034
Customer satisfaction score	86	86	86	86	86	86
Bus excess wait time - high frequency routes (minutes)	1.0	1.1	1.1	1.1	1.1	1.1
Average bus speeds (mph)	9.2	9.2	9.1	9.0	9.0	9.0
Service volume (million km operated)	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Inner London	147	137	134	134	133	133
Outer London	325	326	327	327	329	330
Sections of routes outside the Greater London Authority boundary	10	10	10	10	10	10
<b>Total</b>	<b>482</b>	<b>473</b>	<b>471</b>	<b>471</b>	<b>472</b>	<b>473</b>

### Financial summary

Our operating deficit will increase from £638m in 2017/18 to £723m in 2020/21. This will be the highest annual bus subsidy in our history and represents an increase of more than 25 per cent since 2015/16. The increase in deficit is due to passenger demand, which has decreased over the last four years, and we have reflected this underlying weakness in our forecasts.

While it is necessary to subsidise bus services in London, we recognise that this level of growth in subsidy is unsustainable. We will continue to drive efficiencies through our contracting process. We will reduce service volume in inner London, where demand has fallen the most. We are not planning any further significant reductions beyond the changes that were recently consulted on. However, given the uncertain outlook, we will continue to closely monitor changes in demand.

If demand in inner London falls further, which it may, given the level of alternative transport options, we will have to review how best to match service to this demand.

In outer London we will invest in additional capacity to support London's growth and the Mayor's targets of 80 per cent of journeys being made by sustainable modes. Fare evasion on our network is still relatively low, but tackling it will help to fund additional investment in the bus service. Over this plan we will provide a record level of subsidy to the bus network, but if bus demand is lower than forecast we will need to manage any financial impacts across the overall £850m annual operating subsidy for the Healthy Streets Approach.

We remain committed to cleaning up London's air. By September 2020, our entire fleet will meet ultra-clean Euro VI engine emissions standard. We are also introducing Low Emission Bus Zones in 12 areas.

**Figure 24: Financial summary (£m)**  
Buses

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	1,453	1,451	1,415	1,419	1,450	1,491	1,535
Other operating income	13	11	13	15	12	11	9
<b>Total operating income</b>	<b>1,466</b>	<b>1,462</b>	<b>1,428</b>	<b>1,434</b>	<b>1,462</b>	<b>1,502</b>	<b>1,544</b>
Direct operating cost	(2,104)	(2,116)	(2,142)	(2,157)	(2,170)	(2,188)	(2,243)
<b>Direct operating deficit</b>	<b>(638)</b>	<b>(654)</b>	<b>(714)</b>	<b>(723)</b>	<b>(708)</b>	<b>(686)</b>	<b>(699)</b>
<b>Net capital investment</b>	<b>(21)</b>	<b>(26)</b>	<b>(25)</b>	<b>(26)</b>	<b>(47)</b>	<b>(45)</b>	<b>(27)</b>

### Capital investment

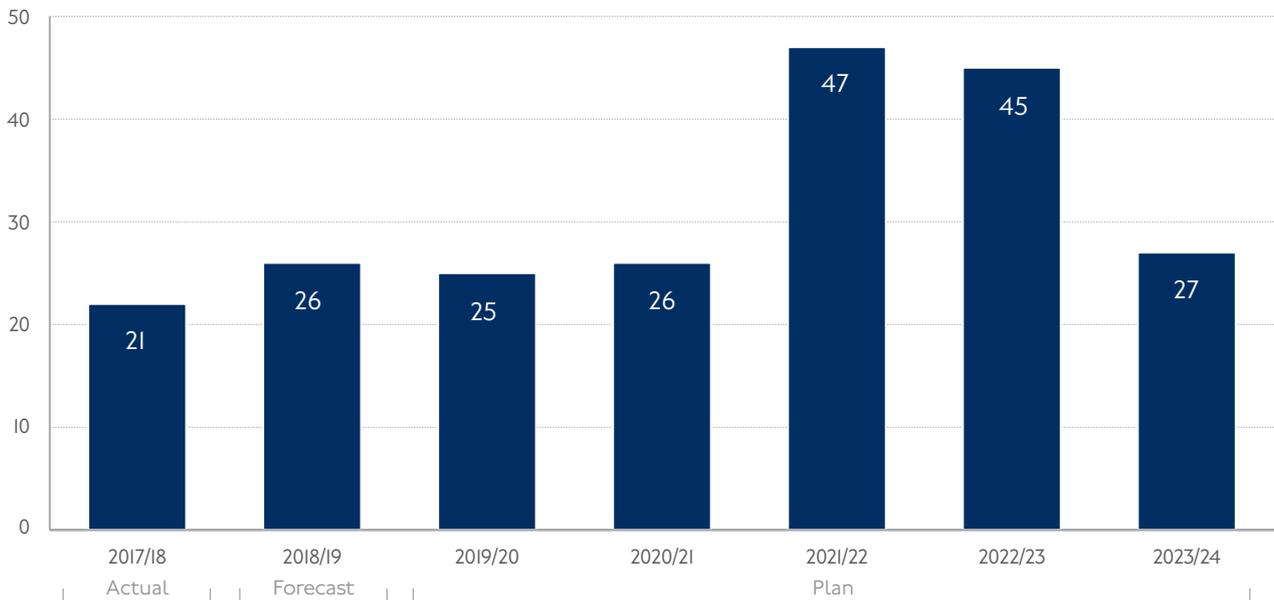
Our investment in buses consists of three distinct areas: the Air Quality and Environment portfolio, the Assets portfolio, and the Public Transport portfolio.

In the Air Quality and Environment portfolio we are chiefly investing in solutions to improve the emissions from the entire fleet of buses. We invest in our bus stops and shelters in the Assets portfolio to ensure they remain in good condition.

The Public Transport portfolio invests in a number of small but important projects, such as ensuring our bus drivers have toilet facilities and a bus safety programme.

We also invest in buses, bus stops and new technology. Our main focus is to ensure the highest standards of air quality and safety across our entire bus network.

Figure 25: Capital investment (£m)



**4,200+**  
bus stops in London are accessible



**5,500+**  
bus engines are at the highest Euro VI standard



We have introduced air quality alerts at various places across London, including 2,500 bus stop countdown signs and all Tube stations. These alerts warn customers when levels of pollution are exceptionally high.

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## Key projects/programmes

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### Reducing air pollution

We are committed to reducing air pollution from our bus fleet. By 2020, our entire fleet will meet the ultra-clean Euro VI engine emissions standard. We will operate clean buses in both the Ultra Low Emission Zone by April 2019 and in 12 Low Emission Bus Zones by the end of 2019. From 2020, all new single-deck buses entering the fleet will be zero-emission, and we will move to buying only zero-emission at tailpipe double-deck buses, so that by 2037, the entire bus fleet will be zero-emission.

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### Bus priority

Bus priority schemes will help to improve the efficiency and reliability of the network. These measures – led by the boroughs and us – need to deliver good value for money, so priority will be given to smaller-scale interventions, such as minor changes to road layouts, extensions of bus lane operating hours and enhanced bus priority at signals, which can deliver significant benefits.

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### Bus driver toilet facilities

Following the Mayor's commitment to improve bus driver working conditions, we will install new toilets for drivers. These safe and secure facilities will be delivered in 42 bus locations, by April 2020, subject to obtaining the relevant consents. We will install some temporary facilities to make sure bus drivers have access to new toilets as soon as possible.

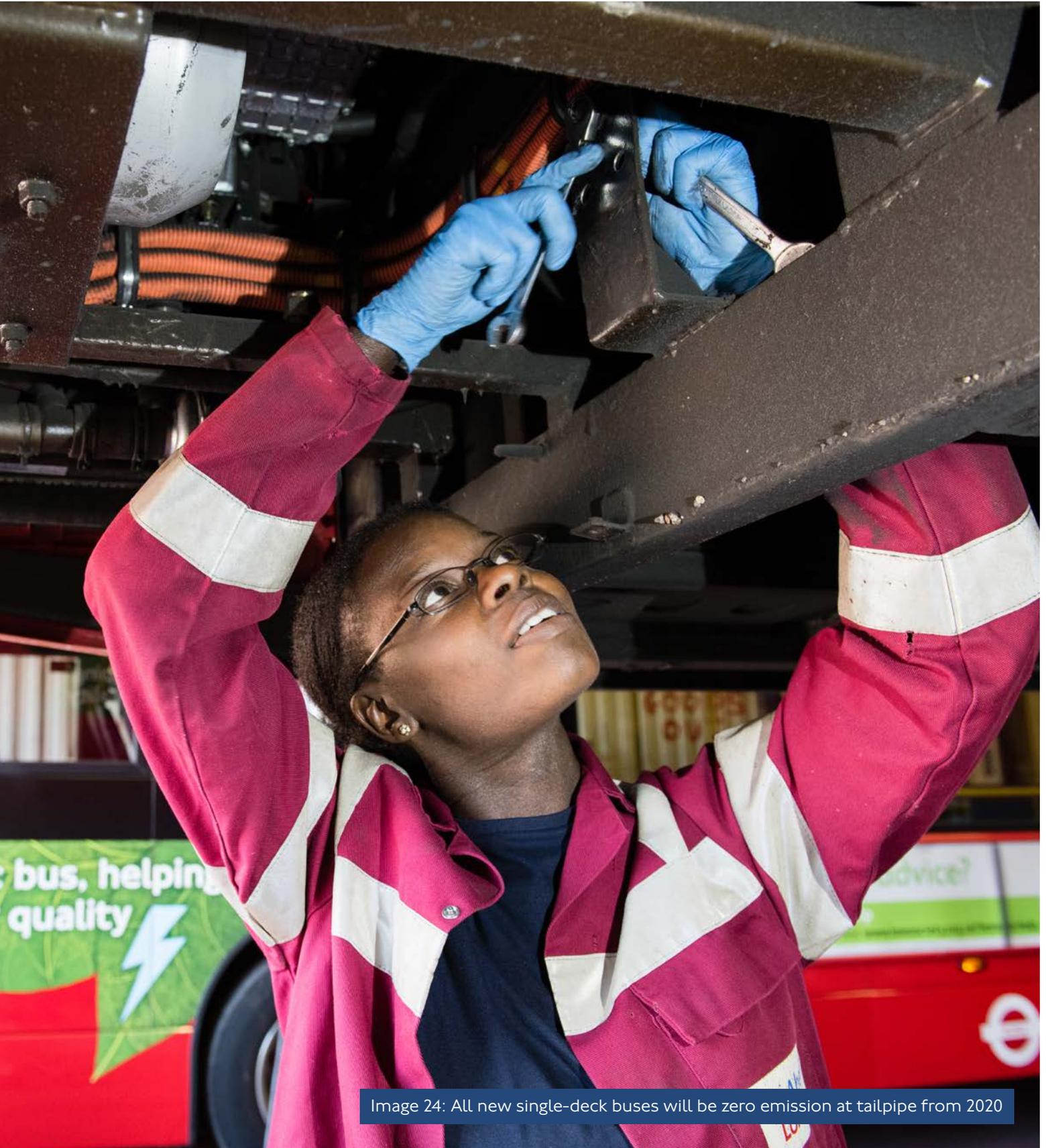


Image 24: All new single-deck buses will be zero emission at tailpipe from 2020



Image 25: Our new London Overground trains will provide a better customer experience

# Rail

## Enabling new homes, jobs and economic growth in Opportunity Areas around London.

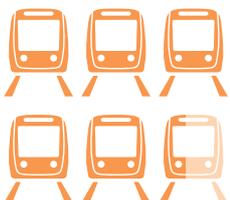
London's predicted population growth will have a significant impact on our rail services. Our network already serves a significant proportion of London's Opportunity Areas, including the DLR in the Royal Docks, trams in Croydon and Wimbledon, plus, by 2021, an extension of the London Overground to Barking Riverside. Our sustained operational performance and continued investment will help these areas succeed. We must work with the boroughs and developers to develop our infrastructure and assets, to support London's growth, meet demand and achieve the Mayor's Transport Strategy objective of unlocking access to new homes, commercial development and jobs.

Rail will help enable orbital and outer London journeys to be switched away from the car, helping deliver the Mayor's 80 per cent public transport mode-share

target. Current improvements include introducing new state-of-the-art trains on the London Overground. These Class 710 trains include the latest intelligent lighting and temperature control, as well as Wi-Fi, USB charging points and digital information screens, giving customers higher quality real-time travel information.

Other major, long-term projects include:

- Improving safety and security, capacity, and reliability on our rail network
- Capacity expansion works at DLR and London Overground stations
- Replacing DLR trains with higher-capacity rolling stock
- Continue to develop proposals for an extension of the tram network between Sutton town centre and Merton



**54**

new electric London Overground trains, adding capacity across the network



**New**

walk-through, air-conditioned DLR trains being procured

### Safety and security

Providing a safe environment for customers and staff remains our top priority. We will invest in infrastructure improvements and CCTV and make sure safety and security are fully considered in the planning, design and running of services. We will continue to invest in the British Transport Police to prevent crime, anti-social behaviour and fare evasion.

We will work with other operational business areas to tackle criminal damage

and the associated impact it has on our customers and network, through a coordinated, TfL-wide approach.

We will work with the construction industry, Network Rail and other stakeholders to encourage materials for our large capital projects, such as the Barking Riverside Extension, to be transported by rail. This will reduce the number of freight vehicles and other road users on London's roads.

**Figure 26: Safety and security**

	Forecast	Plan	Plan	Plan	Plan	Plan
Safety and security measures	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Recorded crimes – London Overground network (per million passenger journeys)	8.3	8.0	7.7	7.7	7.7	7.7

### Passenger journeys

The volume of rail passenger journeys is expected to rise in the longer term, due to population growth and associated increased investment in infrastructure and enhanced service levels. However, it is anticipated that the opening of the Elizabeth line will temporarily reduce passenger numbers on the DLR in the short term.

### Customer satisfaction

We will continue to maintain customer satisfaction at a high level by enhancing customer information, improving reliability and increasing capacity.

**Figure 27: Operational performance**

	Forecast	Plan	Plan	Plan	Plan	Plan
London Rail	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
<b>Passenger journeys (millions)</b>						
DLR	122	120	119	120	123	127
London Overground	191	201	208	215	221	225
London Trams	30	30	31	32	32	35
<b>Customer satisfaction score</b>						
DLR	88	89	89	89	89	89
London Overground	85	85	85	85	85	85
London Trams	89	90	90	90	90	90

### Financial summary

We continue to target covering the direct operating cost of the Rail business with operating income to ensure it is financially sustainable without our operating grant from the Government. The Rail businesses currently cover their direct operating costs, but the cost of increased capacity on the London Overground, and the expected switching of passengers from the DLR to the Elizabeth line, mean that it will run a deficit in the short term. As demand grows to utilise this spare capacity, the Rail businesses will return to breakeven by 2022/23.

Rail passenger demand will grow every year over the period of the Business Plan, with average annual growth of more than two per cent, despite some passengers switching from the DLR to the Elizabeth line. This is largely due to additional investment on the London Overground, including:

- New trains, which will enable service frequency increases on the north and west London routes during peak periods
- New longer and more spacious trains on routes from Liverpool Street and the Gospel Oak to Barking route, with improved ambience and air-conditioned carriages

As a result, passenger income will rise by more than 30 per cent over the plan period. The increase in services, predominantly on London Overground, will also see an expected 12 per cent rise in operating costs.

**Figure 28: Financial summary (£m)**

#### Rail

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	418	430	442	462	508	542	577
Other operating income	13	28	9	5	6	6	7
<b>Total operating income</b>	<b>431</b>	<b>458</b>	<b>451</b>	<b>467</b>	<b>514</b>	<b>548</b>	<b>584</b>
Direct operating cost	(413)	(456)	(504)	(508)	(526)	(538)	(562)
<b>Direct operating surplus / (deficit)</b>	<b>18</b>	<b>2</b>	<b>(53)</b>	<b>(41)</b>	<b>(12)</b>	<b>10</b>	<b>22</b>
<b>Net capital investment</b>	<b>(91)</b>	<b>(63)</b>	<b>(167)</b>	<b>(177)</b>	<b>(165)</b>	<b>(166)</b>	<b>(215)</b>

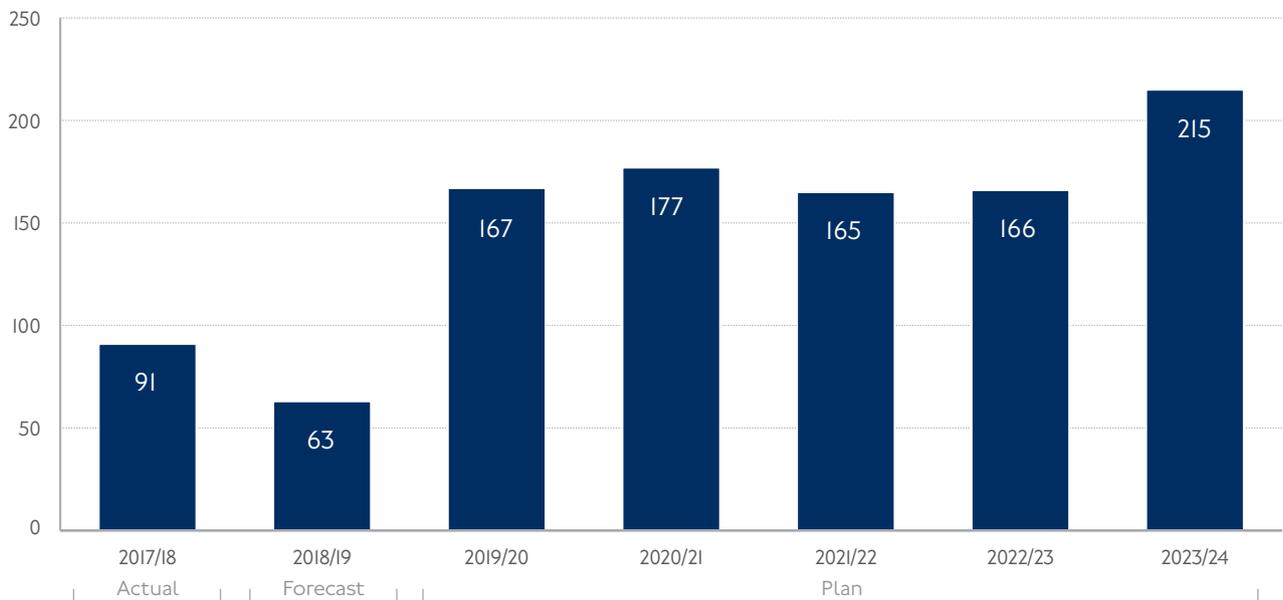
### Capital investment

We have two important projects that are delivered by the Major Projects Directorate. These are the Barking Riverside Extension and delivering the new rolling stock for the DLR. The remainder of our capital expenditure is delivered through the Public Transport

portfolio, which chiefly deals with the renewal and enhancement of the DLR, London Overground and London Trams.

Our investment is focussed mainly on our trains and stations, such as White Hart Lane, and keeping the rail network safe and reliable.

Figure 29: Capital investment (£m)



**39** stops on the London Trams network serving four south London boroughs



**10,800**

more homes supported by the Barking Riverside Extension

**i**

The Barking Riverside housing development has been selected as London's first Healthy New Town, as part of a flagship NHS England programme. This is designed to dramatically improve people's health by integrating health and care services into new developments as they are being built.

**Key projects/programmes****Barking Riverside Extension**

This 4km extension of the London Overground will see services commencing in 2021. It will support the development of 10,800 new homes, a new school, healthcare facilities, and a new district centre, and will provide a sustainable alternative to car travel in the area. It will also help create high-quality public spaces, and we are working in partnership with the London Borough of Barking and Dagenham to create connections to walking and cycling routes in the area.

**DLR rolling stock replacement**

We are progressing plans to procure new walk-through trains for the DLR network. The new trains will increase capacity, support demand growth and help unlock new homes and jobs around the DLR network. The new trains will feature on-board real-time information, air-conditioning, and mobile device charging points, providing a better customer experience.

**White Hart Lane station**

This station upgrade will deliver step-free access and additional staircases to address capacity issues and improve accessibility. We are working with Haringey to help with the regeneration of the local area via significant public realm improvement and the provision of an east-west underpass. This will enhance travel links for the local community.



Image 26: The Barking Riverside Extension will support new homes and services



Image 27: Our Tube investment will increase capacity across the network

# London Underground

The Tube network is one of the largest metros in the world and carried nearly 1.4 billion customers across London last year.

Over this Business Plan, we will continue to invest in vital improvements and add much needed capacity to the network, supporting a shift away from car use and improving journeys for millions of customers.

We are halfway through upgrading the assets that need modernising to ensure London remains a hub of connectivity. The Four Lines Modernisation, Northern Line Extension and Crossrail were all part funded by government. It is vital that we establish a long-term funding strategy with government to upgrade the Piccadilly, Bakerloo, Central and Waterloo & City lines.

The Circle, District, Hammersmith & City and Metropolitan lines will benefit from modern signalling equipment that is replacing some of the oldest technology on our network. These changes, and the new S-stock trains already in service, will increase capacity by 33 per cent across these lines by the end of 2023.

The Northern Line Extension from Kennington to Battersea will bring people closer to one of London's biggest regeneration areas. We will also invest in station improvements to ease crowding at vital locations. Some of our busiest stations, including Bank and Elephant & Castle, will be significantly expanded. We will have made 15 more stations step-free by 2020, with a further six to be delivered by the end of 2023/24, through the London Underground step-free programme. Other step-free stations will be delivered as part of the Northern Line Extension and the Elizabeth line programmes.

Our primary focus is on delivering a safe, reliable and world-class Tube network every day. We are renewing our asset base and ensuring our trains, tracks and infrastructure are in good, sustainable condition. Every day we operate and manage 620 trains, 270 stations, more than 1,000km of track, 440 escalators, 2,255 ticket gates, and more than 16,000 bridges and structures.



**4 million**

Tube journeys every day



**433 million**

train kms run during the Business Plan period

### Safety and security

Our top priority is to provide a safe travelling environment for our customers and a safe place to work for our staff. London Underground is already one of the safest metros in the world and we are building on this by introducing new trains and signalling systems, and improving how we design and operate our stations.

We work closely with the British Transport Police to improve safety and security. Our continued commitment to tackling unwanted sexual behaviour – through encouraging staff and passengers to report incidents –

means we will see the upward trend in recorded sexual offences continue. It is encouraging to see evidence that victims are more confident to come forward and report, knowing that we – and the police – will take action.

We are also seeing a significant increase in customers reporting incidents of pushing, shoving and altercations to the British Transport Police. We anticipate that this trend will continue in the short term as passenger numbers rise, and then begin to level out and fall, as this problem is addressed through changes in technology, design, passenger behaviour, policing and enforcement efforts.

**Figure 30: Safety and security**

	Forecast	Plan	Plan	Plan	Plan	Plan
Safety and security measures	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Recorded crimes per million passenger journeys	11.0	11.8	12.8	13.5	14.1	12.2

### Passenger journeys

Demand for Tube services is up from last year but slightly below the record high in 2016/17. Over the first few years of the plan, passenger journeys reflect the overall lower demand assumed within London and passengers migrating to the Elizabeth line during its phased opening. Demand is expected to increase towards the end of the plan as the Elizabeth line brings new passengers from outside London on to the Tube. Over the Business Plan period, we will continue to increase our capacity, running six per cent more kilometres in 2023/24 compared with 2018/19.

### Customer satisfaction

Our customers remain at the heart of everything we do. Over the next five years, we aim to improve customer satisfaction by working on known problem areas on the network and improving the reliability of our services.

**Figure 3I: Operational performance in the future**

	Forecast	Plan	Plan	Plan	Plan	Plan
London Underground forecasts	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger journeys (millions)	1,373	1,373	1,357	1,365	1,394	1,446
Customer satisfaction score	85	85	86	86	86	86
Excess journey time (minutes)	4.55	4.55	4.50	4.50	4.45	4.45
Operated km (millions)	83.4	83.6	86.0	87.5	88.1	88.1

### Financial summary

Passenger income is forecast to rise by 25 per cent from 2018/19 to 2023/24. This continues our lower growth forecast due to reduced passenger demand. These forecasts assume the Mayor's freeze on TfL fares is maintained until 2020.

We have set ourselves the ambitious challenge of reducing our direct operating costs over the plan period, including absorbing inflationary pressures and service level uplifts. In the past year, we have continued to modernise and restructure our organisation. We will maintain our direct operating costs at around £2bn a year, absorbing inflation and delivering service improvements.

This will be achieved as a result of our extensive modernisation programme, which will transform the Underground into a more efficient service and a fairer place to work. It covers all aspects of our operation, including new organisational structures to reduce management layers, eliminate duplication and improve our ways of working.

Through the decisive actions we are taking, we anticipate our net direct operating surplus will grow from £0.7bn to £1.4bn over the course of the Business Plan. The surplus will fully fund the investment in capital renewals, as part of the London Underground Investment Programme over the period of the plan.

**Figure 32: Financial summary (£m)**  
London Underground

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	2,632	2,723	2,772	2,828	2,962	3,159	3,410
Other operating income	36	21	33	37	28	20	21
<b>Total operating income</b>	<b>2,668</b>	<b>2,744</b>	<b>2,805</b>	<b>2,865</b>	<b>2,990</b>	<b>3,179</b>	<b>3,431</b>
Direct operating cost	(2,125)	(2,060)	(2,113)	(2,068)	(2,019)	(2,017)	(2,017)
<b>Direct operating surplus</b>	<b>543</b>	<b>684</b>	<b>692</b>	<b>797</b>	<b>971</b>	<b>1,162</b>	<b>1,414</b>
<b>Net capital investment</b>	<b>(1,091)</b>	<b>(1,051)</b>	<b>(1,079)</b>	<b>(1,005)</b>	<b>(980)</b>	<b>(909)</b>	<b>(1,157)</b>

### Capital investment

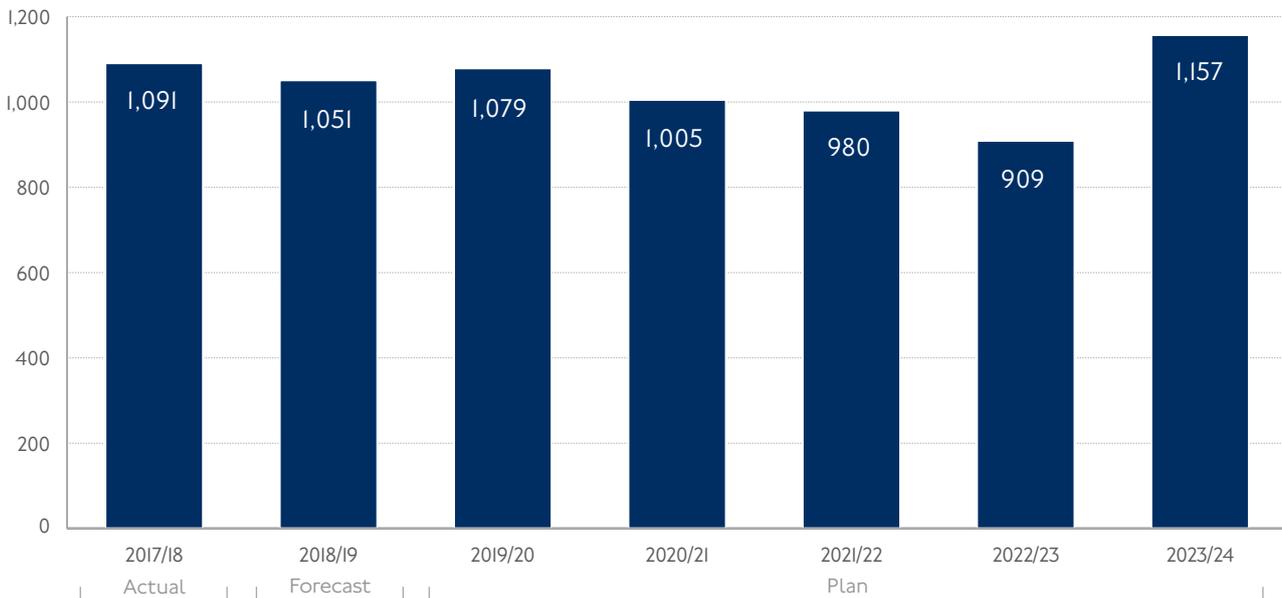
London Underground investment consists of two distinct areas: the Major Projects Directorate and the London Underground Investment Programme.

The Major Projects Directorate's significant modernisation projects include the Northern Line Extension and the major upgrades at Bank and Victoria stations. Some major projects are described in the next section.

The London Underground Investment Programme is a mix of safety-focused asset replacement and modernisation, to achieve efficiencies and make the public transport experience better for customers.

The portfolio includes work on track, fleet, step-free access, stations, power and cooling. Our main focus is on keeping London Underground safe and reliable and our choice of projects is informed by our asset strategy and asset condition reports.

Figure 33: Capital investment (£m)



## Key projects/programmes

### Line upgrades

#### Modernisation of the Circle, District, Hammersmith & City and Metropolitan lines

Following the introduction of 192 new, larger, walk-through trains across all four lines, the modernisation programme is now in the process of replacing and improving outdated signalling, power and depot assets across the four lines.

This, along with the capacity increase from the new S-stock trains in service, will add an overall 33 per cent increase in capacity, with up to 32 trains per hour in the peak, improving both journey time and customer experience. This includes a 61 per cent increase on the Circle and Hammersmith & City lines, 24 per cent increase on the District line and 22 per cent increase on the Metropolitan line.

#### Deep Tube Upgrade programme

Works to increase capacity will begin on the Piccadilly line with the introduction of a new fleet of trains. These trains will be delivered in 2023 and replace the current fleet, by which time it will be more than 50 years old. The new trains will be in service from 2024.

We remain committed to delivering new signalling on the Piccadilly line, as well as the other deep Tube lines, but without confirmed capital funding beyond 2020, we have decided to work with our suppliers to review the programme so that it delivers in the most efficient way. We will therefore be discontinuing the current procurement to allow it to reflect our latest thinking in the future.

### Improving capacity on the Jubilee and Northern lines

Following on from recent timetable changes, which have increased peak time services on both the Jubilee and Northern lines, the second phase of this upgrade is estimated to be complete by 2022. The upgrade focuses on:

- Jubilee line capacity improvement: up to 32 trains per hour to operate on the central section in the peak by the end of 2021
- Northern line capacity improvement: 31 trains per hour on the Morden branch in the peak from 2020. This will also enable the introduction of services on the Battersea branch once the Northern Line Extension is completed

### Major station upgrades

#### Bank

Improvements to this vital transport hub, used by more than 400,000 people a day, will be finished by 2022. We will see new station entrances at Bank and Cannon Street, as well as step-free access, a new southbound running tunnel and platform for the Northern line and a quicker and easier interchange between lines. This includes a 96-metre moving walkway to speed up interchange times and reduce walking distances – all greatly improving access, circulation and interchange, and delivering a capacity increase of 45 per cent.

#### Elephant & Castle

Due to be completed in 2024, the upgrade involves working with a developer to provide a new Northern line ticket hall with two banks of three new escalators, and step-free access to the Northern line platforms. This will support the area's transformation, which includes up to 5,000 new homes and 5,000 jobs.

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## Key projects/programmes

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### Northern Line Extension

The extension, from Battersea Power Station to Kennington via Nine Elms, will bring Battersea and surrounding areas to within 15 minutes of the City and the West End. It will also enable the regeneration of the Vauxhall, Nine Elms and Battersea areas, spurring economic growth by supporting around 25,000 jobs and more than 20,000 new homes.

Track is currently being laid in both tunnels and work on the new stations at Battersea and Nine Elms is progressing well.

### Increasing accessibility

We are working towards the Mayoral commitment of delivering 15 step-free stations by 2020, with six more due to be delivered by the end of 2023/24. In addition, we are using innovative, lower-cost ways to make our network more accessible. This includes improving our turn-up-and-go service and our online accessibility information, and also through the provision of open data sources, such as sharing the number of steps at stations.

## Reducing our energy use and carbon footprint

We are carrying out feasibility studies into energy efficiency, procurement, generation and storage, and new transport to identify projects that can deliver financial savings and significantly reduce our carbon emissions. This supports the Mayor's zero carbon agenda and the electrification of road transport to improve London's air quality.



**45%**

increase in capacity  
at Bank station



**540**

trains run every  
week day morning



Image 28: The new Elizabeth line will provide extra capacity and boost the economy

# Elizabeth line

The Elizabeth line will deliver an additional 10 per cent to central London's rail capacity.

The hugely complex Elizabeth line project brings together multiple infrastructure contracts, new trains and three different signalling systems. The Elizabeth line will add 10 per cent to central London's rail capacity, and the project will boost the economy by an estimated £42bn.

The 10 new stations being built in central London are nearing completion. Escalators, lifts and architectural features are being installed. Work will also continue to complete upgrades to the existing network. This is being carried out by Network Rail between Paddington and Heathrow/Reading, Liverpool Street and Shenfield, and at Abbey Wood.

In autumn 2018, Crossrail Limited announced that the opening of the central section between Paddington and Abbey Wood, which was due to open in

December 2018, would be delayed. The revised schedule is needed to complete the final infrastructure and extensive testing required to ensure the Elizabeth line opens as a safe and reliable railway.

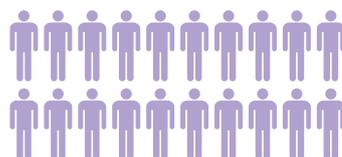
The delayed opening is disappointing, but ensuring the Elizabeth line is safe and reliable for our customers from day one is of paramount importance. We will continue to work closely with Crossrail Limited on the remaining infrastructure work and testing needed to deliver the new railway.

The focus remains on opening the full Elizabeth line, from Reading and Heathrow in the west to Shenfield and Abbey Wood in the east, as soon after the central tunnels open as possible.



41

accessible  
stations



200million+

journeys each year on the  
Elizabeth line by the end  
of 2023/24

**Passenger journeys**

As the phased opening progresses, passenger journeys and operated kilometres will rise in step with this over the Business Plan period. When fully open there will be more than 200 million journeys every year on the Elizabeth line.

**Customer satisfaction**

The public performance measure and customer satisfaction score will also increase as the full service becomes operational.

**Figure 34: Operational performance in the future**

	Forecast	Plan	Plan	Plan	Plan	Plan
<b>Elizabeth line forecasts</b>	<b>2018/19</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>	<b>2022/23</b>	<b>2023/24</b>
Passenger journeys (millions)	55	70	166	240	269	273
Customer satisfaction score	83	84	85	85	85	85
Public performance measure (%)	94.25	94.5	94.75	95	95	95
Operated km (millions)	4.2	5.5	10.0	13.6	13.6	13.6

**Financial summary**

Passenger income will grow from £101m in 2018/19 to £982m by 2023/24, driven by rising demand following the phased opening of the Elizabeth line. The growth in other operating income is mainly due to access charges when the central section opens.

Our direct operating costs will also increase, to £955m at the end of the plan. This is driven by operational and maintenance costs resulting from the opening of the central section and the growth in new services. In addition, there is the introduction of access charges, which are offset by other income.

A net operating surplus will be achieved from 2021/22, growing to £416m over the period.

Capital expenditure will decline as we move towards a fully operational railway.

Additional Crossrail construction costs are being funded through the agreement that has been announced by the Mayor and the Government.

**Figure 35: Financial summary (£m)**  
Elizabeth line

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	83	101	140	436	776	929	982
Other operating income	4	35	181	359	366	378	389
<b>Total operating income</b>	<b>87</b>	<b>136</b>	<b>321</b>	<b>795</b>	<b>1,142</b>	<b>1,307</b>	<b>1,371</b>
Direct operating cost	(118)	(256)	(601)	(844)	(877)	(925)	(955)
<b>Direct operating surplus/(deficit)</b>	<b>(31)</b>	<b>(120)</b>	<b>(280)</b>	<b>(49)</b>	<b>265</b>	<b>382</b>	<b>416</b>
New capital investment	(376)	(329)	(68)	-	-	-	-
Crossrail construction investment	(1,530)	(1,403)	(1,196)	-	-	-	-
<b>Net capital investment</b>	<b>(1,906)</b>	<b>(1,732)</b>	<b>(1,264)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Income and costs include current TfL Rail services as well as future Elizabeth line services, and include forecast abstraction from other TfL services.

# Other operations



Providing Londoners with cleaner air and a range of high-quality travel options.

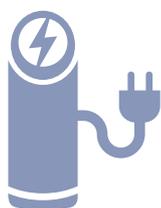
We regulate and license London's taxi and private hire industry, with almost a quarter of a million licences issued, making us the largest licensing authority in the UK. We also oversee the Santander Cycles scheme, manage Victoria Coach Station, license London River Services and operate London Dial-a-Ride, the Woolwich Ferry and the Emirates Air Line.

The Mayor is taking urgent action to remedy London's failure to meet the legal NO<sub>2</sub> limit. This is also crucial to improving public health. The Ultra Low Emission Zone will be introduced in 2019. This will be the toughest air quality standard of any world city. This innovative scheme will improve air quality and contribute to making London a zero-carbon city. In October 2020, we will tighten the Low Emission Zone standards and expand the Ultra Low Emission Zone to the North and South Circular roads in October 2021.

We will also encourage the uptake of zero emission capable taxis, by providing necessary infrastructure and changing licensing requirements.

Elsewhere in Other operations we will:

- Carry out essential upgrades to the Santander Cycles payment system
- Continue to develop the Thames' potential for river transport, with the introduction of two new hybrid-powered Woolwich Ferry vessels
- Continue to deliver on the commitments set out in the Mayor's Taxi and Private Hire Action Plan and keep regulatory requirements for the taxi and private hire industry under review to ensure public safety
- Carry out essential asset renewal works to the facilities at Victoria Coach Station



## 300

new rapid charging points by 2020



## All 775

Santander cycle payment terminals are now contactless



Image 29: Two new Woolwich Ferries will provide a cleaner, more reliable service

**Safety and security**

Taxi and Private Hire, Dial-a-Ride, Santander Cycles, Victoria Coach Station and River Services will all be included in the implementation of the TfL-wide Security Plan.

The safety of London's taxi and private hire industry remains a priority. We are committed to improving standards through effective regulation and rigorous enforcement, to tackle illegal activity, as well as unsafe vehicles and driving standards. This year we consulted on a number of new proposals to further improve the safety of private hire vehicles.

We have long been calling for a cap on the number of private hire vehicles, legislation to address cross-border hiring, national minimum standards and statutory definitions for plying for hire and pre-booked. We were an active member of the Department for Transport's Taxi and Private Hire Task and Finishing Group, where these important regulatory issues were discussed. The Chair of the group published his final report on 24 September 2018.

We believe that taking forward the report's recommendations is essential to making national legislation fit for purpose in these fast-changing industries. We urge the Government to move quickly to implement these proposals, which are vital in ensuring passenger safety.

We continue to work closely with the Metropolitan Police Service and the City of London Police to tackle taxi and private hire journey-related sexual offences and to improve victims' confidence in reporting offences when they happen so that robust action can be taken.

The Mayor's Taxi and Private Hire Action Plan includes a number of items where we are seeking legislative change to enhance the safety and security of passengers using taxi and private hire services. We will continue to work with the Government to bring these forward, which includes powers to address issues of drivers working outside their licensing area, a cap on numbers and a statutory definition to make clear the distinction between taxi and private hire services.

### Operational performance

Dial-a-Ride provides essential transport for older and disabled passengers who are unable to access the mainstream network, and carries more than a million people each year. In addition, Dial-a-Ride Travel Mentors make accompanied journeys with Londoners with travel challenges, helping them use the mainstream transport network and increasing their independence.

Dial-a-Ride services will be Ultra Low Emission Zone-compliant by March 2019 and we have plans in place to ensure compliance with the extended Ultra Low Emission Zone in the future. We will procure a new booking and scheduling system for Dial-a-Ride in 2020/21, which will be both easier to use for our customers and more efficient for us.

We are expecting a modest rise in cycle hire use as a result of our continued investment in cycling and our renewed

focus on the most popular hire stations, which are in and around parks during weekends. July 2018 saw the highest ever number of hires in a single month, on top of the most hires for the months of May and June since the scheme was launched in 2010.

We will continue to work with our partners, including the Port of London Authority, to support safe and sustainable river passenger growth. With more than 10 million river passengers using the Thames annually, the introduction of new accessible, greener hybrid-powered boats for the Woolwich Ferry demonstrates our continued support for making use of the river's potential to transport people and goods.

We expect around 13 million passengers to use Victoria Coach Station each year, almost as many as use Luton airport, yet on a site of just three acres.

**Figure 36: Operational performance in the future**

	Forecast	Plan	Plan	Plan	Plan	Plan
Other operations measures	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Dial-a-Ride trip requests scheduled (%)	89.0	89.0	89.0	89.5	89.5	89.5
LRS passenger journeys (inc Woolwich Ferry) (millions)	10.1	10.2	10.3	10.4	10.6	10.7
Cycle hire - number of hires (millions)	10.7	10.8	11.0	11.3	11.5	11.7

### Financial summary

Our Other operations achieve surplus between 2019/20 and 2021/22, through the introduction of new air quality schemes and a focus on operating cost efficiencies in our current services.

The rise in operating income from 2019/20 will be largely as a result of the Ultra Low Emission Zone. The Ultra Low Emission Zone will be introduced in central London in April 2019 and then expanded to the North and South Circular roads in 2021. This revenue will cover the cost of running the scheme, plus a small surplus to reinvest in cleaner buses and Dial-a-Ride vehicles, and to provide delicensing incentives for the oldest, most polluting taxis.

London River Services have also increased pier charges for private charter boat bookings to generate investment needed to support growth, including improving the river's connectivity with other transport.

We are also working alongside the Port of London Authority and developers to deliver other enhancements.

Another contribution to the increase in income are a rise in taxi and private hire fee charges, subject to approval, alongside cost efficiencies, so that licence fees cover the cost of licensing and compliance activity. More Cycle Hire and London River Services journeys and higher Emirates Air Line income, contribute to higher passenger and other income on our Other operations towards the end of the plan.

Operating costs include investment to deliver the Mayor's vision on air quality, which involves introducing cleaner vehicles, continuing to build a network of rapid charge points and funding to support new borough projects. This is offset by year-on-year cost reductions driven by contract efficiencies and lower staffing costs.

**Figure 37: Financial summary (£m)**

#### Other operations

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	6	6	7	7	7	7	8
Other operating income	67	74	249	211	325	234	183
<b>Total operating income</b>	<b>73</b>	<b>80</b>	<b>256</b>	<b>218</b>	<b>332</b>	<b>241</b>	<b>191</b>
Operating cost	(159)	(166)	(210)	(198)	(275)	(251)	(243)
<b>Direct operating surplus/(deficit)</b>	<b>(86)</b>	<b>(86)</b>	<b>46</b>	<b>20</b>	<b>57</b>	<b>(10)</b>	<b>(52)</b>
<b>Net capital investment</b>	<b>(59)</b>	<b>(69)</b>	<b>(52)</b>	<b>(83)</b>	<b>(48)</b>	<b>(8)</b>	<b>(7)</b>

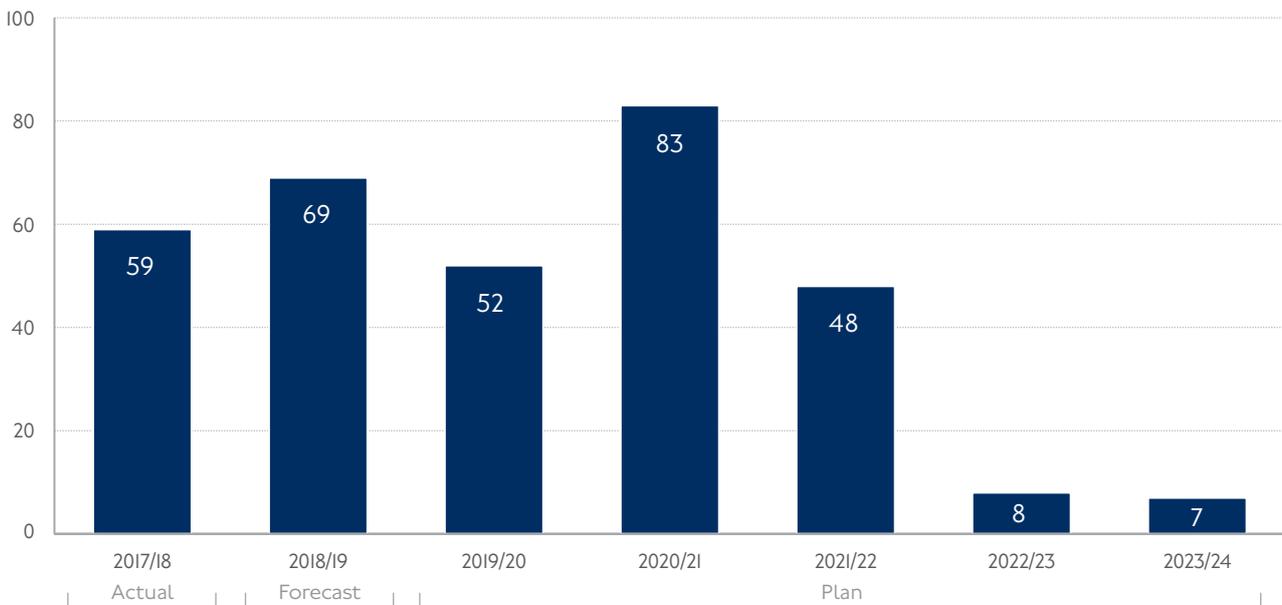
### Capital investment

The Other operations division will deliver the Ultra Low Emission Zone in April 2019, and further supports our clean air strategy through investments in the Air Quality and Environment portfolio. We are also investing in technology to support charging of electric vehicles through this portfolio. Other investments include the delivery of

the two new Woolwich Ferries (delivered in 2018/19), renewing our Cycle Hire scheme bikes, and continued investment in our taxi and private hire division.

Within this division, we are also investing in Dial-a-Ride, Victoria Coach Station and the Emirates Air Line.

Figure 38: Capital investment (£m)



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## Key projects/programmes

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### Ultra Low Emission Zone

The Ultra Low Emission Zone will be introduced in central London in April 2019 and then expanded to the North and South Circular roads in 2021. The zone will require all vehicles to meet minimum emissions standards or pay a daily charge.

To ensure London's public transport fleet becomes low emission, only new hybrid or zero emission double-deck buses are entering the fleet.

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### Zero emission capable taxis

We are assisting taxi drivers in making the transition to cleaner vehicles, through delicensing payments, new vehicle grants and providing the electric charging infrastructure.

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### Rapid charging infrastructure

To support the growing number of zero emission capable taxis and electric vehicles, we are building a network of 300 rapid charging points across London by 2020.

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### Dial-a-Ride

The current ageing fleet will be replaced to meet regulatory requirements, to improve operational efficiency and customer satisfaction. We will invest in technology, including a new booking and scheduling system.

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### Santander Cycles

We have upgraded the current payment systems, which expired at the end of 2018, enabling contactless payments.

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### Woolwich Ferry

We have purchased two new vessels for the service which are more fuel-efficient, less noisy and because they are hybrid-powered, will reduce emissions. The ferries will be in service from 2019.

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### Victoria Coach Station

We will carry out essential asset renewal works to the facilities at the coach station.

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### Taxi and private hire regulation

We will continue to improve the safety of passengers by introducing new regulations where necessary.



Image 30: There are around 130 TfL funded rapid charge points in London, with 61 for zero emission capable taxis only

# Commercial Development



## Establishing new and more ambitious plans to grow our commercial income.

We will use our assets to generate long-term revenues to reinvest back into our network. We will do more to leverage our position as one of London's largest landowners, developing our property, retail, advertising, telecoms and consultancy businesses to continue to deliver ongoing income streams.

### Build to Rent

Because of our position as one of London's largest landowners, we can provide places for Londoners to live and work, and we can improve the connectivity that they need.

Over this Business Plan we will continue to develop 320 acres of land for housing and commercial space. By March 2021, we will have started on property development sites that will support 10,000 new homes and a million square feet of offices, shops and workspace. Fifty per cent of all homes brought to market after May 2016 will be affordable.

We are on track to start construction on sites that will deliver 10,000 homes and we already have partners in place for 7,000 homes. Of the 10,000 homes, by March 2019 planning applications will have been submitted for more than 5,000 homes on our land.

There will be an increasing focus on Build to Rent. The first package of over 3,000 homes is currently being marketed and has attracted strong interest due to the scale and location of our sites. We expect to bring forward thousands more homes for Build to Rent over the course of the Business Plan.

### Advertising

We have an advertising audience of 1.5 billion a year. The ongoing modernisation of our digital advertising infrastructure, coupled with a deeper understanding of our customers via our data, will enable us to improve the customer experience, while driving revenue for us.



## 50%

of homes brought to market in this Mayoral term will be affordable



## 1.5bn

advertising audience per year



Image 31: Our advertising estate is one the most valuable in the world

## Spotlight

### Advanced technologies

We will make a substantial contribution to improving London's connectivity by bringing 4G and 5G to the London Underground. This will ensure better access to public sector property for digital infrastructure while delivering a new revenue stream for us.

We are using our assets to improve London's connectivity, which is a Mayoral priority. Our tunnels, tracks and on-street infrastructure are ideal places to install the equipment and technology needed to bring 4G and 5G coverage to the Tube, and to improve connectivity above ground. The infrastructure required to bring mobile coverage to the Tube also has the potential to support full fibre connections in homes and businesses across London.

We have started a competitive procurement process to identify a partner and expect to launch the first phase of 4G on London Underground in 2019. Trials have been successfully completed on the Jubilee and Waterloo & City lines and more than 250km of cabling has already been installed. We are on track to deliver significant improvements to the digital infrastructure of London while creating a significant new revenue stream.

Our advertising estate is the most valuable in the world. We are now halfway through the design and installation programme of more than 750 digital screens, next-generation cross-track projection and new digital ribbons beside escalators across the Tube network, including the Elizabeth line.

On the road network, we continue to work with partners to develop and install high-quality roadside advertising and we are nearing completion of our large format, underpass digital screens programme.

We work closely with brands to maximise the value of our intellectual property, while protecting our brand values. Initiatives, such as station renaming and experiential marketing, where brands can have a physical presence on our estate, help us to provide bespoke, immersive showcases for brands. This also entertains and engages our customers on their journeys around our network.

### Retail

Our retail and commercial properties continue to provide ideal locations for London's small businesses and generate a sustainable income stream for us. We will expand our retail and commercial property estates to maximise the potential income, while supporting the capital's growth.

We continue to invest in our estate and have a programme to improve our existing properties, while expanding opportunities, by making the most of our asset base to enhance revenue.

We have ambitious plans for our retail property, repositioning our space to attract tenants our customers will like. At our key gateway locations our plans are progressing, with major investment potential to significantly improve retail environments at South Kensington, Victoria and Liverpool Street.

We are investing in our portfolio of arches to provide the leisure and workspace London needs, with schemes at Wood Lane, Latimer Road and Kingsland Road. To complement our activity we have expanded opportunities for temporary kiosks to generate revenue in spaces that would otherwise not be used for this purpose. This provides a greater choice of services to our customers and scope for a variety of small businesses to trade.

### Consultancy

We have established our commercial consulting and international operations business. We are currently assessing opportunities and creating delivery vehicles with like-minded partners. This new trading arm will make a material contribution to our revenue.

Project successes to date include trialling Legible City wayfinding signage in Hong Kong and providing engineering expertise to metros in Oslo and San Francisco. We have also agreed to provide advisory services to a consortium bidding to run the Buenos Aires Metro.

While we continue to explore further opportunities, we will also focus on developing overarching management plans and making sure that there are appropriate controls in place to help us determine which opportunities to pursue and whether they align positively with our existing operations in London.

By setting things up now for long-term success, we remain confident the trading arm will make a material contribution to commercial income which can be reinvested to improve London's transport network.



**4G**

mobile coverage coming to the Underground network



**£43.7m**

worth of sponsorship by Santander. This is the largest public sector partnership in the world

### Financial summary

We will grow our income by investing in property, new business in consulting and telecoms, and increased media revenues via investment in technology and expansion into the new Elizabeth line.

We will develop our property portfolio to support the Mayor's pledge to provide 10,000 homes and his affordable housing target. We will invest in our retail offering in and around stations to attract new tenants and generate recurring revenue. The formation of our consultancy arm will generate income by exporting our knowledge to the rest of the world.

A strategy for head office buildings is being developed to maximise the efficiency of this significant budget cost.

Our capital programme will continue our strategy of retaining long-term interests in our developments to maintain ongoing revenue, including creating a significant Build to Rent portfolio. This will sit alongside targeted disposals, particularly of surplus operational assets.

The Financial summary table shows our expected income, but work is ongoing to develop new plans to significantly exceed existing revenue.

**Figure 39: Financial summary (£m)**  
Commercial Development

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	-	-	-	-	-	-	-
Other operating income	252	265	277	325	352	384	412
<b>Total operating income</b>	<b>252</b>	<b>265</b>	<b>277</b>	<b>325</b>	<b>352</b>	<b>384</b>	<b>412</b>
Direct operating cost	(156)	(159)	(149)	(131)	(108)	(109)	(113)
<b>Direct operating surplus</b>	<b>96</b>	<b>106</b>	<b>128</b>	<b>194</b>	<b>244</b>	<b>275</b>	<b>299</b>
Property receipts	59	100	211	299	53	207	140
Crossrail over station development	-	221	98	15	80	47	-
New capital investment	(65)	(127)	(211)	(210)	(124)	(243)	(241)
<b>Net capital investment</b>	<b>(6)</b>	<b>194</b>	<b>98</b>	<b>104</b>	<b>9</b>	<b>11</b>	<b>(101)</b>



Image 32: We are exporting our knowledge and services across the world, including Legible City signage in Hong Kong

# Professional services

Reducing our overhead costs while supporting colleagues and customers.

The Professional services division has a range of responsibilities including traditional support services – such as Finance, Human Resources and Legal – as well as directorates focused on supporting customers and developing how transport will look in the future.

Our Customers, Communication and Technology directorate maintains and develops our digital landscape, including our ticketing system, and helps customers to travel with minimal disruption.

We work on the feasibility of future projects and liaise with local communities, the Government and the Mayor to ensure these projects deliver the right benefits at the right costs, before construction starts.

We must do all of this while keeping our overheads as low as possible. Over the next five years of this Business Plan we will:

- Replace existing on-board iBus equipment and replace the analogue bus radio system with a digital mobile radio network
- Invest in internal tools and processes, such as improved end user computing experiences and strengthening our network and hosting capabilities
- Improve our ticketing system, using new technologies to benefit customers and reduce our revenue collection costs
- Continue to develop plans for the Bakerloo Line Extension and upgrade, using new trains and signalling to unlock significant housing growth
- Continue to develop proposals for an extension of the tram network between Sutton town centre and Merton
- Study the feasibility and development of the Mayor's Transport Strategy priorities, including the Healthy Streets Approach and enhancing the rail network



## Expand

our contactless ticketing solutions licensing



## 1.15m

downloads of the TfL Oyster and Contactless app since launch



Image 33: Our Professional services division supports vital services for staff and customers

### Financial summary

Our financial challenge in Professional services is to reduce our core operating costs year-on-year by continuously reviewing our working practices to ensure that we are as efficient as possible. We must do this while maintaining vital support to our operational teams and to our customers who depend on us providing a reliable service.

By 2021/22, our direct operating costs will be £464m. Excluding our one-off projects, like the Bakerloo Line Extension and upgrade, this is £123m lower than this year. This will be achieved by undertaking a further review of our organisational

structures and looking across functions to deliver common processes more efficiently. This has already started with the creation of our new Business Services Directorate which combines similar Finance and HR activities into one area.

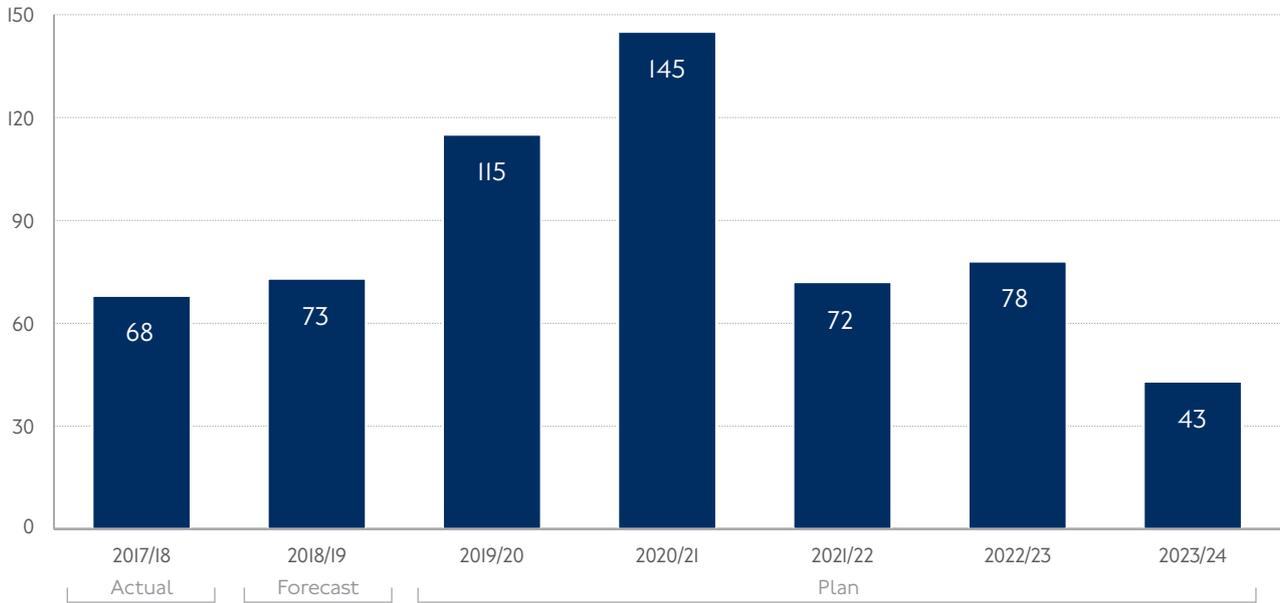
We will continue to maximise our revenue streams by licensing our contactless ticketing solution for the benefit of more cities around the world.

Our responsibility is to reduce our net operating deficit so that income generated from fare payers is used for the maintenance and development of our transport services. ■

**Figure 40: Financial summary (£m)**  
Professional services

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Passenger income	-	-	-	-	-	-	-
Other operating income	50	42	38	43	43	43	44
<b>Total operating income</b>	<b>50</b>	<b>42</b>	<b>38</b>	<b>43</b>	<b>43</b>	<b>43</b>	<b>44</b>
Operating cost	(572)	(561)	(571)	(496)	(464)	(465)	(475)
<b>Direct operating deficit</b>	<b>(522)</b>	<b>(519)</b>	<b>(533)</b>	<b>(453)</b>	<b>(421)</b>	<b>(422)</b>	<b>(431)</b>
<b>Net capital investment</b>	<b>(68)</b>	<b>(73)</b>	<b>(115)</b>	<b>(145)</b>	<b>(72)</b>	<b>(78)</b>	<b>(43)</b>

Figure 41: Capital investment (£m)



**7,000**

calls received every day at our customer contact centre



**£123m**

lower direct operating costs by 2021/22 (excluding one-off projects)



Image 34: Our Business Plan will ensure we continue to be a modern, efficient organisation



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# Appendix

127 TfL Group balance sheet

128 Major new capital investment  
(net of third-party funding)

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Image 35: We will continue to invest wisely and considerably to ensure we deliver the best service for London

**Figure 42: TfL Group balance sheet (£m)**

	Actual	Forecast	Plan	Plan	Plan	Plan	Plan
Balance sheet	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Intangible assets	118	98	104	107	99	78	60
Property, plant and equipment	39,274	40,943	43,130	44,170	44,950	45,735	46,600
Investment properties	537	535	452	428	428	439	441
Investment in associate entities	319	327	333	336	344	352	398
Long-term derivatives	12	17	17	17	17	17	17
Long-term finance lease receivables	17	38	40	23	8	1	-
Long-term debtors	28	64	48	34	25	19	18
<b>Long-term assets</b>	<b>40,305</b>	<b>42,022</b>	<b>44,124</b>	<b>45,115</b>	<b>45,871</b>	<b>46,641</b>	<b>47,534</b>
Stocks	64	65	65	65	65	65	65
Short-term debtors	561	597	551	454	435	487	470
Assets held for sale	83	27	-	-	-	-	-
Short-term derivatives	6	7	7	7	7	7	7
Short-term finance lease receivables	8	16	16	17	16	7	2
Cash and short-term investments	1,932	1,568	1,195	1,026	1,429	2,031	2,252
<b>Current assets</b>	<b>2,654</b>	<b>2,280</b>	<b>1,834</b>	<b>1,569</b>	<b>1,952</b>	<b>2,597</b>	<b>2,796</b>
Short-term creditors	(2,348)	(1,916)	(2,167)	(2,170)	(2,281)	(2,277)	(2,325)
Short-term derivatives	(2)	(4)	(4)	(4)	(4)	(4)	(4)
Short-term borrowings	(846)	(761)	(761)	(761)	(761)	(761)	(761)
Short-term lease liabilities	(70)	(70)	(31)	(29)	(31)	(36)	(40)
Short-term provisions	(334)	(303)	(115)	(93)	(78)	(63)	(63)
<b>Current liabilities</b>	<b>(3,600)</b>	<b>(3,054)</b>	<b>(3,078)</b>	<b>(3,057)</b>	<b>(3,155)</b>	<b>(3,141)</b>	<b>(3,193)</b>
Long-term creditors	(66)	(77)	(70)	(66)	(62)	(59)	(57)
Long-term borrowings	(9,570)	(10,475)	(11,276)	(11,857)	(12,358)	(12,859)	(12,859)
Long-term finance lease liabilities	(418)	(348)	(317)	(288)	(256)	(220)	(180)
Long-term derivatives	(52)	(39)	(36)	(35)	(29)	(17)	(13)
Other provisions	(84)	(50)	(42)	(37)	(32)	(28)	(28)
Pension provision	(4,707)	(4,705)	(4,705)	(4,705)	(4,705)	(4,705)	(4,705)
<b>Long-term liabilities</b>	<b>(14,897)</b>	<b>(15,694)</b>	<b>(16,446)</b>	<b>(16,988)</b>	<b>(17,442)</b>	<b>(17,888)</b>	<b>(17,842)</b>
<b>Total net assets</b>	<b>24,462</b>	<b>25,554</b>	<b>26,434</b>	<b>26,639</b>	<b>27,226</b>	<b>28,209</b>	<b>29,295</b>
<b>Capital and reserves</b>							
Usable reserves	1,790	1,585	916	518	762	1,042	955
Unusable reserves	22,672	23,969	25,518	26,121	26,464	27,167	28,340
<b>Total capital employed</b>	<b>24,462</b>	<b>25,554</b>	<b>26,434</b>	<b>26,639</b>	<b>27,226</b>	<b>28,209</b>	<b>29,295</b>

**Figure 43: Major new capital investment (net of third-party funding)**  
London Underground

Project	2019/20-23/24 total (£m)
<b>Modernisation of the Circle, District, Hammersmith &amp; City and Metropolitan lines</b> Upgrade of the four lines will significantly increase capacity	617
<b>Deep Tube Upgrade programme</b> Modernisation of the Piccadilly line (new trains and enabling works)	1,570
<b>Northern Line Extension</b> Extension from Kennington to Battersea	432
<b>Major station upgrades (including Bank station)</b> Station capacity projects that are already in progress or starting imminently	276
<b>Fleet and signalling renewals</b> This includes work on the Bakerloo and Central lines to enable existing train and signalling equipment to continue to operate ahead of renewal via the Deep Tube Upgrade programme and Rail Vehicle Accessibility Regulations compliance works and other works	627
<b>Station step-free access</b> Additional step-free access schemes beyond those delivered as part of station capacity projects or Crossrail construction	145
<b>Capacity optimisation programme – world class capacity</b> World class capacity will deliver capacity improvement outcomes for the Jubilee and Northern lines	88

Elizabeth line

Project	2019/20-23/24 total (£m)
<b>Elizabeth line (trains and enabling work)</b> Procurement of trains, and some other works, that are paid for directly by us rather than through Crossrail Limited	68

## Buses, streets and rail

Project	2019/20-23/24 total (£m)
<b>Healthy Streets (capital spend only)</b> Work recognising the value of increasing walking, cycling and public transport, creating more sustainable, safe, clean and efficient freight and servicing	1,442
<b>Air quality</b> Capital funded schemes, infrastructure and initiatives that improve air quality. Additional schemes are also funded through the operating account	149
<b>Silvertown crossing</b> New road crossing at Silvertown via a tunnel under the Thames	89
<b>Capacity optimisation programme - DLR rolling stock</b> Asset renewals, capacity enhancements and supporting infrastructure for new trains	499
<b>Barking Riverside Extension</b> Extension of the Gospel Oak to Barking line to Barking Riverside, supporting new housing	104
<b>London Overground programme</b> Largely due to asset renewals of our London Overground fleet and stations. Also includes finalisation of White Hart Lane station	69
<b>Tram programme</b> Asset renewals and infrastructure works to improve reliability and support new development at Croydon town centre	52

Professional services

Project	2019/20-23/24 total (£m)
<p><b>Customer experience</b>                      Various renewal and investment projects relating to revenue collection assets (for example, ticket vending machines and ticketing technologies), internal systems, IT infrastructure and cyber security</p>	273

Commercial Development

Project	2019/20-23/24 total (£m)
<p><b>Commercial property</b>                      Improving and investing in our retail environments in and around stations and our commercial property to generate sustainable income</p>	179
<p><b>Property development</b>                      Developing and delivering our property portfolio, including delivering the Mayor’s affordable housing pledge, and creating a significant Build to Rent portfolio</p>	732
<p><b>Crossrail over station development</b>                      Developing retail and office space in prime London locations on the Elizabeth line</p>	155

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