

## Audit and Assurance Committee



**Date:** 14 June 2016

**Item:** Annual Report 2015/16

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### **This paper will be considered in public**

#### **1 Summary**

- 1.1 The purpose of this paper is to present the Annual Report to the Audit and Assurance Committee.

#### **2 Recommendation**

- 2.1 The Committee is asked to note the Annual Report, comment on its contents and delegate to the Managing Director, Customer Experience, Marketing and Communications the task of making any adjustments prior to submission to the Board.**

#### **3 Background**

- 3.1 The Annual Report is one of TfL's key publications and a statutory requirement under the Greater London Authority Act 1999 (as amended). Following discussion by the Committee, the report will be submitted to the meeting of the Board on 19 July 2016.
- 3.2 The structure of the report has been designed for the web and reflects the Mayor's Transport Strategy and TfL's business priorities. This version may still require minor changes for design and editorial purposes. It will be available on TfL's website.
- 3.3 The Statement of Accounts and the Annual Governance Statement are being considered elsewhere on the agenda. Following approval, the documents will be combined to form the Annual Report and Statement of Accounts 2015/16.

#### **List of appendices to this paper:**

Annual Report – Appendix 1

#### **List of Background papers:**

None

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Appendix 1

# Annual Report and Statement of Accounts

2015/16 – DRAFT SIXTEEN

MAYOR OF LONDON



**TRANSPORT  
FOR LONDON**  
EVERY JOURNEY MATTERS



## About Transport for London (TfL)

We are the integrated transport authority for London. Our purpose is to keep London moving, working and growing, and to make life in our city better. We reinvest all of our income to run and improve London's transport services.

Our operational responsibilities include London Underground, London Buses, Docklands Light Railway (DLR), London Overground, TfL Rail, London Trams, London River Services, London Dial-a-Ride, Victoria Coach Station, Santander Cycles and the Emirates Air Line.

On the roads, we regulate taxis and the private hire trade, run the Congestion Charging scheme, manage the city's 580km red route network, operate all of the Capital's 6,300 traffic signals and work to ensure a safe environment for all road users.

We are delivering one of the world's largest programmes of transport capital investment, which is building the Elizabeth line, modernising Tube services and stations, transforming the road network and making it safer, especially for more vulnerable road users, such as pedestrians and cyclists.

We are a pioneer in integrated ticketing and providing information to help people move around London. Oyster is the world's most popular smartcard, and the rise in contactless payment is making travel ever more convenient. Real-time travel information is provided directly by us and through third party organisations, which use the data we make openly and freely available to power apps and other services.

Improving and expanding transport in London is central to driving economic growth, jobs and housing across the country.

### Reporting on our business

Our financial year runs from 1 April to 31 March.

This document summarises our achievements over the past financial year, plus some longer-term projects that are under way.

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# Message from the Commissioner

As I was appointed Commissioner last autumn, this is my first Annual Report. These documents are by their nature backward looking. I also want to talk about the present and look to the future.

Our purpose is to keep London moving, working and growing and to make life in our city better. London never stands still. It is growing at an unprecedented rate, with record numbers of customers and users relying on our public transport and road networks. At the same time, technology is changing the way in which we live, travel and work. Transport is core to making our city's growth productive, delivering the new jobs, housing and access required by those we serve.

Core service safety and reliability is at the heart of successful public transport services and we are serving more people than at any previous time. The record numbers of customers during the 2012 London Olympic and Paralympic Games are now an every day occurrence and we remain focused on delivering for them day in, day out.

Steady and sustained investment is modernising transport. The visit earlier this year of Her Majesty The Queen to announce that Crossrail will be named the Elizabeth line in her honour was an important milestone towards the opening of a brand new railway that will transform journeys around our city and make fundamental improvements to accessibility.

We have seen great progress too across our other investment programmes, bringing new parts of the suburban rail network into our integrated transport service, maintaining and modernising our roads and adding new capacity on the London Underground. And our Night Tube service on Friday and Saturday nights will come into operation progressively over the course of the year.

We have created world-class cycling infrastructure and, as a result, cycling has never been more popular. A record-breaking 645,000 cycling journeys are made each day, and I look forward to even more Londoners taking to two wheels to take advantage of our new facilities.

Our relentless focus on reducing, and ultimately eradicating, death and serious injury on the roads has continued. Last year we saw a 10 per cent reduction in the most serious cycling accidents and an 11 per cent reduction in the most serious road traffic accidents involving children. Overall, the number of people killed or seriously injured is at the lowest level since records began.

Transport is not an end in itself. It plays a vital role in unlocking areas of growth to provide the new jobs and housing that our city needs. We are making 300 acres of land available for homes for Londoners with an initial target of 10,000 new homes over the next few years.



# Message from the Commissioner

## Continued

The pace of change in technology offers big opportunities. Examples include the remarkable success of payments made using contactless bank cards – accounting for around one-third of all 'pay as you go' journeys – and our approaches to open data and use of big data to improve information provision and service planning. We will make even more data available to app developers and other partners, particularly to help relieve congestion on the road network and develop more tools giving predictive information to help people plan journeys.

While technology is important, it is people – our customers, users and teams at TfL and our partners – who are at the centre of transport services. We remain committed to having our customer service teams out in the public areas of London Underground stations where they can help passengers most directly alongside a helpful and understanding voice from our contact centre teams.

It is an exciting time for London. We have a new Mayor with a remarkable personal mandate from Londoners. He has set out an ambitious programme for change and improvement, including making transport more affordable. I am totally committed to delivering it.



**Mike Brown MVO**



Her Majesty the Queen visited the under-construction Crossrail station at Bond Street in February. The new rail service, which will start full operation in 2018, will be named the Elizabeth line in her honour.

# Year at a glance

## April 2015

Overhaul of the Elephant and Castle northern roundabout begins, returning it to two-way traffic and making it safer for cyclists and pedestrians



## May 2015

Our search begins for a new advertising partner, that will generate £1.1bn in revenue. Later awarded to Exterion Media in March



## June 2015

Rail services between Liverpool Street and Shenfield become part of TfL Rail in preparation for the opening of the Elizabeth line



## July 2015

Contactless and Oyster accepted on Southeastern's highspeed service between St. Pancras International and Stratford International



## August 2015

Signal modernisation work begins on the Circle, District, Metropolitan and Hammersmith & City lines to increase capacity and reliability



## September 2015

New interactive collision map shows when and where people have been injured on the Capital's roads to raise safety awareness and reduce casualties



## October 2015

We announce our plan to release more than 300 acres of land to help create more than 10,000 new homes across London over the next decade



## November 2015

Tube WiFi reaches another 100 stations, bringing the total to 250, plus Victoria Coach Station



## December 2015

Thirteen new tunnels and bridges are proposed in plans to transform cross-river travel in the Capital



## January 2016

Proposals launched with the Department for Transport for the transfer of inner London suburban rail services to TfL



## February 2016

Announcement that Crossrail is to be known as the Elizabeth line, in honour of Her Majesty The Queen



## March 2016

World's first electric double-deck bus is unveiled, to run on route 98 between Holborn and Willesden



# Delivering for London

London's success depends on its transport system. Each year, as well as delivering increasingly reliable services more efficiently, we're also building new transport infrastructure and planning further improvements to secure the Capital's future as a world-leading city.

Improving service reliability demands constant maintenance of assets to keep them in good order.

## In 2015/16:

**38km**  
of footway  
was repaved



**75km**  
of carrigeway was resurfaced.



**28km** of Tube track was renewed

**422**  
bus shelters  
were renewed

**670**  
lamp posts  
were replaced

**11,486**  
energy efficient LED  
street lights were installed

**40** sets of points and crossings were renewed on the Tube network

**3** escalators were replaced **14** more were refurbished

**17** highway pumping stations were refurbished to improve road drainage

# Operational performance

<b>Buses</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Passenger journeys (millions)*	<b>2,314</b>	2,385	2,382 2,405	2,311 2,335	2,320 2,344
Kilometres operated (millions)	<b>492</b>	489	491	490	490
Percentage of schedule operated (per cent)	<b>97.2</b>	97.1	97.7	97.6	97.6
Excess wait time (high frequency routes) (minutes)	<b>1.2</b>	1.1	1.0	1.0	1.0
Customer satisfaction (score)	<b>86</b>	85	83	82	80

\*The method for calculating child journeys changed in 2014/15. The figures on the top row show corrected figures between 2011/12 and 2014/15. The figures on the bottom row show uncorrected figures as published previously

<b>TfL's road network</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Journey time reliability (am)	<b>87.8</b>	88.3	89.0	89.2	88.9
Traffic flow*	<b>95.2</b>	95.9	94.6	92.9	91.9
Customer satisfaction (score)	<b>74</b>	74	75	76	75
Resolution time for serious and severe disruption (unplanned) per event (hours)	<b>1.9</b>	2.0	2.0	2.1	2.0
Hours of serious and severe disruption (planned) (hours)	<b>1,404</b>	931	195	291	404

\*Traffic volume compared with an index of 100 from Period 13, 2006/07

<b>London Underground (LU)</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Passenger journeys (millions)	<b>1,349</b>	1,305	1,265	1,229	1,171
Kilometres operated (millions)	<b>82.5</b>	80.3	76.2	76.0	72.4
Percentage of schedule operated (per cent)*	<b>97.0</b>	97.6	97.5	97.6	97.0
Excess journey time (weighted) (minutes)*	<b>4.6</b>	4.6	5.2	5.3	5.8
Customer satisfaction (score)	<b>85</b>	84	83	83	80
Lost customer hours (millions)	<b>26.4</b>	22.7	24.2	22.9	28.5

\*Includes industrial action

<b>Docklands Light Railway (DLR)</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Passenger journeys (millions)	<b>117.0</b>	110.2	101.6	100.0	86.2
Kilometres operated (millions)	<b>6.0</b>	5.8	5.8	5.7	4.9
Scheduled departures operated (per cent)*	<b>98.5</b>	99.3	99.2	98.5	97.6
Customer satisfaction (score)*	<b>89</b>	89	87	87	83

\*Includes industrial action

# Operational performance

## Continued

<b>London Trams</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Passenger journeys (millions)	<b>27.0</b>	30.9	31.2	30.1	28.5
Kilometres operated (millions)	<b>3.0</b>	3.0	3.0	2.9	2.7
Planned kilometres delivered (per cent)	<b>99.0</b>	97.9	98.8	98.2	99.0
Customer satisfaction (score)	<b>90</b>	89	89	89	86

<b>London Overground</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Passenger journeys (millions)	<b>184.4</b>	139.8	135.7	124.6	102.6
Kilometres operated (millions)	<b>10.5</b>	7.8	7.9	7.5	6.9
On-time performance (per cent)	<b>94.4</b>	95.2	96.1	96.6	96.6
Customer satisfaction (score)	<b>84</b>	83	82	82	82

<b>Emirates Air Line</b>	<b>2015/16</b>	2014/15	2013/14	2012/13
Availability (per cent)	<b>94.4</b>	96.3	95.0	94.2
Customer satisfaction (score)	<b>93</b>	93	93	93
Passenger numbers (millions)	<b>1.5</b>	1.5	1.5	2.0

<b>River Services</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Customer satisfaction (score)	<b>90</b>	90	89	87	87
LRS Passenger Services (including Woolwich Ferry)* (thousands)	<b>10,301</b>	10,023	8,412	–	–

\*LRS: From 2013/14 new passenger counting software was introduced which means the data for years before then is not comparable.

<b>London Dial-a-Ride</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Customer satisfaction (score)	<b>92</b>	92	92	92	91
Trip requests scheduled (per cent)	<b>90</b>	90	91	91	90

<b>Cycle Hire</b>	<b>2015/16</b>	2014/15	2013/14	2012/13	2011/12
Customer satisfaction (score)	<b>83</b>	82	75	70	63
Cycle hires per period (thousands)	<b>9,886</b>	10,084	8,233	9,312	7,579

# Keeping London moving, working and growing

Demand for our services is increasing all the time with London's success and growth.

Our income is reinvested in running and improving transport for our customers and users, and to maintain London's position as a world-leading city and engine of the UK economy. Our plans are organised under five strategic pillars – Customers, Delivery, People, Value and Technology and data.

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## Customers: the heart of our business

Putting customers and users at the centre of everything we do

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## Delivery: our plans and our promises

Delivering safe, reliable, clean, sustainable and accessible transport

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## People: dedicated to customer service

Valuing our people

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## Value: delivering more with less

Providing value for money for fare and tax payers

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## Technology and data: a new pan-TfL strategy and approach

Exploiting technology to produce better and faster results

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## Customers: the heart of our business

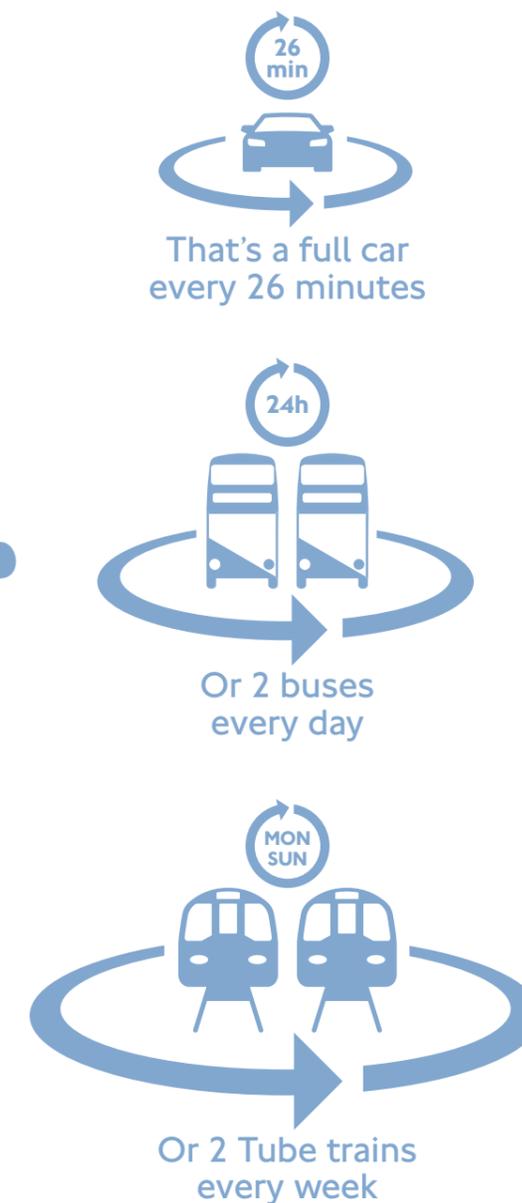
# Putting customers and users at the centre of everything we do

We plan both for today and tomorrow. London is bigger than it has ever been with a population of 8.6 million. This is expected to grow to nearly 10 million by 2030. This growth is equivalent to two full Tube trains a week arriving in London.

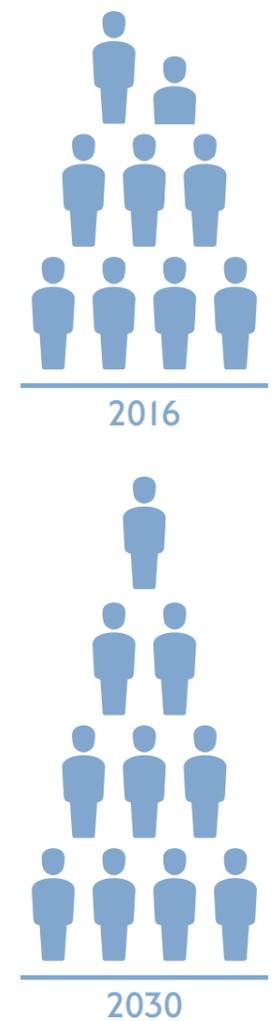
Every journey matters – the daily commute, a hospital appointment, a visit to friends or a shopping trip. This is why we are committed to making continuous improvements to transport and London's environment.

We listen carefully to comments and complaints about our services and take action to address them. This includes improved customer service at stations, bus garages and our customer contact centre, greater safety and security, better real-time information covering public transport and the roads, improved accessibility and more convenient ticketing.

We aim to operate openly and transparently. We place an enormous amount of information into the public domain about our services and decisions, allowing our performance to be scrutinised by the people we serve.



Today the population is 8,600,000 and by 2030 will be around 10,000,000



# Every journey really does matter

How do we – and our colleagues across the transport industry – improve customer service for the millions of people who rely on our network every day?

That's the question we were determined to answer when we started planning our first customer conference.

More than 170 delegates from 60 organisations came to the event in November, including many suppliers and contractors, passenger representatives and research groups. Together, we talked through what frustrates customers and came up with around 100 ideas to make travelling on our network easier.

People want better journeys, and up-to-date and accurate information at their fingertips. They also want helpful bus drivers, easy access to refunds for service disruptions, and to know when and where there is traffic congestion or roadworks.



## Turning pain into gain

By finding ways to solve customers' frustrations, we turn their pain into gain, winning and retaining their trust.

Commitments were made at the event to tackle specific concerns and action to improve has been taken. This includes:

- Our team in LU's control centre are now providing customers with clearer, jargon-free information
- New training for bus drivers, starting in May, will help keep passengers better informed about their journeys

Ninety-four per cent of attendees found the event useful, so we are planning for it to become an annual event to help provide even more improvements for our customers and users.

**'How can we expect our customers to support the case for billions of pounds of investment if we cannot offer them an affordable service today and the promise of a better service tomorrow? It is an issue of trust, of respect and of care.'**

Mike Brown MVO, Commissioner of Transport

## Our customers want four things:

- To know who we are and what we stand for
- An excellent service every day
- Value for money
- Progress and innovation

## Working with others

On the day we brought together groups including London TravelWatch, Transport Focus, Transport for All and the Association of Train Operating Companies.

## A service for the future

Our latest improvements on the Tube are offering better journeys for customers.

Our teams have moved from behind ticket office counters into the ticket halls and other public areas of stations where they can be easily available to help customers choose the right tickets, plan journeys and get to their destinations.

London Underground has also been transforming customer service with the largest training programme in its history.

A total of 5,000 people have taken part in sessions to understand the diverse needs of all our customers, including disabled and older people, as well as non-English speakers.

Our teams get the opportunity to work through a range of practical situations – for example, what to do in the event of the station's lift service becoming unavailable. They can then apply what they've learnt and use it to provide better help.

### Customer feedback

Similar training will start for bus drivers and garage-based employees from May 2016.

Both Tube and bus programmes have been shaped by customer feedback and groups that represent them. This has identified 'gain points' – the things we can clearly improve. Some issues impact everyone but disabled passengers can be affected to a greater degree. This is particularly significant given that one

### Extra support

Customers can now get additional help at one of our eight new Visitor Centres. Located at Euston, Gatwick, Heathrow, King's Cross St. Pancras, Liverpool Street, Paddington, Piccadilly and Victoria, they offer travel guidance and advice, including how to obtain the best value-for-money products. Visitors are also able to find out what they can do in London and book tickets for a range of attractions.

in eight Londoners has a disability. Common annoyances include inaudible announcements.

We've also introduced better technology to make sure we can always provide a high-level of service. Each member of our station teams now has a tablet or device that enables them to support our customers. So, when someone needs to check the last train time from Walthamstow, or the price of 7-Day Travelcard, or even get directions to Madame Tussauds, they can simply ask and our people will have details at their fingertips.

### Better ticket machines

A total of 150 new ticket machines have been installed on the Tube network and the rest have been upgraded with new technology and functionality. They are now able to resolve journey and ticket discrepancies on the spot, and offer guidance in 17 languages.



Our Tube station teams use handheld devices to offer better customer service

### Changing times

We are committed to making life easier for our customers. For example, Oyster and contactless payments make journeys quicker and more convenient.

Extending WiFi to more stations means that it's even easier to access our free travel information, including live service updates and Journey Planner.

We are providing more personalised information too thanks to ticketing and location data. When there is a severe disruption on the Underground, for example, we identify and automatically refund everyone affected. Most recently, data for the 61 Tube station car parks was made openly available, with 23 of these containing live information on parking space availability.

## Finding a way

We are constantly looking for new and innovative ways to give more people the confidence to travel on our network, and make it as accessible as possible. This means investing in step-free stations, improved staff training, more spacious and accessible trains, and pioneering projects such as Wayfindr.

### Independent living

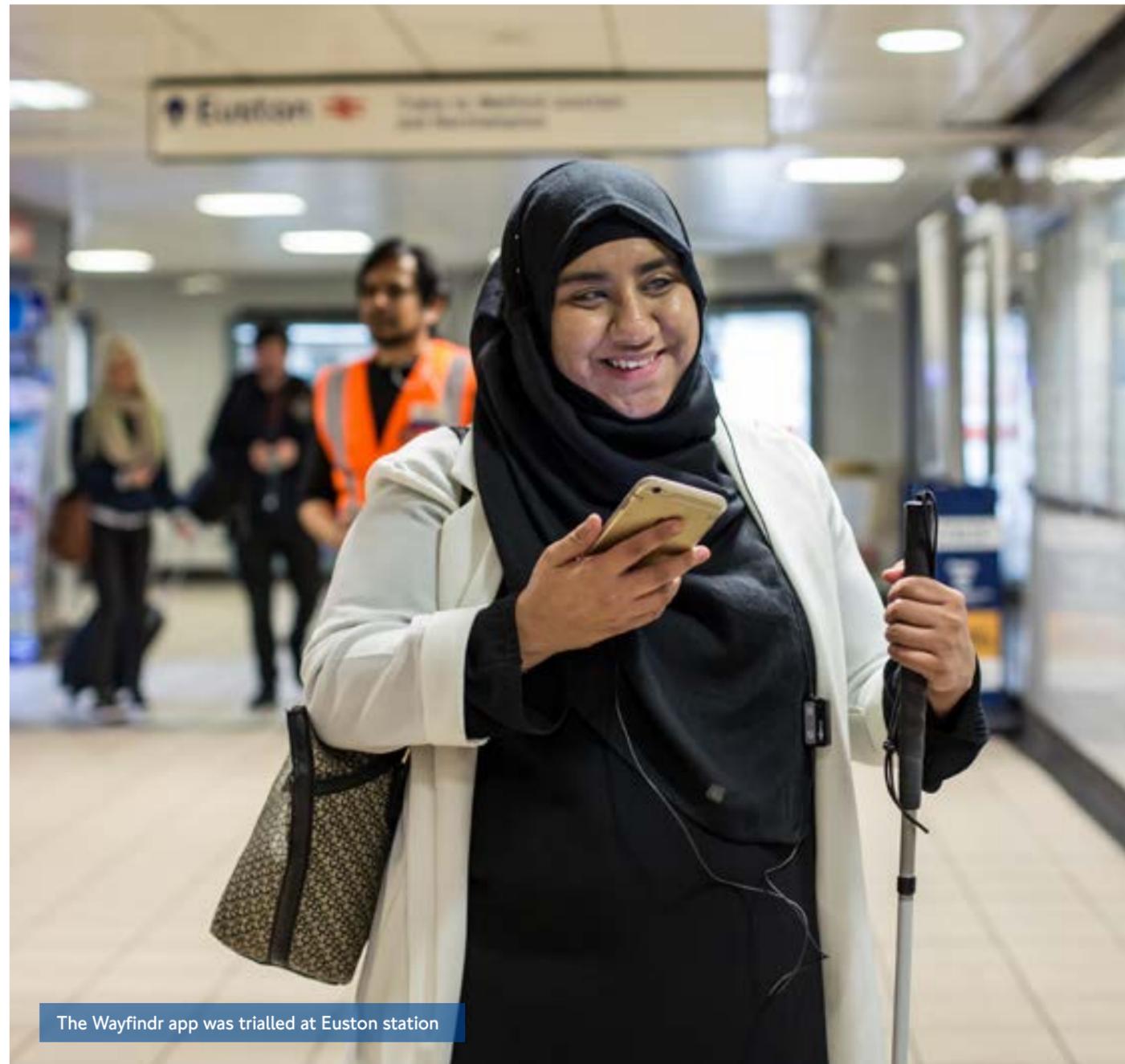
Wayfindr uses smartphone technology to help blind and partially sighted customers navigate around stations independently, both above and below ground.

The joint project, with Wayfinder.org (a non-profit organisation created by the Royal London Society for Blind People and digital product studio ustwo), was first trialled at Pimlico Tube station in early 2015. Low energy Bluetooth beacons installed at the station transmit a signal to the smartphone which the app translates into an audio instruction that could guide customers on their journey.

### From quiet to busy

In November 2015, a full-scale three-month trial began at Euston, one of the network's busiest Tube stations. This bigger trial – involving controlled tests with visually impaired participants – explored how Wayfindr can be used at a large and complex Underground site. It included a thorough investigation of how the system works and how it could be installed and maintained in the long term.

A further trial involving several other stations to confirm the findings from Euston will be in place before the end of 2016.



The Wayfindr app was trialled at Euston station

Based on this work, Wayfinder.org has been awarded a \$1m three-year grant by Google.org. This grant will help create a system that can be used anywhere in the world.

### New incline lift at Greenford Tube

Greenford is the first station in the UK to have an incline lift. Travelling on a gradient alongside the escalator and stairs, it marks a significant advance for disabled access in London, and provides much-needed step-free options at the station.

Incline lifts are spacious, quick, and easier and cheaper to install than conventional lifts as there is no need to excavate a lift shaft. They are also 50 per cent more efficient than a traditional vertical lift as they run on half the power.

Although the new lift is not suitable for every location across the network, we are investigating other potential sites. Similar technology is also being installed as part of the Elizabeth line stations at Farringdon and Liverpool Street.

More than 25 per cent of our Tube stations are now step-free.

## Big data, big opportunities

The millions of trips made on our network every day provide us with huge quantities of information about how and where people are travelling. We can use this – known as ‘big data’ – to better plan our services and provide relevant, personalised travel advice.

Along with exploring our own ideas on this topic (you can read more on p82), we’re sharing our data and knowledge with the tech community to help generate new insights from the information and to deliver new products and services for customers. We’re also working with commercial partners and academic institutions to explore their ideas to improve transport.

This means we can develop more and better products to manage disruption, control services, improve information and help people plan their journeys.

### Sharing for success

Where possible, we make our data freely available to technological innovators – including developers, broadcast media and sat nav services – to power useful tools such as transport apps and real-time updates.

We have also organised ‘hackathons’ and invited developers and other third parties to come together to analyse our open and previously unreleased data. This has led

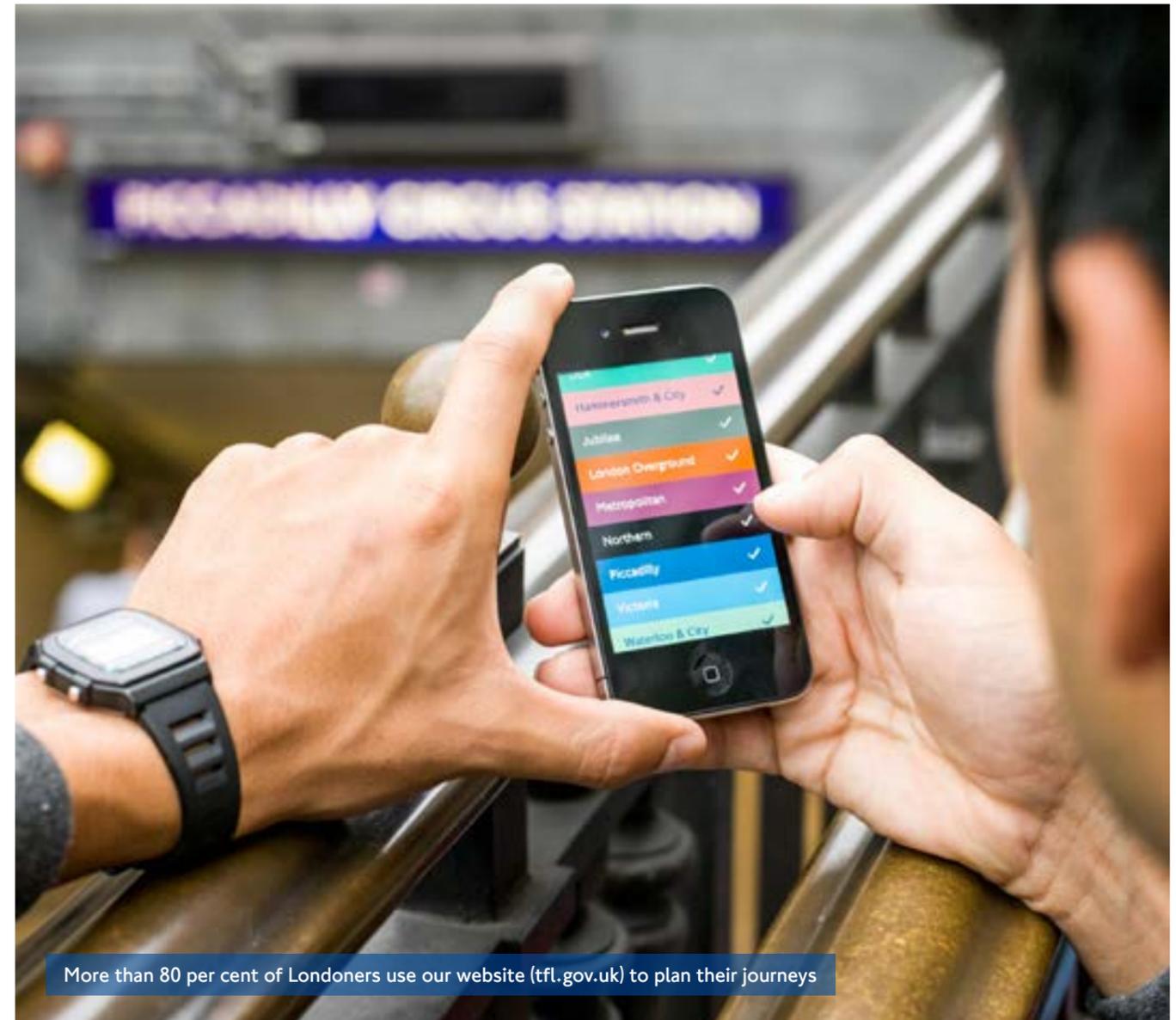
to prototypes of a number of apps that improve people’s experience of travelling around London.

Our data feeds now have around 8,200 subscribers – up from 5,000 last year. And, in October, we launched a unified ‘application programme interface’, which means developers can get access to, and use, our data more easily.

### Driving through change

Working closely with suppliers can help us develop products quickly using their expertise. An example is the Road Travel Time Display project, which provides real-time journey information for drivers. The data is also made more widely available by London Streets Traffic Control Centre through Twitter.

We also installed variable message signs along the A12, A13 and A40 into central London to provide journey times to specific landmarks or locations. Feedback has been overwhelmingly positive with 78 per cent of those who saw the signs rating them useful and half saying they changed their route as a result.



More than 80 per cent of Londoners use our website ([tfl.gov.uk](http://tfl.gov.uk)) to plan their journeys

# Paying has never been easier

Technology is making paying for travel on our networks quicker and more convenient.

Since the launch of contactless in September 2014, the number of people using this method of payment has continued to rise. Nearly a third of our pay as you go customers now use a contactless bank card, which means they never need to buy a ticket.

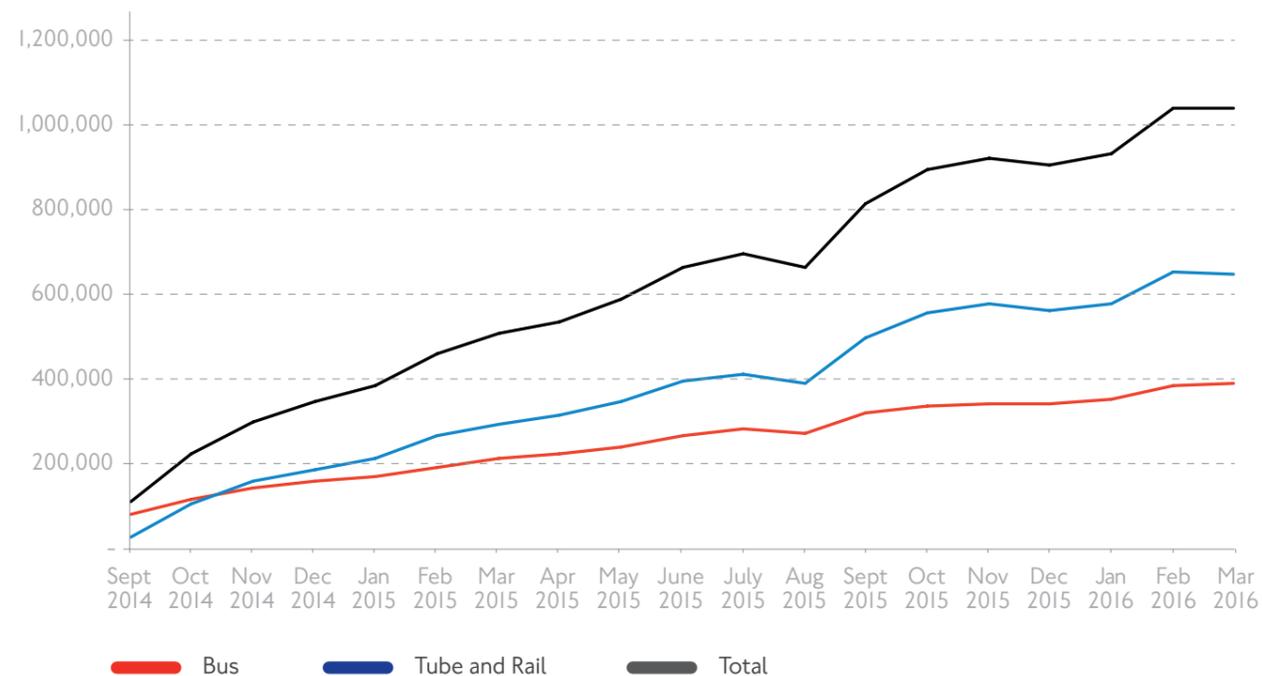
Contactless cards can now also be enabled on mobile phones and on a number of other devices, including watches and wrist bands. By the end of March 2016, around

**‘I just leave the house with only the one card and know I’ll be able to do anything I need to that day.’**

Harry Tabner, a passenger at South Kensington

7.5 million journeys a week were paid for using contactless.

**Daily journeys using contactless in London**  
(Journey numbers dip during holiday periods)



Nearly a third of pay as you go travel is made using contactless

When Apple Pay launched in the UK in July, we were the first public transport provider to accept it. Customers simply link a debit or credit card to their Apple device then touch

it on a yellow reader to pay for travel on the Tube, trams, DLR, London Overground, TfL Rail, buses and most National Rail services in the Capital.

## The people's favourite



All black cabs are wheelchair accessible

London's iconic black cab is an enduring symbol of the city.

Voted the Capital's favourite design icon in November, taxis have been an essential part of city life since 1662. Today they provide a vital and fully accessible service. And, as London grows and gets busier, we're providing ways to make travelling in them easier.

### Contactless revolution

Searching for cash to pay will become a thing of the past in October, when all 22,000 licensed taxis must accept card and contactless payments. A consultation in early 2015 with taxi trade organisations, passenger safety groups and card industry representatives saw huge support for the move with 86 per cent of respondents backing plans to accept the system.

In addition, customers will no longer need to pay a surcharge on their fare and will only pay what is shown on the meter.

### Access for all

All licensed taxis are 100 per cent wheelchair accessible. They also carry guide and assistance dogs at no extra charge. Many also have coloured sight patches on seats and coloured grab handles, a swivel seat, an intermediate step, as well as an intercom and an induction loop, to work with hearing aids.

**'Consumers are increasingly choosing to pay with cards as a convenient and secure alternative to cash. With the number of contactless payments trebling in just a year, many passengers will also welcome the ability simply to touch and pay for their cab journey.'**

Richard Koch, Head of Policy,  
the UK Cards Association

### Top ranking

More than a third of the 70 million taxi journeys in London each year start at a taxi rank. To support both customers and drivers we're increasing the number of ranks by 20 per cent by 2020 with £600,000 funding. By the end of March 2016, there were around 600 ranks in place across the Capital.

## Clear view ahead

We make a great deal of information available for public scrutiny but are committed to being even more transparent.

In October we published a transparency strategy that sets out a range of new measures. This includes suggestions made during a public consultation designed to see how best we can provide the information people want.

Plans include:

- Changing how information is presented on our website so it's easier to find and interpret
- Publishing all replies to Freedom of Information requests online
- Identifying gaps in the information we share on the number of customers using each service – and presenting the data in the same standard format
- Issuing a publications schedule so stakeholders know when to expect information and data
- Publishing an update on transparency twice a year to show the progress we are making
- Making webcasts of Board meetings available on our YouTube channel for longer than six months

Our view is that all our data should be publicly available unless there is a compelling reason for it not to be, such as excessive costs.

We've created a dedicated web page – [tfl.gov.uk/transparency](http://tfl.gov.uk/transparency) – that holds a huge amount of information and explains the scale of our responsibilities.

As well as how we manage our finances, we publish contracts, information on the reliability of our services, road safety, customer satisfaction and the latest journey trends. It all helps people understand exactly how we run the Capital's transport system.

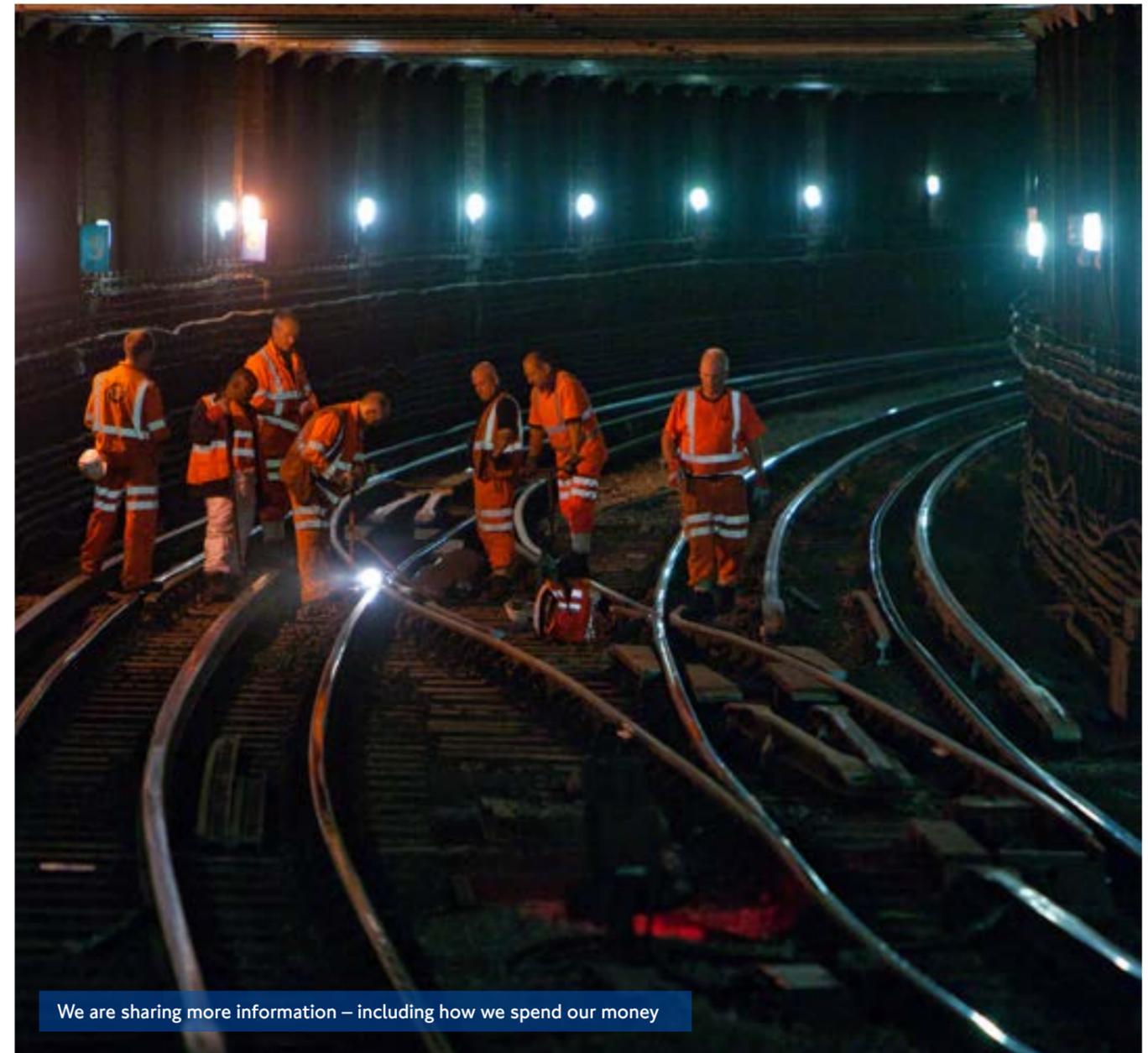
We provide customer service and travel updates to more than 3.4 million followers on Twitter and in 2015/16 sent 273 million tailored emails across 1,216 campaigns. We are also on Facebook and have a presence on eight other platforms including Google+ and LinkedIn.

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**'We want our customers and users to be able to scrutinise how we operate and how our income is spent for the benefit of London.'**

Mike Brown MVO,  
Commissioner of Transport

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## Delivery: our plans and our promises

# Safe, reliable, clean, sustainable and accessible transport

We are committed to driving further and continuous improvements in reliability and safety across our network.

We are also delivering a multi-billion pound investment programme to increase capacity and connectivity on the public transport and road networks.

With London's population increasing faster than previously thought, we must make the most of our existing assets and expand the network to provide greater capacity. We can do this by developing and harnessing new technologies and learning from the work of others.



# The Elizabeth line receives royal approval

Crossrail, the new east-west rail link and Europe's largest infrastructure project, will be known as the Elizabeth line.

The announcement was made in February when Her Majesty Queen Elizabeth II visited the under-construction station at Bond Street where she received a commemorative roundel. She was greeted by a host of people involved in the project, including apprentices, engineers and train drivers.

The news followed the unveiling of designs for the trains that will enter service from May 2017 – before the project is fully complete in 2019.

Measuring over 200 metres, each train is more than 50 per cent longer than the largest Tube train, and will have space for 1,500 customers in nine, walk-through carriages.

## Sustainable construction

**98 per cent**

of excavated material is reused

**95 per cent**

of contracts are awarded to companies within the UK – 61 per cent are outside London

**38 per cent**

energy savings through use of LED lighting

**55,000** jobs supported

## Progress update

Construction is more than 70 per cent complete and remains on time and within its budget of £14.8bn.

A total of 42km of new tunnels have been built under London and our focus is now on the track, signalling and fitting out of stations.

Tracks are being installed and up to 180 metres of concrete is being laid every night shift, with more than 6km already done.

Network Rail works on the surface route are more than 60 per cent complete. During the Christmas period, major improvements included track and signalling works, plus station upgrades across London, Berkshire and Essex. This involved laying 1.5km of new track, installing 26km of overhead wires and building two new footbridges.

Around 12,000 people are currently working on the project. And the target of 400 apprenticeships over the lifetime of the project has been surpassed – with the total now more than 540.

## Serving London and the South East

Adding 10 per cent to central London's rail capacity, the Elizabeth line will help us serve the city's rapidly growing population.

The trains will also regenerate electricity back into the power supply when braking to use up to 30 per cent less energy. They will also offer faster journey times than the old trains they will replace between Liverpool Street and Shenfield.



Her Majesty Queen Elizabeth II with TfL Commissioner Mike Brown MVO meeting apprentices working on the construction site at Bond Street

## Real-time updates

On-board customer information systems will provide real-time travel updates so people can plan their journeys on the move. Free WiFi will be available on trains and at platforms, and passengers will have access to 4G.

## A fare deal

In May 2015, vital commuter rail services out of Liverpool Street joined the TfL network and will eventually make up part of the Elizabeth line. Already, passengers have welcomed new fares, 80 per cent of which are lower, with the remainder unchanged.

# More trains for more passengers

The Victoria line carries 200 million passengers a year through some of the Capital's busiest stations – Euston, King's Cross St. Pancras, Oxford Circus and Victoria. And that figure is only going to rise.

To meet increased demand, we are constantly making improvements. Last summer we undertook a major piece of work to boost capacity on the Victoria line that will pave the way to record-breaking peak-time frequencies. By the summer of 2017 we will run 36 trains per hour for the entire length of the Victoria line – from Brixton to Walthamstow Central. That's one every 100 seconds in peak time, making it the highest frequency line on the network and one of the most intensive services in the world.

## Work in progress

The new spring 2015 timetable had already boosted the line's capacity to 34 trains an hour in the peak between Brixton and Seven Sisters, but at the northern end of the line between Seven Sisters and Walthamstow Central, service was limited to 24 trains an hour, owing to the layout of the points at Walthamstow Crossover.

To bring the whole line up to the same level 1,000 tons of concrete and track bed had to be removed. This meant massive excavation that couldn't be done at night or weekends. So, unavoidably, the stations beyond Seven Sisters (Tottenham Hale, Blackhorse Road and Walthamstow Central) had to be closed for three weeks during August.

## Spreading the word

Keeping passengers in the know while work was in progress:

**135,000+**

leaflets were distributed with alternative travel information

**60,000+**

subscribed customers received emails with work updates

**150+**

Travel Ambassadors helped people at affected stations

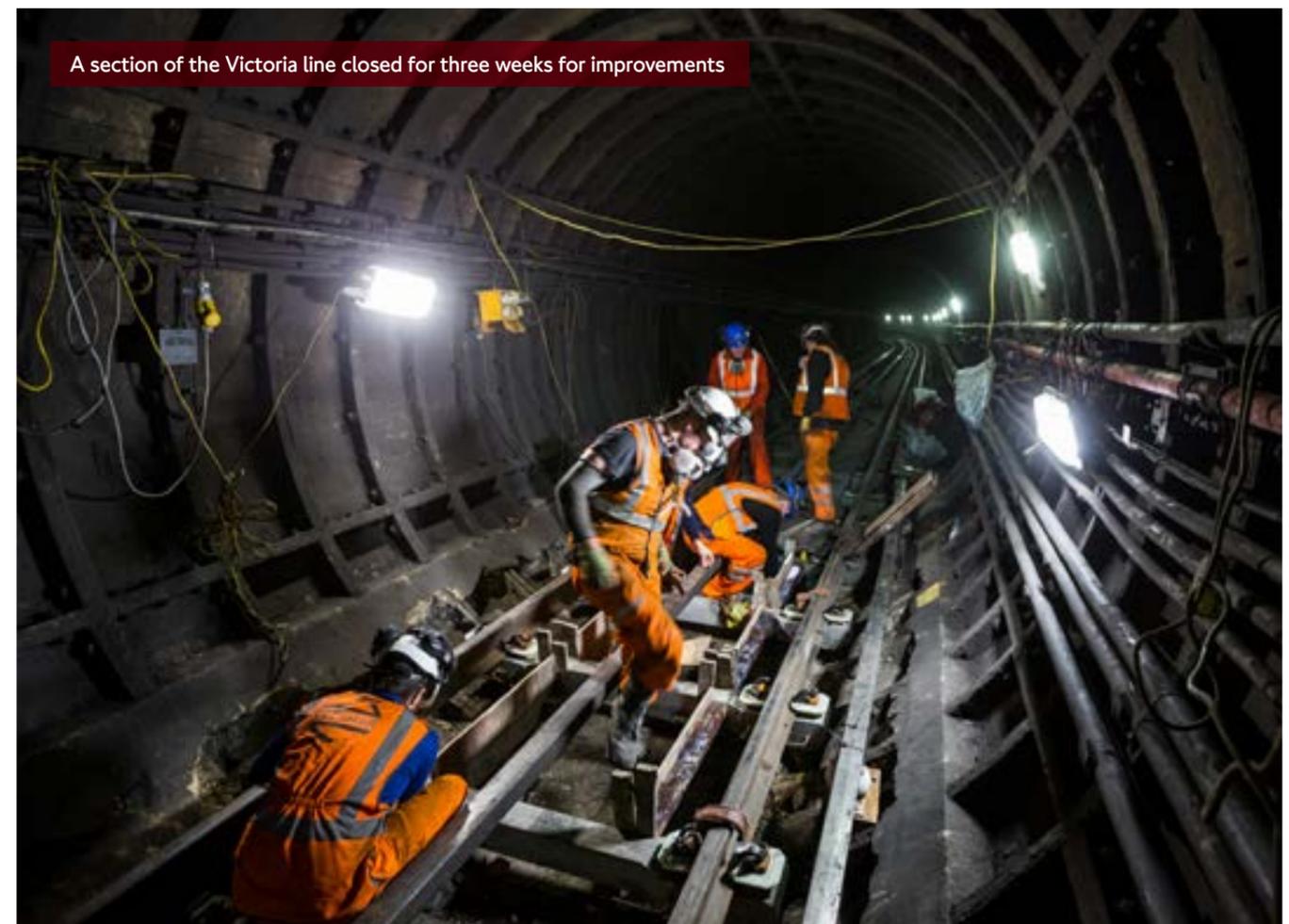
## Customers in mind

With three stations out of commission, we made sure the hundreds of thousands of customers affected faced minimum disruption with maximum support. Replacement buses ran from Walthamstow Central to Seven Sisters, Stratford and Stratford International. There was also a temporary bus service between Chingford Mount and Seven Sisters, calling at Tottenham Hale and Blackhorse Road, and London Overground services between Walthamstow and Liverpool Street.

Teams of Travel Ambassadors helped out on the ground, plus a poster, leaflet and social media campaign made sure everyone – from commuters to overseas visitors – was clear on alternative routes.

## Worth the wait

The work, which finished on budget and two days ahead of schedule, will provide customers who live northeast of Seven Sisters with 40 per cent more train capacity at peak times when the new timetable is introduced later this year.



# The road to a better private hire trade

Technology, including smartphones and apps, is transforming the service London's private hire trade is offering customers. To keep up with the times, we've unveiled plans to modernise the industry while improving customer service and safety.

Following a review of the Capital's private hire regulations, which included three public consultations that attracted more than 20,000 responses, a number of proposals were drawn up. Following approval by the TfL Board in March, work is now under way to make these changes happen.

Measures include:

- A formal English language requirement for drivers
- Guaranteed fare estimates for customers before they begin their trip
- Providing customers with driver and vehicle details – including a photo of the driver – before they start a journey where possible
- Ensuring customers can speak to someone if there is a problem during their journey
- More robust insurance requirements
- More stringent rules about record keeping and providing real-time driver and vehicle information to TfL, for more effective enforcement

## Congestion Charge

There has been a surge in the number of private hire drivers in the Capital – more than 100,000 now, compared with 59,000 in 2009/10.

This huge increase has led to growing traffic congestion and illegal parking, so we're investigating the feasibility of removing the Congestion Charging exemption for private hire vehicles.

We're also proposing to implement a fairer approach to licence fees with smaller operators paying less.

In addition to these proposed measures, we are already improving service and safety standards in the trade with the introduction of:

- An enhanced topographical test for new private hire drivers, requiring them to demonstrate enhanced map reading abilities and English language comprehension
- A new complaints system, allowing customers to contact us if they have received poor service from a private hire company or driver
- Mandatory disability equality training and other improved training for drivers



**‘Londoners have given a very clear indication of how they would like us to shape the regulation of the industry to deliver improved safety and customer service. We had an overwhelming response to the consultation and all of the proposals we are taking forward received majority support.’**

Garrett Emmerson, Chief Operating Officer for Surface Transport

# A force for change

Anyone who lives, works or travels in London knows it only takes one illegally-parked van to turn free-flowing traffic into a frustrating hold-up.

In autumn 2015, our team of Road and Transport Enforcement Officers (RTEOs) was created.

## New powers

It's the first time we have had our own officers with the power to stop and direct traffic. A total of 40 hit the streets in November to improve road safety and reliability, tackle congestion and target illegal and inconsiderate behaviour that impacts road users – from poor parking to obstructive deliveries at peak times.

## Tackling routes

The RTEOs have played a vital role in Operation Zetol, our new initiative to target traffic hotspots at nine priority locations.

Areas that experience severe congestion were identified by working closely with bus operators and analysing bus journey times.

The initial areas were: Bank in the City of London, Walthamstow and Dalston to the east, Kensington and Worcester Park to the west, Harlesden in the northwest, and three in south London's Peckham, Lewisham and Tooting. More locations will be identified using information from both bus drivers and other road users, and RTEOs will be deployed across the Capital.

Working alongside Revenue Protection Inspectors and officers from the TfL-funded Metropolitan Police Roads and Transport Policing Command, initial feedback shows our new RTEOs are making a real difference.

As well as catching offenders and issuing Penalty Charge Notices, officers are also working with companies along vital routes to minimise disruption during peak hours, clear obstructions and find better time slots for deliveries that suit both commuters and businesses.

## Operation Zetol in numbers:

**40**  
RTEO officers at the autumn 2015 launch, rising to 80 by the end of May 2016

**110**  
bus routes already benefiting from work to address issues on 10 targeted highways

**8,000**  
on-street hours the new officers had clocked up by January 2016

**300,000**  
car and taxi passengers using the routes every day



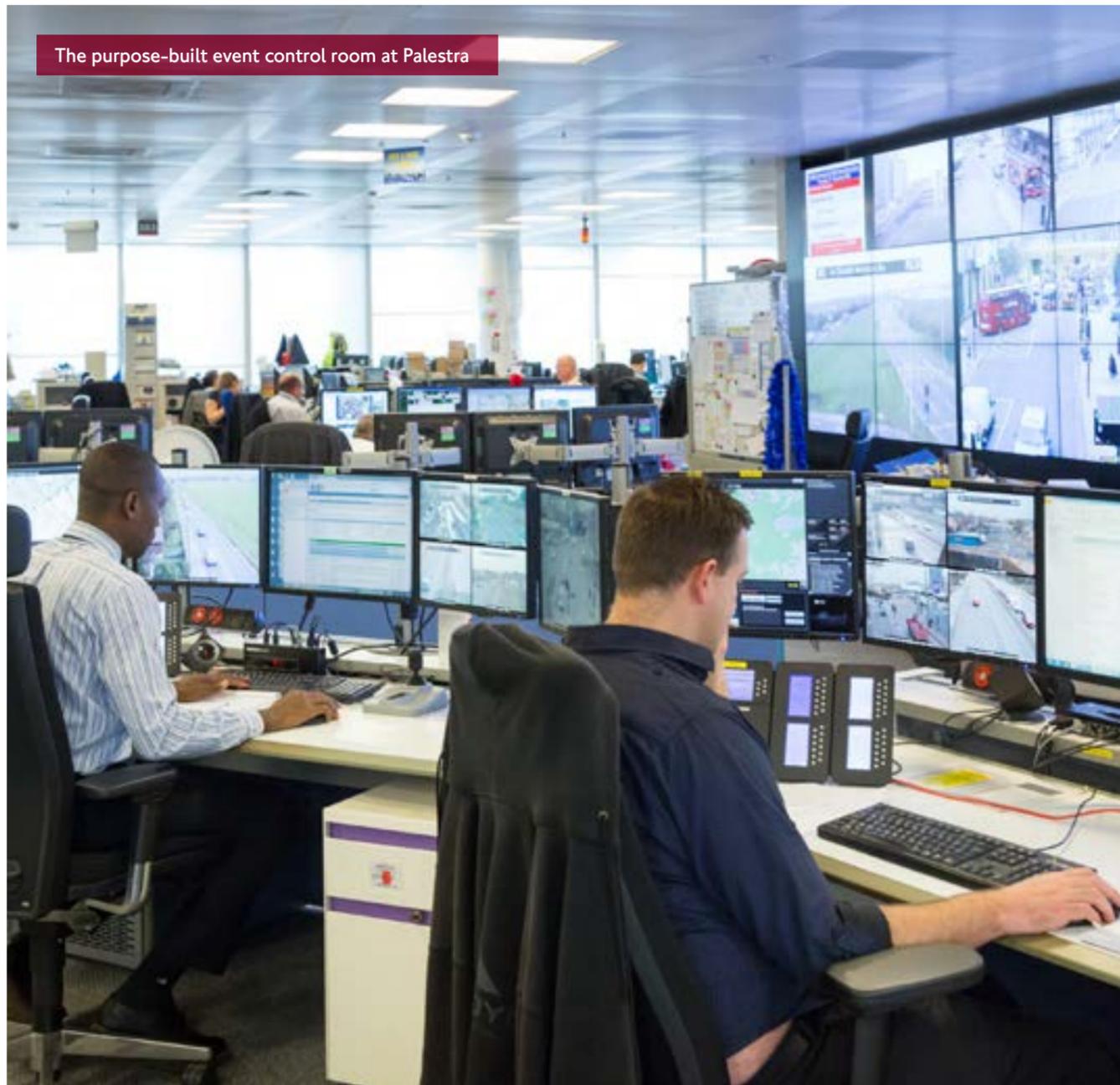
Road and Transport Enforcement Officers help to keep traffic moving

## Latest updates

The introduction of RTEOs is part of bigger and continuing investment to keep the Capital's roads moving and ensure people are

better informed. With the @TfLTrafficNews Twitter feed now followed by more than 600,000 Londoners, sharing up-to-the minute news is more immediate than ever.

## Controlling the action



Hundreds of thousands of rugby fans came to the Capital last year for the Rugby World Cup 2015.

With record ticket sales and a worldwide television audience of billions, London was at the centre of the six-week tournament. Many overseas visitors based themselves here, with three of the city's venues hosting 17 matches.

### Keeping fans moving

Providing safe and reliable transport for residents and visitors, as well as moving 460,000 fans to and from matches and four temporary fanzones, took two years to plan.

At the centre of it all was our Palestra office in Southwark, which contains the city's only purpose-built event control room. Built for the 2012 Games, it offers event organisers access to our CCTV cameras, state-of-the-art technology and links to our people on the ground who can react quickly to any network disruptions or incidents. It also has desks for the London emergency services.

It's used for regular events such as Notting Hill Carnival, RideLondon and the Virgin Money London Marathon.

### A glance inside

The facility contains state-of-the-art technology including:

- Access to all TfL's CCTV cameras
- Desks for the London emergency services with access to their systems
- Use of the bespoke, event-specific 'Dashboard' electronic logging system – available on each desk via computer or laptop

**'TfL's facilities at Palestra are second to none. They were integral to our national transport plan for the tournament and a key factor in the successful delivery of that plan.'**

Tom Legg, Head of Transport Rugby World Cup 2015

## Milestones in modernisation

Our Road Modernisation Plan (RMP) consists of hundreds of projects that are transforming junctions, bridges, tunnels and public spaces to make roads more reliable, safer and greener.

### Progress update

Improvements so far include a strengthened 1960s Hammersmith flyover, upgraded Fore Street Tunnel, refurbished Grade II listed Chiswick Bridge, segregated cycle facilities and a major junction redevelopment around Oval Triangle.

The RMP has also made significant progress during 2015 for the cyclists who make up a quarter of rush-hour traffic in Central London.

Cycle Superhighway CS5 – from Oval to Pimlico – opened in November. This was the first in a series of new segregated Superhighways that will be built by summer 2016.

A partnership between ourselves, local businesses and Westminster City Council has enabled the transformation of a pedestrian subway under Marylebone Road into 'The Wonderpass'. Maintenance of the drainage and electrical system, and new surfacing, ensures the subway will remain in a state of good repair for many years. It is now also a vibrant cultural walkway featuring displays about local features, sponsored by local businesses, including Madame Tussauds, the Wallace Collection and Regent's Park Open Air Theatre.



**‘Streets define the character and quality of a city and are key to the health and wellbeing of its citizens. We must keep this in the forefront of our minds as we face a period of major change in the way we use our roads.’**

Peter Murray, Chairman, NLA

### Streets Ahead

The importance of the RMP was highlighted in a series of events and exhibition titled ‘Streets Ahead: The future of London’s roads’, in January and February.

Curated by New London Architecture and supported by us, the initiative provided an opportunity to discuss how to address the challenges of the future and respond to new technologies. Suggestions included driverless cars, drones replacing delivery services and highways converted into parks.

## A 21st century Tube

We have taken delivery of 191 new Tube trains to replace 170 old ones. And there aren't only more of them – they are longer too.

The latest models – most of which were running by the end of 2015 – are on the Metropolitan, District, Circle and Hammersmith & City lines. By the end of 2016, all old District line trains will have been replaced with new ones.

### Spot the difference

It's impossible not to notice the difference between old and new. The updated versions can carry more passengers, are more comfortable and have air conditioning. They are also more accessible with:

- Wider doors that offer easier and quicker boarding, with level access to platforms
- Walk-through carriages so people can easily move to less crowded areas
- Dedicated spaces for wheelchair users
- Improved audio and visual information including on-board station announcements

### Revamping the Tube network

Our programme to improve London Underground is the biggest in 60 years. Each Tube line is being overhauled – we're also planning new trains for the Bakerloo, Central, Piccadilly and Waterloo & City lines.

### In the top 10

The new Tube trains have already been voted one of the top 10 transport designs in London.

This was the result of a poll of 10,000 Londoners in November 2015. People picked from 100 transport designs chosen by industry experts and London Transport Museum.

For the drivers, CCTV means they can see into every car. Track-to-train video links give them a good view of the outside before setting off, making journeys safer.

### Behind the scenes

Introducing the new fleet has been a huge exercise. More than 1,100 drivers undertook the 10-day training programme, including working in cab simulators as well as on the new models.

Tracks had to be upgraded and those at depots needed to be extended to cater for the longer trains, as did platforms. In all, more than five years' work took place before passengers saw any of the trains.

The new fleet is more reliable and maintenance is quicker and easier. A new braking system means energy savings as well.



New Tube trains mean better journeys

**'The Tube upgrade programme is essential if London is to manage future growth while remaining a premier world city. More passengers are now benefiting from new trains, modernised signalling and revitalised stations. It's vital we now see the job through.'**

Baroness Jo Valentine, Chief Executive, London First

## Boosting the Northern line

The Northern line is busier than ever. By 2023/24, passenger numbers are predicted to rise by more than 20 per cent, so it's vital we ensure the line can manage demand.

A major upgrade to signalling in early 2015 created 20 per cent more capacity in Zone 1, which means trains can carry an extra 11,000 people an hour during the peak. The number of trains running on the line has also risen from 20 to an average of 24 an hour, and journeys are around 10 per cent faster.

### More trains, and faster

We are looking to increase capacity further, with up to 30 trains an hour in central London – that's a service every two minutes.

To meet this ambitious target, we must now look at the best way to make infrastructure improvements at stations across the line, such as more depot and maintenance facilities, new track layouts and power upgrades.

### Station work

Tufnell Park reopened in March this year after a nine-month closure while both lifts were replaced to provide a more reliable service. Other Northern line stations are also earmarked for upgrades:

- Preparation is under way at Bank to boost capacity by 45 per cent during peak times, so the station can cater for the predicted growth in passenger numbers. The project, to be completed in 2021/22,

will also provide a new station entrance on Cannon Street and step-free access to the Northern line platforms

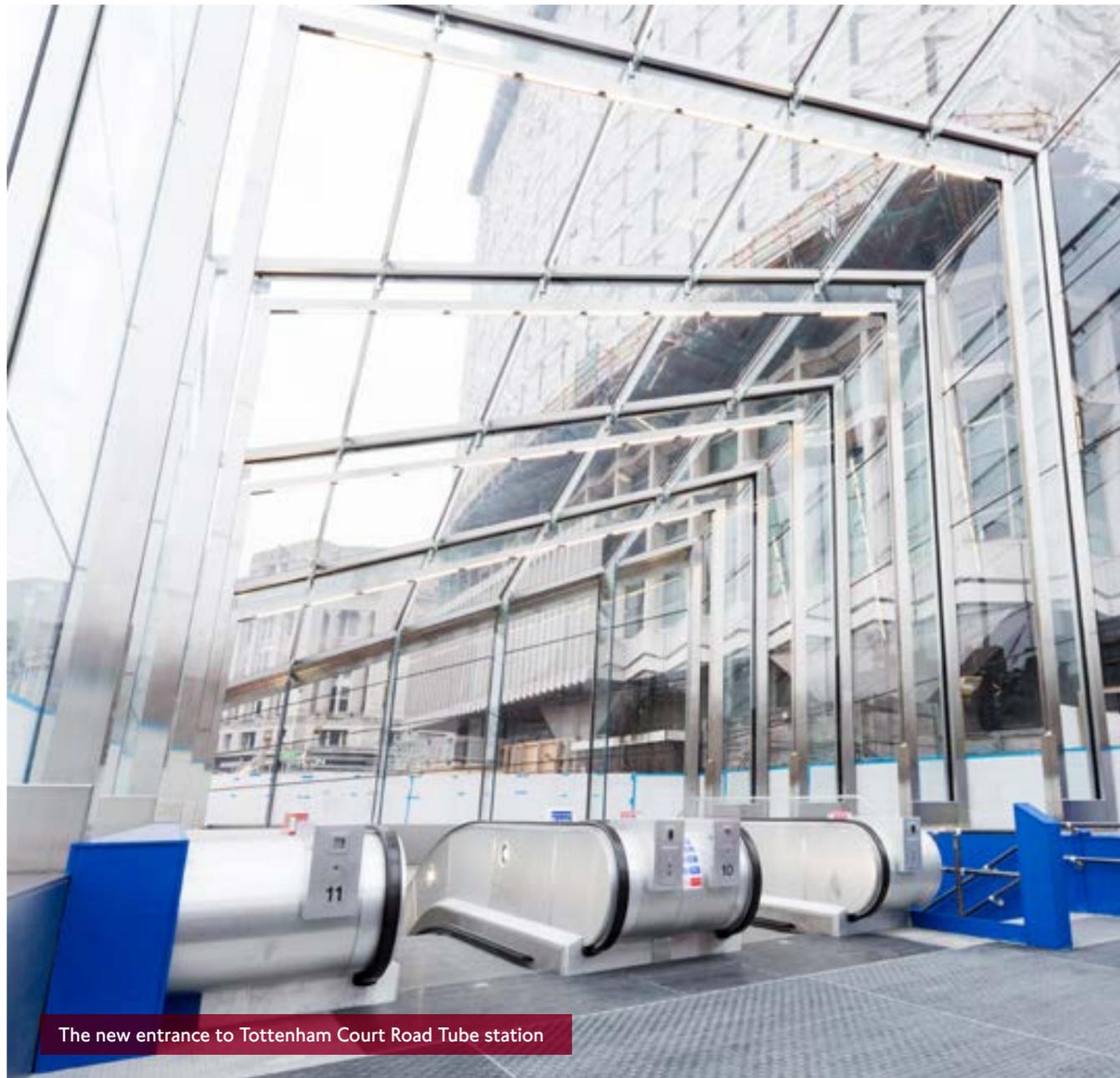
- Over the past decade, the number of people using Camden Town has risen by 60 per cent. Unless greater capacity is introduced by 2031, demand will exceed what the station can handle. Our proposals, which will be open to public consultation during 2016, include a second entrance, three new escalators and step-free access from the street to trains. The existing station entrance would remain in use, with no changes to nearby buildings. Subject to funding and planning permission, work could start in 2019 and be completed by 2023/24

**'We welcome the proposed upgrade to Camden Town station. Let's make it easier, safer and more efficient for people to visit, to boost the local economy and enjoy what the area has to offer.'**

Simon Pitkeathley, CEO,  
Camden Town Unlimited



## Design for life



The new entrance to Tottenham Court Road Tube station

The roundel and its distinctive Johnston typeface, the Tube map, Routemaster buses, moquette fabric, our new walk-through trains – just a few examples that highlight the important role design has played in our 150-year history.

Great design makes our customers' journeys easier and more pleasant. This includes a stunning 15-metre glass entrance to Tottenham Court Road Tube station (left), which opened in December, as part of our commitment to making it fit for the 21st century.

We also unveiled new uniforms for our employees, designed by Wayne Hemingway MBE, which come in a variety of mix and match options to reflect the diverse needs of our workforce.

With more than 31 million journeys made across our network every day, modern design has to work harder than ever to give our customers a better experience. No aspect is overlooked – from our station architecture

**‘It is vital that the new uniform does justice to one of the best transport systems in the world in a city that is widely considered to be the most exciting in the world.’**

Wayne Hemingway MBE

and clear signs to easier ways to pay and automatic refunds for delays.

### **Good design, better journeys**

This commitment to intelligent design, outstanding quality and consistent branding across all the work we do has been vital to providing customers with welcoming, comfortable and straightforward journeys.

### **Design past, present and future**

Transported by Design is a celebration of our rich heritage. Running from July 2015 to early 2017, this programme of events, exhibitions and competitions will showcase the pioneering design that has united our city.

## People: dedicated to customer service

# Valuing our people

We invest in our people and lead them to be the best they can be every day.

Our aim is to recruit, reward and develop the right people with the right behaviours and skills.

Whether they are our teams or contractors employed through our UK-wide supply chain, dedicated people are vital to ensure our organisation provides excellent customer service and helps London prepare for the future.

We work with thousands of suppliers across the UK, supporting around 60,000 jobs outside London<sup>1</sup>. Each dot on this map represents a company we paid in 2015/16.



<sup>1</sup> Source: Regneris

## Championing diversity in the industry

Dana Skelley, one of Britain's most senior women engineers, was awarded an OBE in the Queen's New Year's Honours list for services to transport in London.

As Director of Asset Management for Surface Transport, Dana is responsible for the effective and efficient investment of more than £300m a year to maintain £15bn of infrastructure assets, including the Capital's arterial roads, traffic signals, bridges, tunnels, footpaths, bus stations and bus stops. She has also overseen the successful delivery of many major schemes as part of our Road Modernisation Plan.

### Business-minded

Dana studied civil engineering and her passion for bridges and architecture led her to the field of transport. She credits her MBA for helping her understand the importance of getting the best out of people, understanding our customers and the role that finance and economics play in running a successful business.

During her 15 years at TfL, Dana has championed women in the industry and has helped hundreds of female graduates and apprentices to take their first steps in an engineering career.

She said: 'Women are increasingly playing an important role in major projects across London, and with more companies now offering young people apprentice and graduate opportunities, together we can help ensure the Capital continues to grow and prosper.'



### New record

In September, a record 168 new graduate trainees joined our workforce and one-in-three were women. We also took on 156 apprentices – another record for us – including 25 women.

When asked what she's most proud of, Dana answered: 'Seeing our graduates, apprentices and our people flourish; trailblazing collaboration in our industry.'

[Read about our 100 Years of Women in Transport celebrations on p64.](#)

### Stuart Ross BAME Internship

Our press office intern scheme is aimed at black, Asian and minority ethnic (BAME) students and graduates.

Working on the big stories and events affecting London's transport network means that we have one of the busiest press offices in the UK. Interns get involved in writing press releases, helping journalists and working on campaigns to support our customers.

Since the scheme launched in 2007, 18 people have benefited from the opportunities it has provided.

The scheme is now named the Stuart Ross Internship in memory of our former Director of News, who passed away in January.

Stuart, who was instrumental in the success of the scheme, was committed to championing the career development of aspiring press officers and the internship for young people from BAME backgrounds.

Julianna Sseruwagi-Nisbett joined TfL as an intern in 2013 and is now one of our Senior Press Officers: 'I honestly don't think I would be in PR without that opportunity. Since starting on the scheme, I haven't looked back.'

# Transforming lives



**‘TfL was my first proper opportunity in civilian life, I had never imagined working in an office environment and am surprised how much I enjoy it. I work with a great team who are more like a family to me than just work mates. TfL gave me an opportunity – that’s all I needed.’**

John Wilson, Compliance Officer (former Reservist Lance Corporal)

John Wilson

John Wilson’s story is a powerful illustration of how the Armed Forces Covenant – which we signed in February to confirm our commitment to supporting ex-Service members – is transforming lives.

It was during his second tour of Afghanistan in 2012 that the Reservist Lance Corporal for the London Regiment stepped on an improvised explosive device. ‘We were crossing a bridge – I was seventh,’ said John. ‘At least two of the lads must have stepped on the IED and it didn’t detonate; it was well-covered.’

John lost both legs and after being medically discharged from the Army in 2014, was ‘struggling for work because employers just looked at me and thought I wasn’t up for the job’. But that came to an end when John heard about our commitment to help former Armed Forces members and, in January 2016, he started a new career at TfL as a Compliance Officer.

#### **New opportunities**

Our relationship with ex-Service members, which dates back to the First World War, was strengthened with the Armed Forces Covenant. In the four years before it was signed, we had already offered 28 six-month work placements. Twenty-seven of these people have since found full-time civilian employment within the Capital’s transport sector.

But the Covenant goes further than that with a commitment by TfL to support former members of the Armed Forces to secure full-time work paying at least the London Living Wage. We are aware of how the skills

they developed in the Armed Forces can benefit an employer. These include being a team player, problem-solving, the ability to work under pressure, adaptability and leadership. Many individuals also leave the military with highly technical skills in areas such as engineering and project management.

We also have access to the Armed Forces resettlement service, known as the Career Transition Partnership – this enables us to speak directly to leaving Ministry of Defence employees and to become an employer of choice for this large group of skilled individuals.

Our support ranges from helping people apply for a role within TfL to offering continued assistance and guidance during their employment. This includes ensuring appropriate help is readily available for those who are wounded, sick or injured.

The signing of the Covenant recognises the value that military personnel, reservists, veterans and their families bring to our organisation and to London as a whole.

#### **Free travel for war veterans**

Since November 2008, war veterans have been able to travel free on the Tube, DLR, London Overground, TfL Rail, buses and trams with a Veterans Oyster photocard. In 2012, free travel was introduced for Armed Forces personnel travelling in uniform.

## Investment in London boosts the UK

Our contract with Bombardier for 45 London Overground trains will support hundreds of jobs in Derby and the surrounding area, as well as apprenticeships.

And the jobs boost won't end when the trains are delivered from 2018. The contract, which was signed in July 2015, also covers continued maintenance and technical support.

This is just one example of how businesses – and people – across the country benefit from our investment. Investment to improve London's transport continues to support the UK economy.

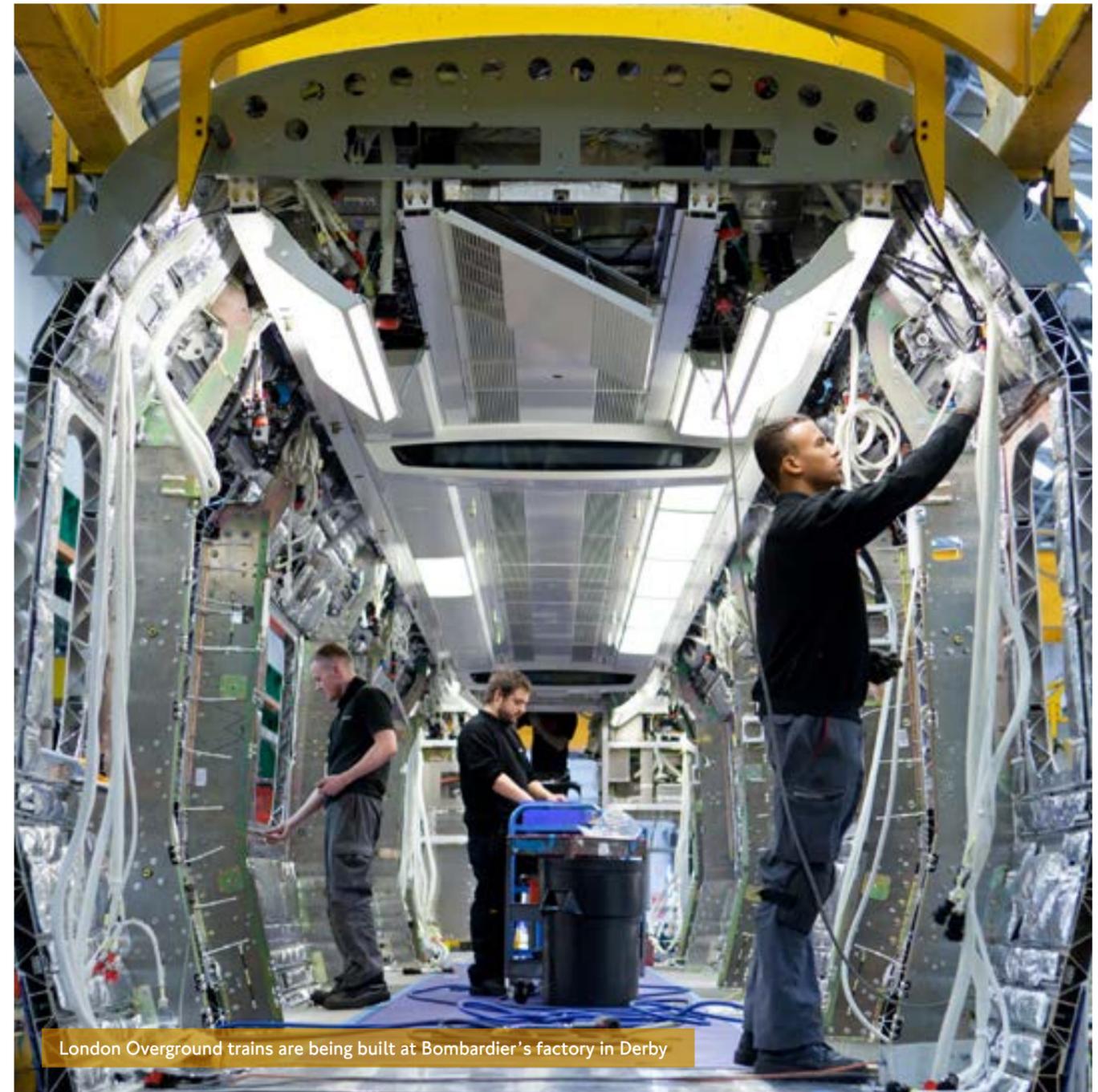
### Improving services

Most of these new trains will run on the Liverpool Street to Enfield Town, Cheshunt (via Seven Sisters) and Chingford routes that became part of TfL in May 2015. The trains will be used to replace diesel trains on the Gospel Oak to Barking line from 2018. They will also help enhance frequencies on other parts of the network.

Customers will see a huge improvement in comfort, reliability and the overall quality of the services. They'll experience walk-through carriages, air conditioning and greater accessibility.

The 24 stations serving the West Anglia routes that are now part of TfL, are being cleaned and improved to bring them up to standard. Trains have already been smartened inside and out.

There are other benefits for us and our customers too; compared with existing stock, the new trains are more efficient, need less maintenance and are more reliable.



London Overground trains are being built at Bombardier's factory in Derby

# Growing for the future



Apprentice Daniel Stapleton

**‘I’m getting a deeper knowledge of how the city works’**

Daniel Stapleton, London Underground operational apprentice

We have a wealth of talented people who are fulfilling their potential and bringing in vital skills through our apprentice programme.

Apprenticeships give people the opportunity to work and earn a living as they study towards professional qualifications. At the same time they can gain valuable skills while contributing to the daily operation of our business. We announced in March the creation of another 350 new apprenticeship roles.

### Wider choice

Over the years, our engineering apprentices have helped deliver some of our most vital projects. But 2016 has seen the programme expand even further, with 19 different apprenticeship schemes on offer covering everything from project management to IT and web development.

This evolution reflects the increasingly diverse nature of our organisation.

### Qualified in success

The scheme now also allows for even higher professional qualifications as we are among the first British employers to roll out degree-level training. Quantity surveying apprentices completing their Level 3 apprenticeship – equivalent to two A-Levels – can now progress to a new Level 6 apprenticeship standard.

The wide range of schemes on offer are helping to ensure we are ready to meet future challenges.

### Apprenticeship schemes 2016

Scheme	Numbers
LU engineering (three years)	58
LU track engineering (18 months)	13
Track renewal	6
Power engineering	4
LU operational	10
Quantity surveying	5
Project managers	10
Project planners	10
Highways technician	7
Traffic infrastructure	6
Information management	4
Commercial procurement	8
Human Resources	6
London Transport Museum	8
Design	1
Software development	4
Dial-a-Ride vehicle maintenance	2

# Celebrating a century of women in transport

When, on the count of three, 864 people jumped in the air and high-fived each other at Horse Guards Parade, it was a moment that would enter the record books.

The event, held to recognise Women in Engineering Day last June, earned TfL and the transport industry, a place in the Guinness Book of Records.

And it was fitting that they carved their own place in the history books as this

landmark achievement was also part of the industry's 100 Years of Women in Transport (YOWIT) celebrations.

Beginning in November 2014, the aim of the campaign was to motivate and inspire current and future generations of women through a series of events. It highlighted the crucial role women have in the transport industry and in our organisation – plus the significant contribution they can make in the future.

## Highlights of the YOWIT campaign included:

- A series of insight sessions, which saw inspirational women share their experiences and offer valuable advice. Among the speakers were Olympic gold medallist and a cross-bencher in the House of Lords, Baroness Grey-Thompson, who focused on her experience as an athlete; and Suzi Donoghue, Commanding Officer in the Royal Logistic Corps, who shared her thoughts on leadership and progression in a 'man's world'
- Industry debates, networking workshops, panel discussions and speed mentoring evenings which have given people from transport the opportunity to meet and talk to senior figures from across the industry
- Bring your daughter to work day, with more than 70 people taking part
- The Great Schools Debate final, which took place at the House of Commons in December, gave us a fantastic opportunity to encourage young people to consider a career in transport
- Coffee roulette, where people from across our organisation met for a quick chat after being randomly paired by the YOWIT team. This helped build strong working relationships, broke down barriers and gave many people a greater insight into other roles
- The first 50/50 work experience programme with the Royal Greenwich University Technical College, which involved hosting an equal number of male and female students



A world record was set at Horse Guards Parade to celebrate Women in Engineering Day

The programme has now established a network of more than 12,500 individuals and 330 YOWIT 'Champions' from in excess of 270 transport organisations, with people giving their time to visit schools, provide work experience placements and present at careers fairs and other events.

The YOWIT programme received international recognition in October when representatives were invited to Mexico by the Inter American Development Bank and the World Bank to

share about the campaign's success. It also won 'Diverse Marketing Campaign of the Year' at this year's Excellence in Diversity Awards.

It's been a century since 100,000 women answered the rallying call and began work on London's transport system during the First World War. It's hoped the YOWIT campaign will continue this legacy, playing a central role in shaping the future of our industry over the next 100 years.

## Value: delivering more with less

# Providing value for money for fare and tax payers

One of our top priorities is to reduce our costs and generate more income. Every penny of our revenue, whether from fares or our commercial activity, is reinvested in running and improving services on the transport network.

The outcome of the Spending Review means that while the capital grant was protected, our revenue grant will be progressively withdrawn. From 2019 we will cover all day-to-day running costs from our own income. This means that London will be the only major world city transport network not to require an operational subsidy from central Government.



**34%**

is spent on improving services through one of the largest capital investment programmes in Europe

# New homes, new jobs, new revenue

When the Metropolitan Railway Company extended its services from Pinner to Rickmansworth back in the 1880s, it had the future firmly in its sights.

As the tracklayers moved along the house-builders moved in, transforming the countryside beyond northwest London into a semi-detached suburbia to satisfy the needs of the Capital's growing population. Metro-land, as the railway company's publicity department later coined it, was born.

Now, the needs of London's rapidly growing population are taking centre-stage once more in a series of property development projects we are planning. And Northwood, midway along the line between Pinner and Rickmansworth, is at the forefront.

There, on the site of the old station goods yard, we propose – subject to planning permission – to build 128 homes, around 300 car-parking spaces, a public piazza, and retail premises covering 1,240 square metres. That will enable us to fund a bus and train interchange, plus a new station with step-free access.

Northwood is one of 75 proposed developments. It is part of an ambitious regeneration programme on our land that could see more than 10,000 new homes built across the Capital over the next decade.

**'We're determined to use our assets to help create more homes and jobs for Londoners. As the custodians of some of the best assets in the Capital, it is right that we explore every opportunity to maximise the use of our land.'**

Graeme Craig, TfL Director of Commercial Development

## **Metro-land revisited**

**Smoothly from Harrow, passing Preston Road,  
They saw the last green field and misty sky,  
At Neasden watched a workmen's train unload,  
And, with the morning villas sliding by,  
They felt so sure on their electric trip  
That Youth and Progress were in partnership.**

**From a poem by Poet Laureate Sir John Betjeman, paying homage to Metro-land**

It offers an ideal example of how we intend to make the most of our assets – reinvesting the income to improve transport (in Northwood's case, with a new station). At the same time we are contributing to the Capital's need for more homes as the population grows.

We own 5,500 acres of land alongside Tube, bus, DLR and London Overground stations, Thames-side piers and disused operational land.

From this we have identified hundreds more sites with development potential. They

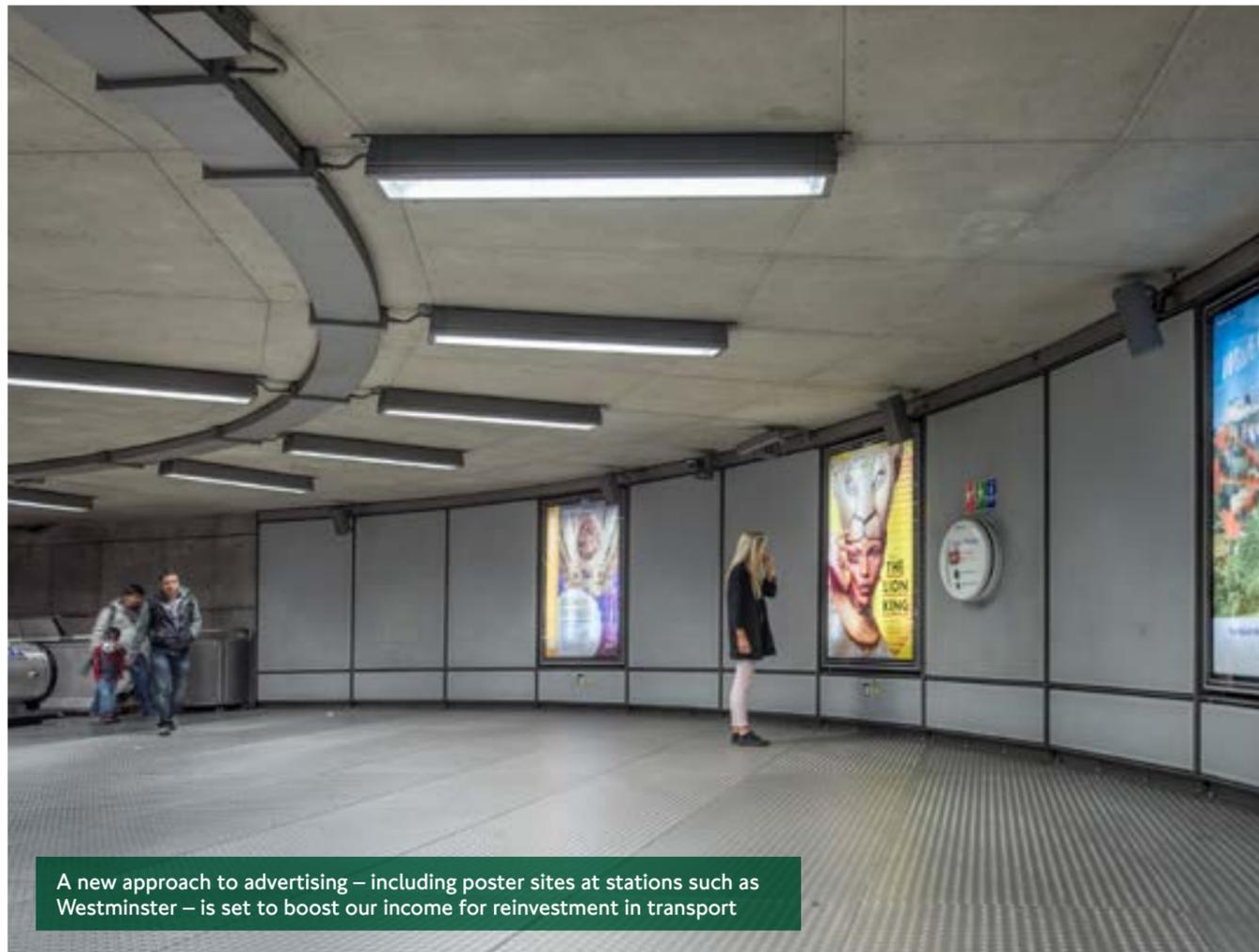
range from compact, local projects such as at Northwood to major developments such as Earls Court, where proposals could see four new 'urban villages' created.

In February we appointed a framework of 13 leading property developers to work with us to bring the first 50 projects to fruition.

Our target? To raise £1.1bn from property development over the next decade and plough it back into the transport network.



# A new era for advertising



A new approach to advertising – including poster sites at stations such as Westminster – is set to boost our income for reinvestment in transport

**‘Together with TfL, we have a bold vision for the London Rail and Underground estate that will transform the look and feel of advertising in the Capital.’**

Shaun Gregory, CEO, Exterion Media

Our poster sites and street billboards are seen around 1.5 billion times every year. And as the Capital’s population grows, that number is only going to rise.

For us, and our partners, the advertising potential is enormous.

### **New approach**

In March we announced a ground-breaking new deal with Exterion Media that will see advertising space sold on trains and at 400 stations across our network.

The scale makes it the world’s largest outdoor advertising contract and estimates suggest it will contribute £1.1bn, which will be ploughed back into improving and maintaining transport for future generations. It’s part of plans to generate £3.4bn in commercial revenue by 2023.

Previously, we had outsourced the management of this space in return for a guaranteed minimum income. But with the recent creation of our Commercial Media team, we were able to take a different approach.

This will be the first time a single contract will span the Tube, London Overground, trams, the DLR, Victoria Coach Station and, once it’s operational, the Elizabeth line.

It will see the introduction of responsive digital screens able to carry different ads according to the time of day. This will mean advertisers can target their campaigns even more effectively.

### **Upwardly mobile**

With the bank’s familiar branding emblazoned on almost 12,000 hire bikes and around 800 docking stations, our partnership with Santander has shown how the public and private sector can create value for each other by combining skills, investment and resources to achieve a common goal – in this case making the Capital’s cycle hire scheme more popular than it’s ever been.

In the first 12 months of a seven-year contract, the partnership has seen Santander Cycles grow in size and popularity. Recent enhancements include an improved app and the introduction of Blaze Laserlights to boost safety. We have stepped up promotion of the scheme through social media, and it has also featured in the bank’s TV ads.

For us, Santander’s backing will be worth £43.75m over the life of the contract, with a £1m a year ‘activation fund’ to promote the scheme and attract new customers through incentives. This amounts to a 25 per cent increase in real terms over the previous contract.

## Espresso to go?

If you've passed through Vauxhall bus station recently you may have seen a cheerful chap peering through the roof of a London taxi parked on the forecourt, with the aroma of freshly roasted coffee beans gently wafting through the rush-hour air.

The Black Cab Coffee Company is in town. And if not right now in Vauxhall (they have wheels, we have plans), then try them in Shadwell or Parsons Green, or perhaps at one of the other 30 street vending sites we've opened for start-up businesses around the Capital.

### Perfect pitch

Street vending – using pitches in prime locations to provide an ever-changing retail attraction for customers – is part of our plans to make the most of our assets while helping young businesses test their ideas.

Working with street vending management specialists, we're offering sites on a week-by-week basis. Vauxhall was our first location this year, and the Black Cab Coffee entrepreneurs with their converted taxi were our first occupants.

Street vending is a natural progression from our pop-up shops, which have proved hugely popular over the past year with customers and start-up businesses alike.

Across our estate we have 1,000 retail units. Many of these are premises in stations that give fledgling businesses a chance to get started, or even household names such as Microsoft and Jamie Oliver an opportunity to try out a new concept.

One of the best examples can be found at Old Street station, where we began pioneering the idea a couple of years ago. There we turned a network of dreary subways into a lively, colourful and welcoming retail experience for the 23 million customers who use the station every year.

Since then Old Street has given life to 200 start-ups – several have since established permanent shops.

A series of quarterly pop-up events also started at the station in January. First up was the Health and Wellbeing Festival, with six businesses promoting everything from nutritious food and drink to keep-fit classes.

All of which is good of course for our customers, for London's intrepid entrepreneurs, and by no means least for our transport network, which gains from the income.

### Changes at Canary Wharf

Canary Wharf station used to boast a single retail kiosk. However, our new approach has seen us develop seven retail units there, with another seven to follow – bringing in around £1.5m a year.

This is revenue that will be reinvested to improve our services.



The Black Cab Coffee Company in Vauxhall bus station is just one small start-up benefiting from our support

## Braking down costs

Of all the processes, systems and ideas we've adopted to save money, one of the most intriguing is to be found in our Tube trains.

London Underground has been using a system called regenerative braking for a number of years. This recycles the energy released when a train brakes and uses it to supplement the power to the next one along – if it's travelling close enough behind.

Engineers have been hard at work thinking of innovative ways to store the energy so it doesn't get wasted when services are running less frequently.

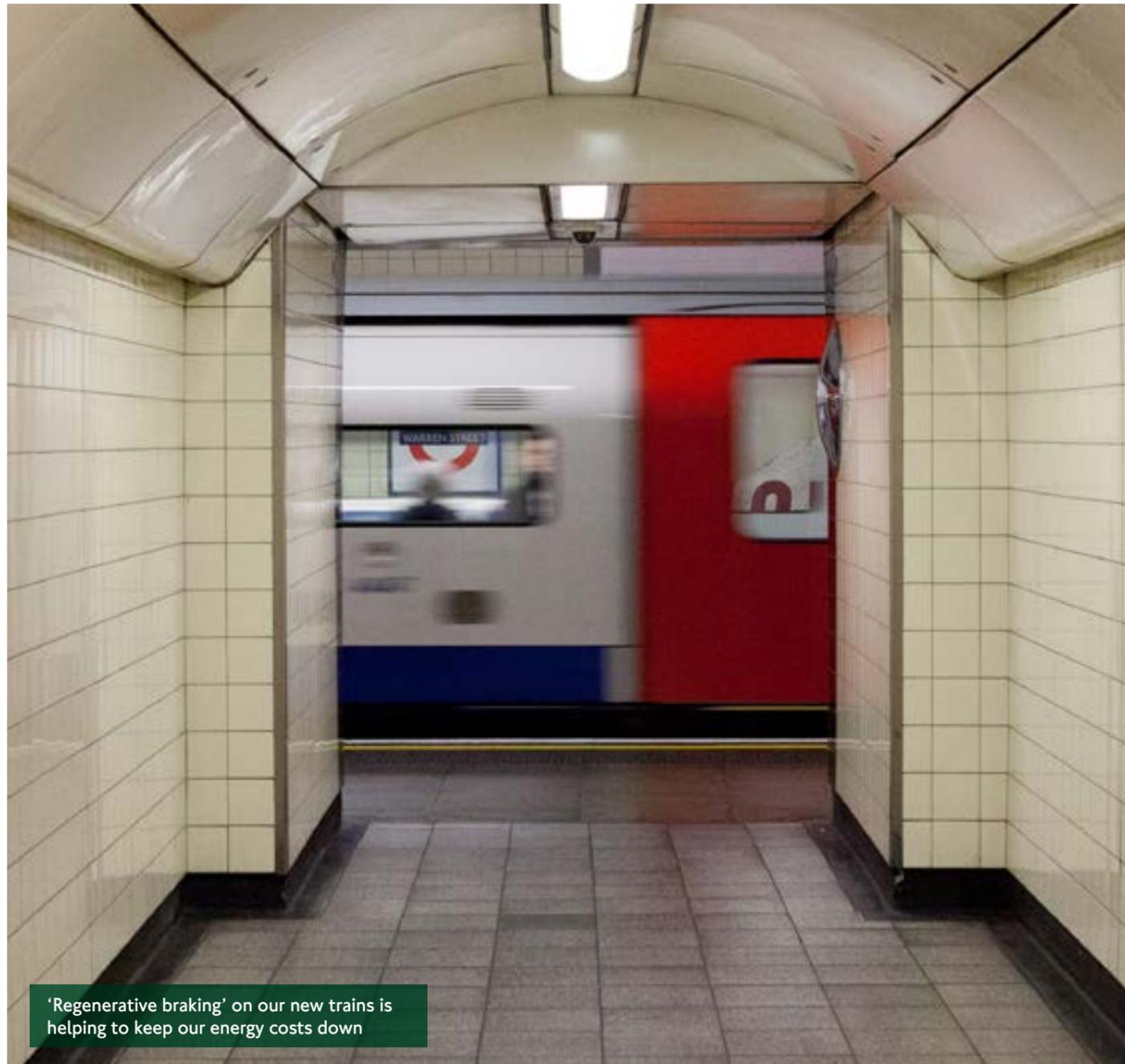
### The solution

This year on the Victoria line have been trialling our latest solution: an 'inverting substation'.

This takes up to 99 per cent of the regenerated energy and stores it if it's not immediately needed. Then it 'inverts' it to a higher voltage and adds it to power from our other electricity supplies for use elsewhere on the network.

After just one week of operation, the new technology recovered enough power to run a station the size of Holborn for more than two days. The trial, which is still in progress, suggests we could save one megawatt of electricity every day. That would represent a saving of up to £6m a year if inverting substations were used across the Underground network.

All energy savings are welcome but at a time when we're running more frequent services,



inevitably demanding more power, such savings are doubly valuable.

Traction power – the electricity to run our Tube trains – accounts for 80 per cent of all LU's energy consumption, and it costs £80m a year.

Regenerative braking – now also used on the Northern, Central and Jubilee lines as well as on the new sub-surface trains – is just one of a number of measures being adopted to keep our energy costs down.

### Powered up

More than 100 years after it was built to provide energy for London's trams, one of the world's oldest operational power stations is being transformed for 21st century use.

Three new gas engines are to be installed at Greenwich Power Station, producing cheaper low-carbon electricity for the Tube network.

They provide around 13 per cent of London Underground's needs, making the Tube more self-reliant and limiting the risk of rising energy prices.

And, if a heat network is built, waste heat generated by the station could potentially be channelled to local homes and schools to provide heat and hot water, reducing residents' utility bills.

## Continuing efficient operational activities

Our savings and efficiencies programme was one of the largest and most complex programmes in the UK. We committed to deliver £16bn of cashable efficiencies, net of any implementation costs, from 2009/10 to 2020/21.

Over the past seven years it has helped us to realise a 15 per cent per annum sustained reduction on total cost which has then been reinvested into our network.

By the end of the 2015/16 financial year we had made savings of £7bn, with a further £6bn secured for the future.

This year we've saved £83m, including how we carry out track and signals maintenance work.

As agreed with our Finance and Policy Committee, we have set a new and challenging target to reflect the financial challenges following the 2015 Spending Review announcement.



## Technology and data: a new pan-TfL strategy and approach

# Exploiting technology to provide better and faster results

Technology and data underpin everything we do.

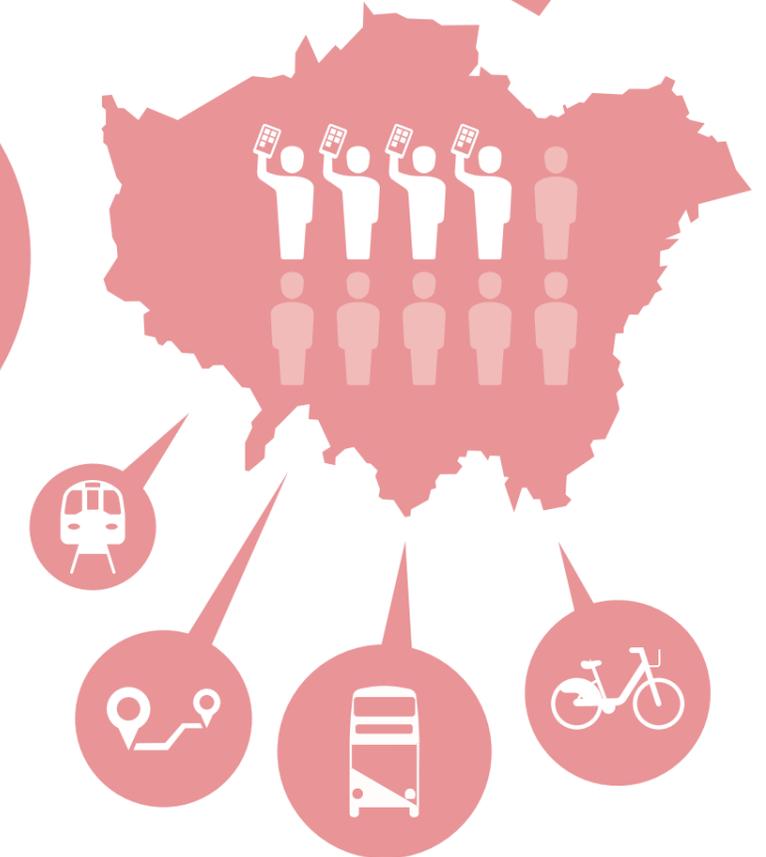
With London's population rising rapidly, harnessing technology is vital to ensure we can transform our networks to meet demand. Our aim is to exploit technology and data to produce better and faster results by:

- Providing new products and services for our customers and users
- Improving operational safety and reliability
- Increasing capacity on our networks
- Equipping our people with the tools to make improvements
- Reducing costs and generating income

Around 8,200 developers  
have used our data...



...that are used  
by 40% of Londoners



...to produce almost  
500 apps for  
mobile devices

## Talking tech

Using technology and data makes our organisation tick.

We are not only a massive customer service business – we are a huge software and data company too.

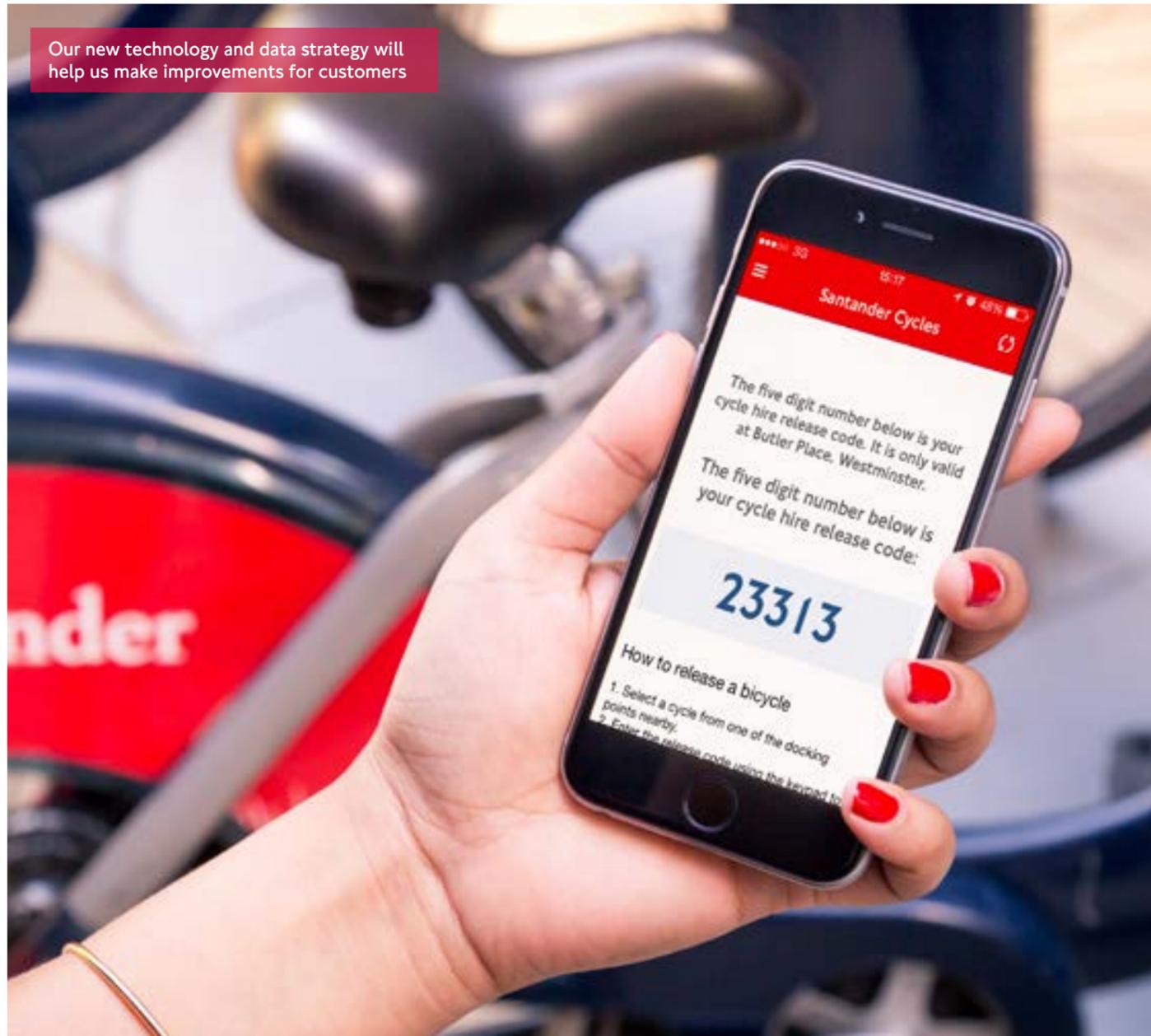
By using data effectively we are maximising capacity on our public transport and road networks, and improving journeys – doing things better, faster and cheaper.

Our first TfL-wide technology and data strategy was introduced in March.

The strategy has four priorities:

- **Commercial outlook** – we are working with our suppliers to get the most value out of our technology contracts. We have developed clear guidelines around when to develop our own solutions, and when to buy them externally. We are also renewing our focus on exploring opportunities to generate revenue
- **Simplified business processes** – we are committing to simplifying our processes to make it easier to get things done.

Our new technology and data strategy will help us make improvements for customers



- **Highly capable people** – we need the right people to make the most of opportunities presented by technology and data. We will develop our workforce to ensure we have suitable skills and expertise across the entire organisation
- **Innovative and productive partnerships** – we are building new partnerships with data and technology organisations to promote innovation and make the most of cutting-edge ideas and products in the market. Making our data freely and openly available to third parties helps develop products and analysis that benefit the wider digital economy

# Tackling congestion

Technology and data help us to continue to keep the city moving and make journeys better for our customers.

To explore an idea we use 'proof of concept' (PoC) to look at opportunities to use technology to gather data to improve the 'real time' and digital information we provide.

Congestion on the Tube is one challenge that we are investigating using this approach. We have developed a PoC to investigate Victoria line train and platform crowding, and journey time. The approach uses data from Oyster, contactless bank cards, figures on the number of people on trains, and survey data about journeys on the Tube network:

**1. Train crowding** – using the carriage weight at each station and combining this with data for numbers of people on other sections of the line to predict how busy the next four trains will be when arriving at each station

**2. Platform crowding** – based on the size of the platform, and other data, this displays how busy a platform is likely to be in real time

**3. Journey times** – using Oyster and contactless bank card data to calculate historic journey times across the network to predict the probable journey time for travel at any time of day, and to identify the impact of disruptions

Research suggests that real-time and predictive crowding information – especially when we can eventually provide it for a customer's entire journey – would help customers plan their journeys more effectively and help us reduce crowding at the very busiest times and places.



Victoria line passengers board at Green Park

## A Smart-er way of working

Leading-edge technology is revolutionising customer service on the London Overground, with interactive ‘Smartwatches’ being issued to frontline station teams.

In September, all 35 London Overground Customer Service Ambassadors (CSAs) were issued with Pebble Time Smartwatches. The devices connect to the CSA’s iPhones via Bluetooth and display service update and disruption notifications from London Overground Rail Operations Limited’s (LOROL’s) Orinoco realtime information app as well as email and SMS on the screen. This clever piece of kit vibrates on the wrist meaning CSAs can be alerted by the control centre, no matter how loud their surroundings.

### Next development

LOROL believes it is the first train operator in the world – and one of the first customer service businesses – to use this wearable technology. The company is investigating how it might develop a watch app to take the Smartwatches to the next level, by providing ‘at a glance’ line status and departure information tailored to the employee’s location.

This summer, more watches will be rolled out to locations along the former Greater Anglia rail route between Liverpool Street and Enfield Town, Cheshunt and Chingford – which is now managed by London Overground. Twenty-five of the Smartwatches will be given to frontline teams and managers at Liverpool Street, Seven Sisters and Hackney Downs stations.



Smartwatches for station teams on the London Overground is transforming customer service

‘Keeping passengers informed is central to delivering high levels of customer service on the Overground and we’re proud to be the first UK train operator to invest in this technology.’

David Wornham, Customer Service Director, LOROL

### More room on board

Along with Smartwatches offering fast, accurate travel information, customers are also benefiting from a 25 per cent boost to capacity on vital London Overground routes. A £175m project has lengthened trains from four carriages to five.

The new carriages – on the East London, West London, North London and Euston to Watford routes – provide room for an extra 170 passengers per train, meaning a more comfortable journey for hundreds of thousands of customers.

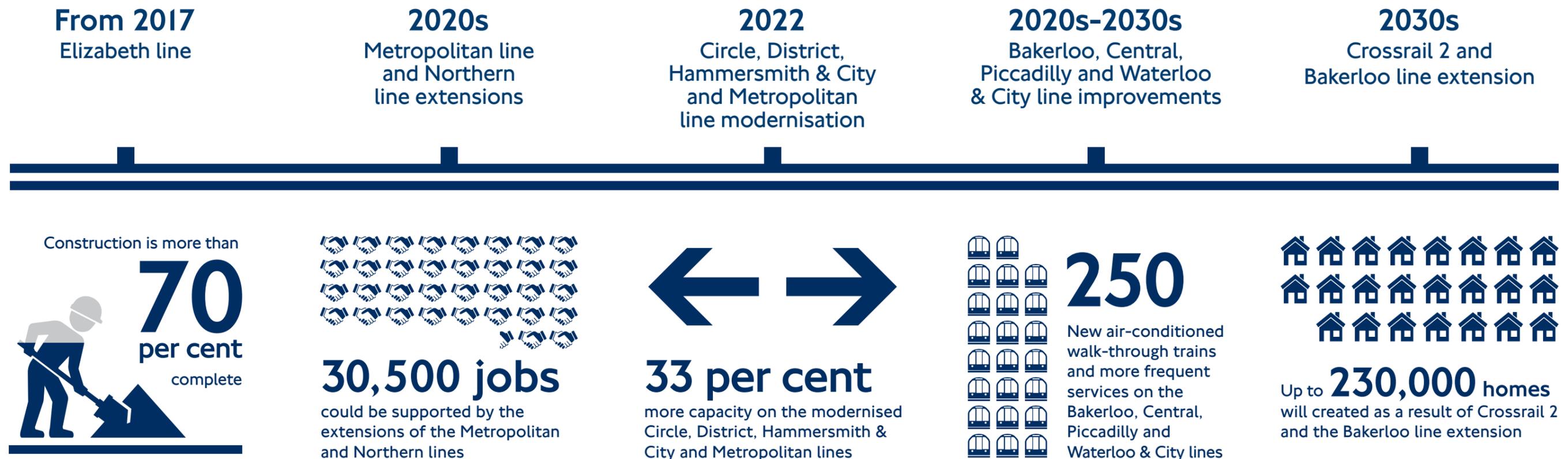
# Planning for the future

The previous pages highlighted work that took place during 2015/16 to keep London moving, working and growing. In this section the spotlight falls on longer-term projects that are under way now to transform the city's future.

London's rapid population growth means more demand on transport networks and a greater need to push the boundaries to meet future challenges.

We are committed to accelerating the growth, and increased capacity, of our network.

From the advent of the world's first underground line to today, we have developed a rich history of innovation. We are working to ensure travelling in London becomes easier, quicker and more reliable for everyone. This includes improvements across the Tube network, with each line being overhauled.



# Making connections: London's river crossings

The Capital's bridges and tunnels already provide crucial connections. Now attention has turned to a number of new options for spanning the Thames. They would also boost travel options across the city, supporting thousands of new jobs and homes, and driving economic growth.

At the end of 2015, we produced 'Connecting the Capital', a plan outlining more than a dozen sites where the river could accommodate new crossings – including both tunnels and bridges.

## More options

The plans would boost the total crossings between Imperial Wharf and Dartford by more than a third, with the number for pedestrians and cyclists increasing by nearly 50 per cent.

Most of the new crossings would be in east London, where we anticipate more than a third of the city's projected population growth will happen. Existing cross-river connections here are poor, with just three road crossings in the 23km between Tower Bridge and the M25, and only one bus route that spans the Thames.

## Better connections

We held a consultation between December 2015 and February 2016 on two proposals that would improve connections between east and southeast London. One at Gallions Reach, to join Thamesmead and Beckton, and the other at Belvedere to link with Rainham.

Almost 90 per cent of people who responded support one of the two locations, while around 77 per cent (3,500) back both. If



approval is granted and funding is secured, both could be open by 2025.

We also held a consultation on proposals for the Silvertown Tunnel, which has the potential to address the congestion and reliability issues at the Blackwall Tunnel and transform cross-river bus services in east London. A six-month public examination of the scheme is expected to begin later this year as part of the planning process.

There is significant activity too on a number of other cross-river links. For example the Elizabeth line, which will provide a direct link between Abbey Wood and Canary Wharf, is due to open in 2017. The Garden Bridge – a proposed footbridge between Temple and South Bank – will encourage more walking and is planned to open in 2018. Recently, a design team was appointed for a new pedestrian and cyclist bridge to link Battersea with Pimlico. We are also investigating options for a new pedestrian and cycle crossing connecting Rotherhithe with Canary Wharf.

**‘We are eager to see new crossings to connect the businesses and communities north and south of the river to unlock potential growth.’**

Colin Stanbridge, Chief Executive, London Chamber of Commerce and Industry

# Moving forward on Crossrail 2

The huge number of commuters at Waterloo station on a weekday morning is just one measure of London's success – and of its future transport challenges.

With demand for transport soaring, Crossrail 2 is a major part of TfL's and Network Rail's plans to ease the pressure on the transport network.

When it starts operating in 2017, the Elizabeth line, coupled with improvements to the Tube and National Rail, will make a big difference. But, unless action is taken, by the early 2030s the network risks seizing up – and damaging London's prosperity.

Crossrail 2 will link rail lines in Surrey and Hertfordshire with a tunnel stretching from Wimbledon in the south to Tottenham Hale and New Southgate in the north. It should be running by the early 2030s and will transform connectivity across the whole of the South East. Vitaly, it will ease the burden on the Northern, Piccadilly and Victoria lines plus the rail lines coming in from the southwest and northeast of London.

The National Infrastructure Commission, which reviewed the case for additional large scale transport infrastructure in the Capital and its region, said the scheme should be taken forward as a priority. The Commission's report makes clear that the railway is the only infrastructure project capable of meeting the demands of London's future growth.

So the Chancellor's recent announcement of £80m in development funding, matched



Crossrail 2 got the green light in the March Budget

by us, is very good news. The Government has also committed to give Crossrail 2 parliamentary time by 2019 for a hybrid bill to seek the necessary powers.

Crossrail 2 is more than just a rail line – it promises transformation on a major scale.

It will enable the development of 200,000 homes, especially in the Upper Lea Valley. It will also generate 200,000 new jobs in London.

By improving rail journeys from the Solent to the Wash, Crossrail 2 creates a major opportunity for the wider South East, with

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**‘The strategic case for Crossrail 2 is well founded... It should be viewed as an investment of national significance.’**

Lord Adonis, Chair, National Infrastructure Commission

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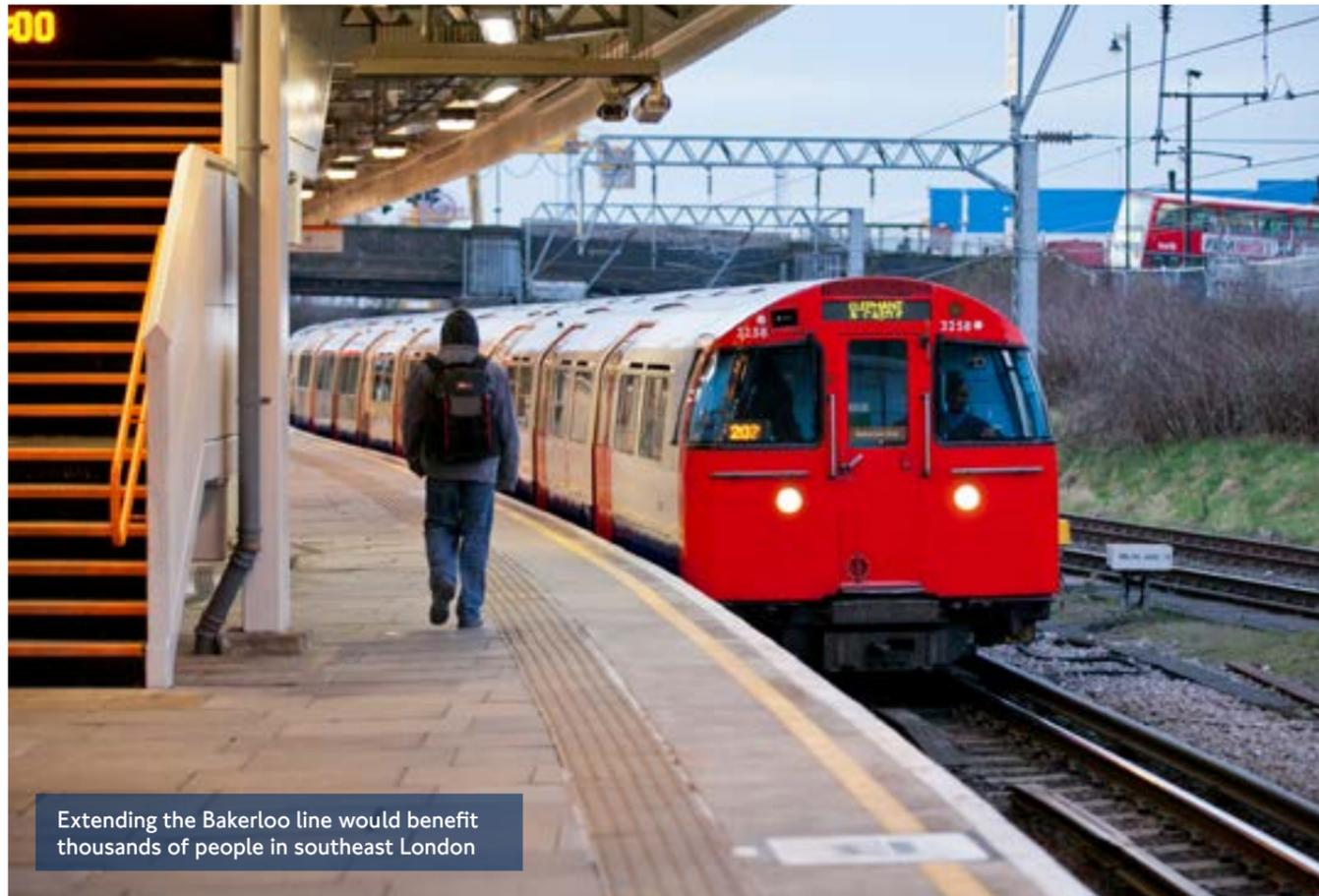
towns and cities from Southampton to Cambridge set to benefit from train paths opened up by the scheme. It promises huge benefits for the rest of the country too – adding up to £102bn to the economy and supporting a further 60,000 supply chain jobs across the UK.

Such predictions are backed up by the work of Crossrail 2's independent Growth Commission, which is liaising with local authorities and other stakeholders to make sure opportunities created by the scheme are fully exploited. The Commission's early conclusions are that the prospects look very exciting.

More than half the cost of the scheme could be met from contributions raised in London – and 89 per cent of the city's business leaders support it and are willing to help pay for it.

Crossrail 2 is a vital part of London's future transport plans. Now it's time, as the Chancellor has said, to get it 'off the page and into construction'.

# Branching out on the Bakerloo line



Extending the Bakerloo line would benefit thousands of people in southeast London

**‘Lewisham is growing fast and we desperately need investment in our transport infrastructure to boost capacity. So I welcome this commitment to bring the Tube to Lewisham and we will work with TfL to make sure it happens as quickly as possible.’**

Councillor Alan Smith, Lewisham Council’s Cabinet Member for Regeneration and Deputy Mayor

Work has started on building a case to extend the Bakerloo line into southeast London.

If the Government gives the project the green light, we expect to begin construction in 2024.

## Londoners have their say

We started a public consultation in 2014, which received 15,000 responses. Ninety-six per cent supported the idea of an extension, putting forward more than 200 suggestions for destinations.

In 2015, we assessed possible routes. This meant taking into account how each option could improve connectivity and housing, the engineering feasibility (for example, tunnelling, which is complex and expensive, must be kept to a minimum), how swiftly the project can be completed, and the likelihood that it could be paid for.

## Chosen route

Our assessment showed that a route from Elephant and Castle to Lewisham, via Old Kent Road would offer significant development opportunities, including up to 30,000 new homes. This could, in turn, help with the costs of building the extension, by securing contributions from new residential and commercial developments along the line.

Ending the route at Lewisham means we can build the extension quickly and cost effectively, hopefully completing the project by 2030. And this doesn’t rule out extending the line even further in the future.

## Extending transport benefits in southeast London

The extension will bring thousands of people closer to the Bakerloo line. But we want to make sure other areas, for instance Catford and Ladywell, feel the benefits that come with improved transport infrastructure.

We are already liaising with Network Rail and the Department for Transport to improve the rail network, including extra capacity and more frequent trains. With Network Rail and the London Borough of Southwark we are also looking at the possibility of a new Thameslink station at Camberwell. This would cut travel time to central London by 20 minutes, provide connections to the Tube and the Elizabeth line when built, and improve journeys across the Capital.

# Signalling a new era for rail services

Vastly improved train travel is on the cards for passengers in London and the South East following new proposals for more of the Capital's rail services to be transferred to TfL.

A rail prospectus, published in January by TfL and the Department for Transport (DfT), proposes transferring rail services that operate mostly or wholly within Greater London to us when the current franchises are due for renewal. The DfT would remain responsible for outer suburban services.

## Success story

The move – which could include services from London Bridge, Cannon Street, Charing Cross, Moorgate, Victoria and Waterloo – would allow us to replicate the successful improvements delivered for customers on the London Overground across the Capital's entire rail network.

A new TfL/DfT partnership will oversee the development and delivery of these proposals, involving local authorities and industry stakeholders in the way services are planned. This will make sure decisions affecting transport infrastructure support economic growth and are influenced by those who know the region best.

The partnership will investigate how we can work together to increase capacity, improve services and drive London's thriving economy, to achieve:

- Increased reliability and frequency

- Better interchanges
- The potential for more than 80 per cent of stations under our control to have a train every 15 minutes
- New rail lines to connect poorly served areas and support new homes and jobs
- Improved accessibility and staffing
- Better customer service and travel information, plus more integrated fares

We sought views from MPs, local authorities, local enterprise partnerships and rail users on the proposals between 21 January and 18 March. These views are being considered before the next steps on a new era of train travel for millions are announced.

## Rail success story

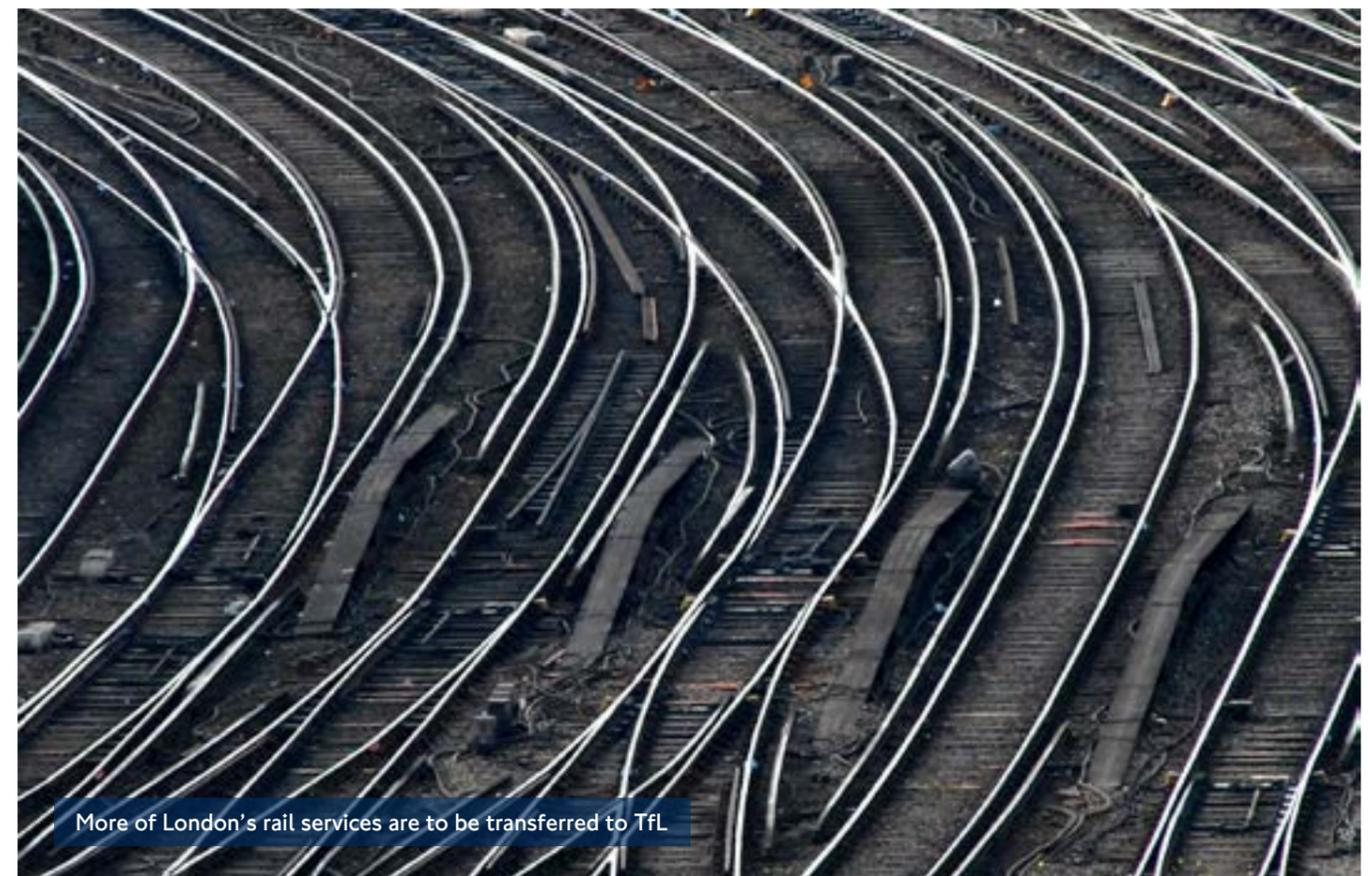
Passengers welcomed a range of benefits when the West Anglia suburban rail routes from Liverpool Street to northeast London became part of the TfL network in May last year. They included lower fares, repairs to stations, staff on hand when services are running, improved safety and security standards, better customer information and a 'turn up and go' service for mobility impaired people.

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**'We are committed to making journeys better across London and the South East, and this new partnership represents a huge opportunity to transform travel by putting passengers where they should be – at the heart of the rail network.'**

Patrick McLoughlin, Transport Secretary

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# The growth of the Northern and Metropolitan lines

Construction began in November on the first major Tube extension since the Jubilee line was opened in 1999 – the eagerly awaited Northern line link from Kennington to Battersea via Nine Elms.

With the date for completion expected in 2020, the £1bn extension will create thousands of jobs, regenerate the area around the planned new stations and cut journey times to the West End and the City to just under 15 minutes.

Starting at the existing Tube station in Kennington, the line will run to a new station at the centre of the Battersea Power Station site and another station will be built at Nine Elms. This will serve new developments such as the US Embassy and the revamped New Covent Garden Market, as well as the local community.

## Tunnel vision

Two 3.2km tunnels will be built and work will begin in early 2017. A specially-designed conveyor belt will transport the spoil to the banks of the River Thames where it will be loaded on to barges and taken to Goshems Farm in East Tilbury, Essex. It will be used to help turn the poor quality soil into high-quality arable farmland.

Around one million tonnes of earth will be excavated from the south London sites during construction. At its peak, up to 26 barges a week will leave the Battersea site, each carrying around 1,000 tonnes of earth to Essex along the river.



Transporting the excavated material in this way saves more than 60,000 lorry journeys on the Capital's busy roads, so reduces traffic congestion and helps to keep cyclists and pedestrians safe. It will also reduce the site's carbon footprint by cutting 2,000 tonnes of carbon dioxide.

Supported by private sector funding, the scheme will see the Vauxhall, Nine Elms and Battersea areas regenerated, supporting up to 24,000 new jobs and 18,000 homes.

## Funding kick-starts Metropolitan line extension

With the funding package complete, London Underground announced in November that plans are now in place to start construction work on the extension of the Metropolitan line this year, with the aim of completing the new link in 2020.

The extension will create two new Tube stations – Cassiobridge and Watford Vicarage Road – contributing towards a £2bn boost to the local economy and the creation of around 2,500 permanent jobs. It will support regeneration in and around Watford by making journeys to and from central London easier. It will also provide new links to Watford General Hospital and the new Health Campus, Croxley Business Park and Cardiff Road Industrial Estate.

The new line, which will connect to the West Coast Mainline at Watford Junction, will be served by new walk-through air-conditioned trains every 10 minutes to and from central London during peak hours.

Funding for the extension has been agreed between the DfT, Hertfordshire County Council and us. The existing Watford Metropolitan station will close to the public following the opening of the new stations, but will be retained as sidings for the extended railway.

# Progress against the Mayor's Transport Strategy (MTS)

The current MTS sets out the goals and aspirations for the transport network to 2031. These aim to support population growth and economic development by increasing capacity and improving comfort, safety and security. They also help London meet its climate change, environmental and sustainability targets.

The strategy identifies six goals:

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**Support economic development and population growth**

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**Enhance the quality of life for all Londoners**

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**Improve the safety and security of all Londoners**

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**Improve transport opportunities for all Londoners**

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**Reduce transport's contribution to climate change and improve its resilience**

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**Support delivery of the London 2012 Olympic and Paralympic Games and its legacy**

Legacy developments are highlighted throughout this section of the report.

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The following pages set out the progress we have made this year in meeting these goals. Overall progress on the MTS is reported every year in our Travel in London report.



# Support economic development and population growth

## Regeneration

A £300m Growth Fund was established in 2012 and supports 15 critical transport infrastructure projects to bring forward development in growth areas. This includes support for the delivery of the extension to the Gospel Oak to Barking line into Barking Riverside; a new ticket hall for the Northern line station at Elephant & Castle and the Fiveways junction project in Croydon. All the projects are essential to unlocking growth and will help support the delivery of 55,000 new homes and thousands of new jobs.

## Better stations

A new entrance opened at Tottenham Court Road Tube station in December. It provides easier access to the Northern and Central lines. It is also adjacent to the Centre Point building in what will become a new public plaza this year, which will offer better cycling facilities and improvements to bus services.

A new second entrance at Shepherd's Bush London Overground station is making journeys easier and more convenient. The £1.35m upgrade was completed in April and includes two new ticket machines, improved customer information screens and a new pedestrian footbridge to allow people to cross from one platform to the other without using the main entrance.

## Tube network set for major capacity boost

We awarded a contract to global transportation systems provider Thales last August to modernise the signalling and train control systems on four Underground lines. This will bring faster, more frequent and more reliable journeys to the millions

of passengers who use the Circle, District, Metropolitan and Hammersmith & City lines. These improvements will boost capacity by an average of a third on the four lines.

## Arriva to run London Overground

In March we announced a new operator for all London Overground routes as part of a £1.5bn contract spanning more than seven years.

Arriva Rail London Limited will take over from LOROL in November and will work with us on further improvements for customers. These will include modernised stations, more frequent services and extended operating hours on some parts of the network. New trains will also be introduced in 2018, transforming journeys on routes out of Liverpool Street and on the Gospel Oak to Barking line.

Our improvement of London Overground has already seen passenger numbers rise by 400 per cent since 2007, with the network becoming one of the most reliable in the UK.

## More frequent trams

Another tram platform was built at Wimbledon in November. This boosted the service on the busy Wimbledon to Croydon route by almost 50 per cent when new trams entered service in April 2016.

## Boosting growth at Old Oak Common

Improved transport links to support the transformation of Old Oak Common moved a step closer in December when we secured €4m (more than £3.2m) from the European Commission (EC). We will match the EC's funding, which will be used to develop plans

for two new London Overground stations at Old Oak Common Lane and Hythe Road.

The Old Oak and Park Royal project form one of the largest regeneration schemes in the Capital for decades and will support 65,000 new jobs and 25,500 new homes. These new stations will connect Old Oak Common to two London Overground routes. They will also enable HS2 and the Elizabeth line to link with the suburban rail network, easing potential pressure on Euston.

## Wandsworth revamp set for 2018

We announced in March that work to transform Wandsworth town centre will start in 2018 after a public consultation showed majority support for the plans. The aim is to create a safer, well connected area and boost local regeneration.

The gyratory system will be removed to reduce through-traffic and improve pedestrian crossings. Bus services and stops will be reorganised to better serve customers, and bus priority will be enhanced on Wandsworth High



A new entrance opened at Tottenham Court Road Tube station



New platform at Wimbledon boosts tram services

# Support economic development and population growth

## Continued

Street. Planned measures for cyclists include moving Cycle Superhighway 8 to quieter roads and extending it through the high street.

### Reducing delays

SCOOT (Split Cycle Offset Optimisation Technique) technology allows us to vary traffic signals according to the number of vehicles. This is proven to cut delays by an average of 12 per cent at each junction. It was rolled out to 400 more sites in September and now operates at more than half the traffic signals in London.

By September 2018 it will be extended to a further 1,500 locations, meaning 75 per cent of the Capital's traffic signals will be under SCOOT control.

### Help for taxi and private hire applicants

A new online application system was launched in June that will simplify the process used by taxi and private hire drivers to apply for a licence. More than 30 per cent of all applications are now received through this new channel. We also opened a new counter service at the beginning of June as a direct result of requests from the taxi and private hire trades. It's primarily for drivers or operators who need help applying or who have questions related to being a licensee.

From September 2015, TfL employees were seconded to the Metropolitan Police Service (MPS) to work with them on processing DBS (Disclosure and Barring Service). This has helped the MPS significantly reduce their backlog of outstanding checks for taxi and private hire drivers, which had resulted in a number of them being unable to renew

their licences. We have also begun to issue temporary measures, authorising drivers who meet strict requirements to continue to work while their DBS disclosure is outstanding.

### Twitter alert

Our 24 Twitter feeds provide a mix of customer service, travel advice and other updates. Followers to our feeds are growing on average by around five per cent a month. @TfLTrafficNews has more than 600,000 followers and is one of the most popular transport feeds in the world. Every month on @TfLTrafficNews alone we have around 12,500 interactions (contacts and retweets). Across all our feeds we get around 130,000 interactions a month.

### Battersea gets a new pier

A new pier opened at Plantation Wharf in Battersea in November, providing a much-needed extra stopping point on River Bus route RB6 between Putney and Blackfriars. At the same time, two new 150-passenger high-specification catamarans, which have extra space for bikes, were also introduced on the route.

### Stations re-zoned in east London

Stratford and a number of its adjacent stations – Stratford High Street, Stratford International DLR, West Ham, Canning Town, Star Lane and Abbey Road – have moved from Zone 3 to the Zones 2/3 boundary. This benefits more than 100,000 people a week and ensures

customers travelling to Stratford from central London never require a ticket valid for Zone 3.

### Cycle hire heads east

Santander Cycles expanded to the Queen Elizabeth Olympic Park in January. Eight new docking stations and 310 docking points are now installed at the Park, including at the London Aquatics Centre, Lee Valley VeloPark, the ArcelorMittal Orbit and East Village, the former 2012 Athlete's Village.

This follows the launch in May 2015 of a new app that makes the cycle hire scheme even easier to use. It works on both Android and iOS smartphones and is free to download for both members and casual users. Cyclists can hire a bike without having to use the docking station terminal, as the app sends a 'release' code straight to their phone. It also shows them the nearest docking station and how many bikes are available.

The app was updated and improved in October – meaning people can scroll across the docking station map to plot routes and find docking stations. The app has now been used to hire more than 300,000 bikes.

In December, following a successful trial, we announced that all 11,500 Santander Cycles will be fitted with Blaze Laserlights from early 2016. The light projects the symbol of a bicycle shape onto the ground six metres in front of the cycle. Independent tests show that this makes cyclists significantly more visible, especially to vehicles turning left and those entering a road at an intersection.



Olympic gold medallist Jessica Ennis-Hill at a new docking station

# Enhance the quality of life for all Londoners

## Walk between Tube stops

In November we published a new map that shows the time it takes to walk between Tube stations in Zones 1 and 2. It's designed to highlight how close many central London stations are to each other, to help encourage more of us to walk part of our daily journeys.

We also extended the Legible London wayfinding system, with at least 50 more signs being installed by April this year. This brings the total to more than 1,500 across the city, including at all Tube and mainline rail stations. Legible London mapping also appears at bus stops and cycle hire docking stations.

## Tackling congestion on the roads

In December we unveiled another innovative way of using our data by attaching digital advertising boards to the roofs of taxis. These display real-time traffic information in a bid to cut traffic congestion.

The six-month trial, involving 200 cabs, showed where there were delays, helping drivers avoid the most congested routes. New digital signs are also being used on main roads to tell drivers about current traffic conditions.

In addition, a £200m investment is helping hundreds of thousands of bus passengers travel through busy parts of London more quickly, with 77 bus priority schemes in place across the Capital. They include changes to road layouts and junctions, and enabling small alterations to routes so that buses can avoid traffic hotspots.

## Teamwork keeps disruption down

Our lane rental scheme ensures all roadworks are coordinated. Throughout 2015 we and other service providers shared trenches to avoid roads being repeatedly dug up by different organisations.

We made sure that wherever possible, when roadworks took place utility companies and major developers were prepared to lay cables for telephone or broadband services, repair or renew water pipes, or set up electrical connections.

Between April 2015 and March 2016, we assessed more than 80,000 permit applications for around 34,000 works across the TfL Road Network. This was coordinated alongside around 400,000 works on borough roads, plus other activities including crane operations, events and demonstrations. As a



No new diesel taxis in London from 2018



Our walking map launched in November



£12.8m transformation for Archway

# Enhance the quality of life for all Londoners

## Continued

result of early engagement and collaborative working with utility companies and other organisations, we saved more than 6,000 days of disruption.

### Work begins in Archway

A £12.8m transformation, which began in February 2016, will make Archway a safer, more pleasant and more accessible town centre. Residents and road users will benefit from a new public space and better road layout, making the area more attractive for future investment.

### Improving air quality

Along with the Mayor, in October we set out how the taxi and private hire trades will play their part in improving London's air quality when the world's first Ultra Low Emission Zone (ULEZ) is introduced in the Capital in 2020.

From 2018, all black cabs licensed for the first time must be zero emission capable. This means there will be no new diesel taxis in London. New private hire vehicles must follow suit from 2020. Also, all vehicles granted a private hire licence for the first time after 1 January 2023 will be zero emission capable, regardless of age. This follows a second consultation with the taxi and private hire trades, stakeholders and the public on proposed licensing changes ahead of the ULEZ.

Funding of £65m has been secured to help drivers. There is a target to get 9,000 zero emission capable taxis on our streets by 2020. We also announced a voluntary decommissioning scheme where drivers of vehicles more than 10 years old can claim up to £5,000 to decommission their old vehicles.

A new industry-led programme to reduce the emissions of London's freight and fleet operators was launched in January 2016. Bringing together operators, vehicle manufacturers, fuel providers and the public sector, the five-year LoCITY programme is set to work with the industry to increase the availability and purchase of low emission vans and lorries.

This activity builds on the Ultra Low Emission Vehicle (ULEV) Delivery Plan which we unveiled in July 2015 at a summit attended by representatives from across the industry – including vehicle manufacturers – and Government. It set out how we, along with our partners, can make London the 'ULEV Capital of Europe'.

The bus fleet is now emitting 20 per cent less oxides of nitrogen (NOx) than in 2012 following completion of a programme to retrofit older vehicles with exhaust systems and retire others early and replace them with new ultra clean vehicles fitted with the Euro VI engine. This change has resulted in 1,000 fewer tonnes of NOx from the fleet.

# Improve the safety and security of all Londoners

## Safer buses

Our Bus Safety Programme was launched in February to help reduce the number of people killed or seriously injured on the Capital's roads. A range of new technologies is being considered, including Intelligent Speed Assistance (ISA) that restricts excessive speed and has collision-avoidance systems. The programme also includes:

- A new training module for all bus drivers
- Provision of a UK-first incident support service for those affected by fatal or serious injuries
- Publication of additional data on collisions, how they are investigated and the generic outcomes and learnings from fatal and serious bus collisions

## On course for safer drivers

By the end of February, more than 21,000 of the UK's licensed HGV drivers had been on our Safe Urban Driving course to learn how to share the road safely with others. Created by us in 2011 and now available nationwide, it is the first accredited course in the UK to include on-road cycle training for HGV drivers. This gives a vulnerable road user's perspective of the road and is helping to change attitudes towards cyclists and pedestrians. We are expecting to train another 3,000 drivers in 2016.

## An improved Chiswick Bridge

After a major refurbishment was completed in July, the Grade II listed Chiswick Bridge in west London now features new, safer cycling lanes and pavements. Work on the 82-year-old structure, which crosses the River Thames, included restoring its heritage features to their former glory, as well as extensive concrete repairs and strengthening.



Restoration of Chiswick Bridge is complete

Stonemasons conserved much of the original stonework in its original position. Where elements of the parapets had deteriorated beyond repair, replacements were sourced from the same quarry that supplied the original Portland stone back in the 1930s.

## New junction protects cyclists

Britain's first junction designed to stop cyclists being hit by left-turning traffic was unveiled in east London in August. At the intersection on the upgraded Cycle Superhighway 2 at Whitechapel Road and Cambridge Heath Road, cyclists and motor traffic move in two separate phases, with left-turning traffic held



During September's Cycle Secure Week, 3,205 bicycles were registered for free by BikeRegister and our policing teams

# Improve the safety and security of all Londoners

## Continued

back to allow cyclists to move without risk, and cyclists held when vehicles are turning left. There is also a new 'two-stage right turn' to let cyclists turn safely, while early release traffic lights for traffic going straight ahead give cyclists a head start.

### Safer cycling

A segregated cycle route running from Elephant and Castle to Blackfriars Road, via St George's Road, opened in October. This 800km stretch is the first section of the North-South Cycle Superhighway which, when completed in spring 2016, will run as far as Farringdon and will eventually be extended to King's Cross.

Segregated cycle lanes are also being installed on Victoria Embankment as part of the East-West Cycle Superhighway, with the westbound section between Temple Place East and Derby opening in spring 2016.

### Vauxhall improvements a step closer

Proposals to replace Vauxhall gyratory and make the road safer for cyclists and pedestrians received support during a public consultation, with further steps to be announced later in the year.

More than half of respondents backed the plans, which would see the one-way system returned to two-way traffic. New and upgraded cycle lanes would be segregated and signalised cycle crossings would be installed. The scheme would also improve cycle links to and through the area.

### STARS schools that promote road safety

We hosted our annual STARS (Sustainable Travel: Active, Responsible, Safe) event at City Hall in November 2015 to celebrate the achievements of 1,500 London schools in promoting active and safer travel. Almost half of schools in the Capital are now accredited to the STARS programme, working with TfL and their borough to encourage safer travel and more cycling, scooting and walking. Since 2007, STARS accredited schools have collectively reduced car use as part of the school journey by eight per cent – that's equivalent to 42 million fewer kilometres driven.

### Children's Traffic Club London

In February 2016 we invited all pre-school children in the Capital to join a free road safety education programme. In addition to teaching valuable road safety skills – such as looking both ways when crossing the road – the club also promotes sustainable transport such as walking, scooting and cycling.

This is part of our Children's Traffic Club London scheme – since September 2015, around 103,000 school pupils from 33 London boroughs have registered. Eighty-seven per cent of parents and carers confirmed that their child is now more aware of road safety and potential dangers on the transport network.

### Operation Clearway

Over the past year we have altered our approach to dealing with unauthorised obstructions on our streets caused by items such as advertising boards and unlicensed tables and chairs. We are enhancing our

education, engagement and enforcement activity to highlight how these obstacles interfere with pedestrians, particularly older, visually impaired and disabled people. Our new approach has improved compliance.

### Tackling motorcycle and scooter fatalities

In 2015, the number of motorcycle and scooter fatalities in London rose to 36, from 27 the year before. In response to this, the MPS Roads and Enforcement Policing Command, which we part fund, stepped up enforcement activity at junctions where motorcycle collisions are most likely to occur.

### Cracking down on rogue HGVs

Building on the success of the TfL-funded Metropolitan Police Commercial Vehicle Unit and the Industrial HGV Task Force, we and the City of London Police (CoLP) launched a new Commercial Vehicle Unit in April 2015. Its aim is to crack down on dangerous and non-compliant commercial vehicles in the City. HGVs are involved in a disproportionate number of collisions, particularly those involving vulnerable road users. We are committed to reducing these incidents through enforcement and education activity.



New partnerships improve HGV safety

# Improve the safety and security of all Londoners

## Continued

Commercial vehicle enforcement was strengthened in October with the launch of the London Freight Enforcement Partnership which brings together resources and expertise from TfL, MPS, CoLP and the Driver and Vehicle Standards Agency (DVSA) to deal with the most dangerous and non-compliant commercial vehicles on London's roads. The partnership consists of more than 90 DVSA personnel, police officers and a team of analysts, sharing intelligence and carrying out joint enforcement operations. It also helps the agencies work with the commercial vehicle industry to put serially non-compliant companies in the city out of business. Between April and February, officers:

- Stopped and checked 10,267 vehicles
- Issued 2,289 prohibitions to the most dangerous drivers and vehicles, and 3,409 Fixed Penalty Notices/Traffic Offence Reports
- Seized 176 of the most dangerous vehicles

### Safer lorries for London

The Safer Lorry Scheme was launched in September to improve cyclist and pedestrian safety. Every vehicle in the Capital weighing more than 3.5 tonnes (with a few exemptions) is now required to be fitted with:

- Side guards to protect cyclists from being dragged under the wheels in the event of a collision

- Class V and VI mirrors to give the driver a better view of cyclists and pedestrians around their vehicle

Many operators started complying ahead of the ban; according to checks conducted by TfL and the MPS, around 97 per cent of operators are already compliant with the scheme.

In the first six months of the scheme, 7,540 vehicles were stopped and checked, with 307 offences detected. The number of vehicles stopped and found to be in breach of the scheme fell from 10.1 per cent in September to two per cent in February.

### Operation Safeway

Road and cycle safety enforcement and engagement has continued as part of Operation Safeway. Hundreds of officers from the MPS Roads and Transport Policing Command are deployed at junctions for at least two days a month, during weekday morning and evening rush hours. They take action against behaviour that creates risk and danger, and promote road safety.

### Operation Neon gets results

We continue our work to combat touting, unlawful plying for hire and other illegal activity and have substantially increased visible enforcement to deter illegal minicab activity at hotspots in central London.

Launched in May, Operation Neon is a high-visibility, multi-agency operation involving our enforcement and compliance officers, the TfL-funded Metropolitan Police Roads and Transport Policing Command and local authority parking attendants. In the first 93 days after it began:

- 7,531 private hire drivers were moved on to keep roads clear for taxis and booked vehicles
- 395 drivers were reported for not having a badge and photo ID, and were stopped from working for the remainder of the evening
- 4,435 were reported for not wearing their badge
- 64 were reported for plying for hire offences
- 960 were reported for parking on taxi ranks
- 1,964 parking tickets were issued

### Project Guardian and Report It to Stop It

We have been working closely with our police partners on Project Guardian to tackle unwanted sexual behaviour on the Capital's transport network. The work involved increasing confidence in reporting, reducing the risk of becoming a victim and targeting

offenders. To encourage passengers to report any incidents, we launched our successful communications campaign 'Report it to stop it'. It uses a short film, primarily aimed at women aged between 16 and 34, which follows a woman's journey on the Tube in which she experiences escalating incidents of unwanted sexual behaviour. It includes a clear call to action – 'report it to stop it' by texting 61016. In the 12 months since the launch of the website, the short film had been viewed more than 4.5 million times. From the start of the campaign in April 2015 until December 2015, there was a 36 per cent increase in the number of sexual offences on London's public transport that were reported to the police. This led to a 40 per cent increase in arrests.

### New support line

We introduced a helpline service in March that ensures support is available to anyone who is involved in a life-changing incident on the transport network, including witnesses and close family members. The Sarah Hope Line offers access to a range of practical and emotional help, including helping with travel, accommodation and other needs following an incident, and referral to a number of support services including counselling. Sarah Hope was involved in a life-changing incident in 2007 and her story is the inspiration behind this service.

# Improve transport opportunities for all Londoners



Manual boarding ramps are now used at more than 50 Tube stations



More than 85 per cent of London's bus stops are accessible

## Cycling grants for community groups

As part of our Cycling Grants London (CGL) scheme we offer funding to support community groups to get more people cycling, more safely, more often. In October 2015 we awarded grants of up to £10,000 to 31 community groups and not-for-profit organisations. They will be used to promote pedal power through initiatives such as cycle training, bike maintenance and guided rides.

Some of the winning projects include:

- Wheels for Wellbeing, Lambeth – to provide led rides for disabled adults
- Beethoven Bikers, Westminster/Lambeth – to offer cycle training, bike mechanic sessions and a bicycle hire service to local residents on low incomes
- Limehouse Women's Cycling Project – to train women from the Bengali community to help increase their confidence to cycle
- Born to Ride, Lewisham – to teach bike maintenance to young adults on donated bikes. Participants refurbish bikes and take part in led rides on quiet routes

More than 5,000 new cyclists across the Capital benefited from CGL in 2015/16.

## Better access to buses

Since July, all bus stops on borough roads in the City of London, London Borough of Hammersmith and Fulham and the Royal Borough of Kingston are now accessible. This means they include a kerb high enough for a wheelchair ramp to fully deploy and for the step into the bus to be at a reasonable height for older and disabled people to board. They also have a protected 'clearway' so only buses can use the stop, and are free from any street furniture or clutter that block access to the doors.

More than 88 per cent of bus stops across the Capital are now accessible and we are on track to reach 95 per cent by the end of 2016.

## More ramps at Tube stations

First trialled on our Tube network for London 2012, we now use manual boarding ramps at more than 50 Tube stations to provide either step free access from street to train or step-free interchanges. We continue to identify further suitable locations and have developed our own step-down ramps for stations where the train is lower than the platform.

## Free travel for children on National Rail

Since 2 January 2016, all National Rail services in the Capital are free for Zip photocard holders aged under 11. Previously,

# Improve transport opportunities for all Londoners

## Continued

under-11s travelled for free on our buses and trams, and on the Tube, DLR, London Overground and TfL Rail when accompanied by a fare-paying adult. However, until now, there had been no similar concession on National Rail services. This is now possible as we have committed to provide £500,000 a year to the Train Operating Companies, which covers the cost.

### Extending Oyster

In March, contactless and Oyster were extended to Southeastern and Thameslink services to and from Swanley, north Kent. This resulted in cheaper fares and more convenient journeys for thousands of rail passengers.

### Buggy Summit success

We hosted our first Buggy Summit in February, with the aim of making travelling easier for everyone. Designed to highlight the challenges faced by both buggy and wheelchair users, it brought together buggy manufacturers, retailers, parent groups and others. The event also promoted the use of smaller, lighter, foldable buggies, which are

better suited for travelling around the city and could help to reduce conflict that can sometimes occur around the priority spaces for wheelchair users on buses and trains.

### More cycle parking

Work started in March to build new cycling spaces at Hounslow West and North Greenwich stations, which will create 190 and 350 spaces respectively.

Due to be open by April, the hubs will provide safe parking for all types of bikes as well as giving cyclists access to maintenance tools. The spaces will be covered by CCTV and lighting.

This latest development forms part of a wider programme that includes a new 'superhub' at Waterloo, which is set to open in 2018. The facility will provide 5,000 spaces, giving more commuters the chance to switch from trains to bikes on their way to work.

# Reduce transport's contribution to climate change and improve its resilience

## World's first electric double-deck bus

The new vehicle is to run on route 98 between Willesden and Holborn from April. We already have one fully electric single-deck bus route – the 312 between Norwood Junction and Croydon. We will convert two more this autumn, also single-deck – the 507 and 521, from Waterloo to Victoria and London Bridge stations respectively. Seventy-four electric buses will operate in the Capital by the end of the year.

## Street lights

We continue to introduce energy efficient lighting to help reduce the cost of illuminating the TfL Road Network, while also lowering CO<sub>2</sub> emissions across the Capital.

This is one of the largest 'invest to save' strategic road lighting projects ever undertaken in the UK. It will mean improved reliability and lower operating costs and, in turn, better and safer roads. The programme will reduce energy consumption by more than 40 per cent by the end of 2016, compared with the current levels.

All lighting at tram stops, crossings and the main tram depot in Therapia Lane, near Croydon, has now been converted from traditional sodium bulbs to LEDs. These are more energy efficient, offer better visibility for drivers and provide a narrower beam of light so are less intrusive to nearby residents.



World's first electric double-deck bus



Our reception area at Windsor House

## Commissioner and Managing Directors



**Mike Brown MVO**  
Commissioner



**Nick Brown**  
Interim Managing Director  
London Underground  
and London Rail  
(until 6 April 2016)



**Howard Carter**  
General Counsel



**Leon Daniels**  
Managing Director  
Surface Transport



**Richard De Cani**  
Managing Director  
Planning  
(until 29 April 2016)



**Michèle Dix CBE**  
Managing Director  
Crossrail 2



**Vernon Everitt**  
Managing Director  
Customers, Communication  
and Technology



**Ian Nunn**  
Chief Finance Officer

# Members of TfL

(2015/16)



**Boris Johnson**  
Chair



**Isabel Dedring\***  
Deputy Chair



**Angela Knight CBE**



**Michael Liebreich**



**Peter Anderson**



**Sir John Armitt CBE**



**Eva Lindholm**



**Daniel Moylan\*\***



**Sir Brendan Barber**



**Richard Barnes**



**Bob Oddy**



**Keith Williams**



**Charles Belcher**



**Roger Burnley**



**Steve Wright MBE**

\* Left position on 18 March 2016

\*\* Appointed Deputy Chair 19 March 2016



**Brian Cooke**



**Baroness  
Grey-Thompson DBE**

# Directors of Crossrail Limited

(2015/16)



**Terry Morgan CBE**  
Chairman



**Matthew Duncan**  
Deputy Chair



**Michael Cassidy CBE**



**Phil Gaffney**



**Terry Hill CBE**



**Robert Jennings CBE**



**Pamela Alexander OBE**



**Daniel Moylan**



**Andrew Wolstenholme  
OBE**



**Simon Wright OBE**



Construction work at Farringdon

# Membership of TfL committees and panels

(2015/16)

## Members of TfL

Boris Johnson – Chairman  
Isabel Dedring – Deputy Chair\*  
Peter Anderson  
Sir John Armit CBE  
Sir Brendan Barber  
Richard Barnes  
Charles Belcher  
Roger Burnley  
Brian Cooke  
Baroness Grey-Thompson DBE  
Angela Knight CBE  
Michael Liebreich  
Eva Lindholm  
Daniel Moylan\*\*  
Bob Oddy  
Keith Williams  
Steve Wright MBE

## Committees of TfL

### Audit and Assurance Committee

Keith Williams – Chair  
Steve Wright MBE – Vice Chair  
Richard Barnes  
Charles Belcher  
Brian Cooke  
Baroness Grey-Thompson DBE

### Finance and Policy Committee

Peter Anderson – Chair  
Daniel Moylan – Vice Chair  
Sir John Armit  
Brian Cooke  
Isabel Dedring  
Angela Knight CBE  
Michael Liebreich  
Eva Lindholm

### Remuneration Committee

Baroness Grey-Thompson DBE – Chair  
Daniel Moylan – Vice Chair  
Sir John Armit CBE  
Boris Johnson

## Panels

### Rail and Underground

Sir John Armit CBE – Chair  
Steve Wright MBE – Vice Chair  
Peter Anderson  
Sir Brendan Barber  
Richard Barnes  
Charles Belcher  
Brian Cooke  
Isabel Dedring  
Daniel Moylan

### Safety, Accessibility and Sustainability

Charles Belcher – Chair  
Michael Liebreich – Vice Chair  
Sir Brendan Barber  
Richard Barnes  
Baroness Grey-Thompson DBE  
Bob Oddy

### Surface Transport

Baroness Grey-Thompson DBE – Chair  
Charles Belcher – Vice Chair  
Roger Burnley  
Brian Cooke  
Bob Oddy  
Keith Williams  
Steve Wright MBE

\* Left position on 18 March 2016

\*\* Appointed Deputy Chair 19 March 2016

# TfL Members' meeting attendance

(2015/16)

Board member	Board	Audit and Assurance Committee	Finance and Policy Committee	Remuneration Committee	Rail and Underground Panel	Safety, Accessibility and Sustainability Panel	Surface Transport Panel
<b>Total number of meetings in the period</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>4</b>
Boris Johnson	6	–	–	0	–	–	–
Isabel Dedring	5	–	1	–	0	–	–
Peter Anderson	5	–	6	–	0	–	–
Sir John Armitt CBE	5	–	3	1	4	–	–
Sir Brendan Barber	4	–	–	–	3	4	–
Richard Barnes	6	4	–	–	4	3	–
Charles Belcher	6	4	–	–	4	4	4
Roger Burnley	3	–	–	–	–	–	4
Brian Cooke	6	4	6	–	4	–	4
Baroness Grey-Thompson DBE	5	0	–	3	–	3	3
Angela Knight CBE	6	–	5	–	–	–	–
Michael Liebreich	5	–	6	–	–	4	–
Eva Lindholm	5	–	4	–	–	–	–
Daniel Moylan	6	–	6	3	1	–	–
Bob Oddy	4	–	–	–	–	4	3
Keith Williams	2	3	–	–	–	–	0
Steve Wright MBE	6	4	–	–	4	–	4

## Notes:

There were three extraordinary FPC meetings, called at short notice, that are not included in the table. Additional attendances for these meetings are:

Peter Anderson (2), Sir John Armitt CBE (1), Brian Cooke (3), Angela Knight CBE (3), Michael Liebreich (1), Eva Lindholm (2) and Daniel Moylan (3).

# Remuneration

This report outlines TfL's policy regarding the remuneration of our Members, the Commissioner, Managing Directors, General Counsel and Chief Finance Officer, who are responsible for directing the affairs of the organisation.

## Policy for Members

Members are appointed by the Mayor and are non-executive. Remuneration payable for 2015/16 for each Member related directly to the number of committees and panels on which each member served. Remuneration also took into account those members who served as Chair of the committees and panels, up to a capped maximum.

Remuneration levels are set for each Mayoral term, but are reviewed periodically to reflect the responsibilities and accountabilities of the role. Since 1 August 2004, the basic fee has been £18,000 per annum.

Members who act as Chair, or as a member of a committee or panel, receive additional fees of £4,000 per annum (as a Chair) and £2,000 per annum (as a Member) for each appointment.

The maximum payment in aggregate is set at £24,000 per annum. Most Members also received free travel for themselves and a nominee valid on TfL transport services. The remuneration for each Member for the year ended 31 March 2016 is shown on page **XXX**.

No allowances are paid to Members, although expenses can be claimed. Any expenses claimed by Members are published on [tfl.gov.uk](http://tfl.gov.uk), however there were no expenses claimed by Members in 2015/16.

## Policy for the Commissioner, Managing Directors, General Counsel and Chief Finance Officer Remuneration Committee

The Remuneration Committee currently consists of four Members of TfL. The terms of reference of the Remuneration Committee include reviewing the remuneration of the Commissioner, Managing Directors, General Counsel and Chief Finance Officer.

The remuneration of the Chief Executive of Crossrail is determined by the Crossrail Remuneration Committee. Crossrail is a wholly owned subsidiary of TfL with its own governance arrangements. These include a board comprising executive and independent non-executive directors as well as two non-executive directors appointed by TfL and DfT. The Crossrail Remuneration Committee operates to a set of contractually agreed Remuneration Principles and a Remuneration Framework rather than the TfL Remuneration Framework.

## Remuneration policy

The policy of TfL is to provide remuneration packages for the Commissioner, Managing Directors, General Counsel and Chief Finance Officer which attract, retain and motivate individuals of the high calibre required to manage such a large, complex organisation.

Remuneration packages reflect their responsibilities, experience and performance and the market from which TfL recruits. The Remuneration Committee has established a reward structure commensurate with this policy, which includes a base salary and a performance award scheme against the achievement of a range of stretching customer, operational, investment and financial targets.

TfL employs external remuneration advisers to benchmark the remuneration of its Commissioner, Managing Directors, General Counsel and Chief Finance Officer against a peer group of comparable companies from transport, infrastructure, and public services sectors with which TfL competes for senior employees. This contract is competitively retendered from time to time and the outcome of the latest procurement exercise was that the contract was awarded to New Bridge Street, a division of Aon Hewitt.

The peer group for the most recent benchmarking exercise included significantly more public sector facing organisations, at the request of the Remuneration Committee. The Committee uses two primary pay comparator groups when considering senior officer pay. The benchmark is calculated on

the basis of a 60:40 split between a Listed Companies Group, consisting of a bespoke selection of large transport and infrastructure companies and a Publicly Accountable Group, consisting of a bespoke selection of companies accountable to the UK public, owned or overseen by the government, and with a degree of sensitivity around pay.

## Listed Companies Group

- National Grid
- BT Group
- SSE
- Centrica
- International Consolidated Airlines Group
- Capita
- EasyJet
- United Utilities
- Bunzl
- Severn Trent
- Royal Mail
- Pennon Group
- Amec Foster Wheeler
- Stagecoach Group
- Thomas Cook Group
- Balfour Beatty
- Carillion
- National Express Group
- FirstGroup
- Go-Ahead Group
- Serco Group

**Publicly Accountable Group**

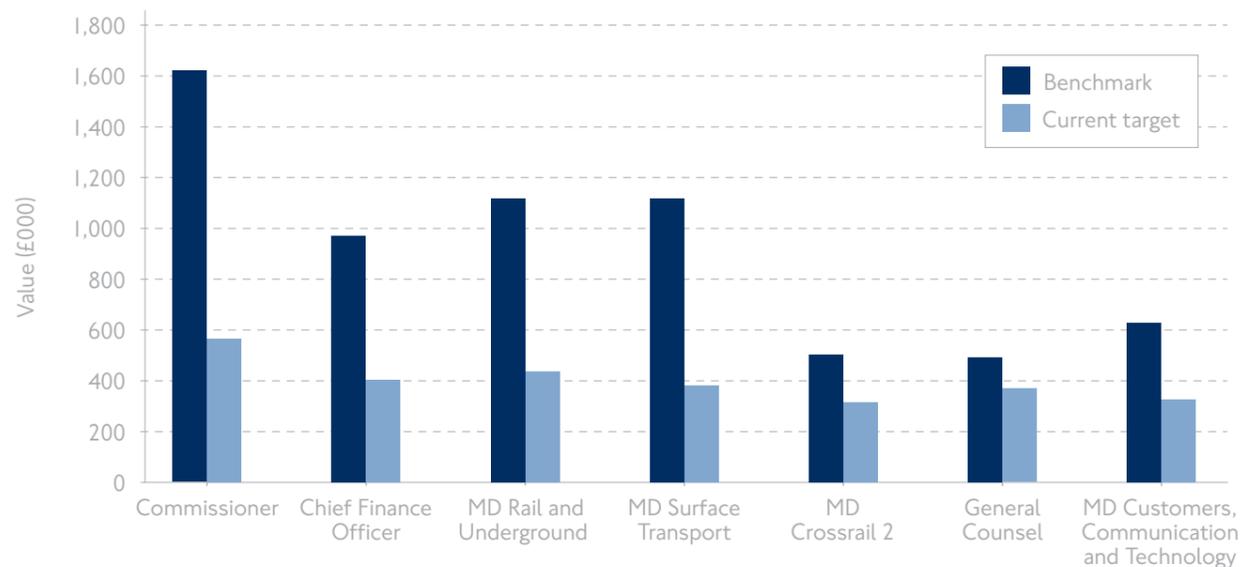
- BBC
- Manchester Airport Group
- NATS
- Network Rail
- Nuclear Decommissioning Authority
- Post Office

Remuneration has been benchmarked on a 'target' basis. The annual bonus is valued at 'on target' performance and long-term incentives are included on an 'expected' or 'fair value' basis. Target remuneration for the purposes of benchmarking for the current incumbents has been valued using the

average level of performance related pay over recent years, and valuing pension provision based on standard actuarial assumptions. Target remuneration will not therefore match actual remuneration as the basis of preparation is different.

This research has shown that the base salaries and total target remuneration for the Commissioner, Managing Directors, General Counsel and Chief Finance Officer are significantly below the market level; total target remuneration is between 35 per cent and 72 per cent of market benchmark levels as shown in the graph below.

**Total remuneration of Commissioner, Managing Directors, General Counsel and Chief Finance Officer**



**Remuneration of senior employees**

In 2015/16 the base pay of the Commissioner and certain other senior employees were increased slightly. This followed a period of six years when base salaries were largely frozen. The Commissioner's salary was £355,944.

The Commissioner is eligible for consideration of a performance award up to a maximum of 50 per cent of base salary. The Managing Directors, General Counsel and Chief Finance Officer are eligible for consideration of a performance award up to a maximum of 30 per cent of base salary.

**Other benefits**

Senior officers are eligible to receive the following:

- Private medical insurance
- Annual health check-ups
- Subscriptions to professional organisations
- Pension
- Where appropriate, recompense for loss of benefits from previous employers and/or to comply with TfL's policies
- As with all TfL employees, the

Commissioner, Managing Directors, General Counsel and Chief Finance Officer are provided with a free travel pass for themselves and a nominee valid on TfL transport services. All those who joined after 1 April 1996 are eligible to receive reimbursement of 75 per cent of the cost of an annual season ticket on National Rail. All those employed by predecessor organisations prior to April 1996 receive National Rail facilities in line with the policy of the predecessor organisation

**Pension arrangements**

The Commissioner, Managing Directors, General Counsel and Chief Finance Officer are eligible for the following pension benefits:

- Membership of the TfL Pension Fund, a 'defined benefit' scheme which provides for a pension payable from age 65, based on 1/60th of pensionable salary for each year of service or, if invited and eligible, benefits provided on an unfunded basis
- Pensionable salary is capped for joiners from 1 June 1989. For 2015/16, the cap was £149,400
- Up to 25 per cent of the value of the pension can be taken as a cash sum (under current legislation)
- Lump sum death benefit of four times paid on death in service

- Dependant's pension and children's pensions are paid on death in service and after retirement
- Member contributions are payable at the rate of five per cent of pensionable salary
- Pension is payable in the event of retirement due to ill health
- An employer contribution is paid of up to 10 per cent of salary to either the TfL Savings for Retirement Plan (formerly the TfL Supplementary Pension Scheme), a 'defined contribution' scheme, which provides additional benefits for those earning above the cap or paid as a supplement to base salary less an adjustment for employer national insurance contributions

The remuneration received by the Commissioner, Managing Directors, General Counsel and Chief Finance Officer for 2015/16 is shown on page **XXX**

### Comparative pay across TfL

The base pay and the total remuneration of the Commissioner, Managing Directors, General Counsel and Chief Finance Officer remains significantly lower than that paid in comparable organisations which TfL competes with for high quality staff.

Research by remuneration consultants, New Bridge Street, shows that the base salaries and total target remuneration of the Commissioner and all Managing Directors and Directors are significantly below the market level.

TfL enables more than 31 million journeys in London every day while delivering one of the world's largest investment programmes, which includes building the Elizabeth line, progressing Crossrail 2 and modernising the Tube, rail and road networks. We are also creating thousands of new homes, offices and retail spaces that are vital to help London maintain its position as a world-leading city and engine of the UK economy. Our investment programme is vital to ensure we keep pace with London's huge population growth, expected to rise from 8.6 million today to nearly 10 million by 2030.

The number of TfL staff (excluding Crossrail) who received total remuneration more than £100,000, including those paid above this amount due to severance payments and overtime worked, was 402 in 2015/16 compared with 413 in 2014/15. This is 11

fewer people compared to the figures last year. The number of Crossrail staff who received total remuneration of more than £100,000 was 56 in 2015/16 compared with 41 in 2014/15. During this time, Crossrail was at the peak of its construction and the size of the leadership team reflected the level of management required to maintain the delivery of a project of this scale.

There was an increase of 11 people (59 in 2014/15 compared with 70 in 2015/16) who were on a base salary of less than £100,000 but who received a one-off Voluntary Severance payment which took their total remuneration above this.

The following table provides a summary of the changes to the Commissioner's cash earnings for 2015/16 versus the change in pan TfL median earnings over the same period. This demonstrates a slight increase in median earnings across TfL while the Commissioner's cash earnings is not on a comparable basis due to change in post during the year.

	£'000 2015/16	Change from 2014/15
Commissioner	438	N/A
Pan TfL median earnings	50	+0.2%

Note: Earnings are defined as total taxable earnings for the year, including base salary, performance related pay, allowances and the cash value of any benefits-in-kind. Median TfL earnings are based on those employees who have been employed by TfL throughout the year to avoid distortion from starters or leavers

The table below shows how total remuneration is split between employees by grade.

	Percentage of total 2016
Commissioner, Managing Directors, General Counsel and Chief Finance Officer	0.2
Directors	0.7
General managers	2.0
All other TfL employees	97.1
	100.0

Note: Employees' remuneration is consistent with the definition in note 5a on page **xxx** and includes salaries, fees, performance related pay, benefits in kind, lump sums and termination payments. It excludes employer pension contributions and employer national insurance contributions paid, and is based on remuneration received by employees during the relevant year.

Members' remuneration	For the year ended 31/03/16 £
Boris Johnson	Not remunerated by TfL
Isabel Deding <sup>1</sup>	Not remunerated by TfL
Peter Anderson	24,000
Sir John Armit CBE	24,000
Sir Brendan Barber	22,000
Richard Barnes	24,000
Charles Belcher	24,000
Roger Burnley	20,000
Brian Cooke	24,000
Baroness Grey-Thompson DBE	24,000
Angela Knight CBE	20,000
Michael Liebreich	22,000
Eva Lindholm	20,000
Daniel Moylan <sup>2</sup>	89,000
Bob Oddy	22,000
Keith Williams	24,000
Steve Wright MBE	24,000

<sup>1</sup> Isabel Deding was not remunerated as a Member of TfL. She was remunerated as a TfL employee on secondment to the GLA as Deputy Mayor for Transport, and left TfL on 18 March 2016.

<sup>2</sup> This is the total remuneration received from TfL in 2015/16 which comprised £24,000 as a Member of TfL and £65,000 for additional aviation duties.



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