

Commissioner's Report

21 November 2018



About Transport for London (TfL)

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

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

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

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

We are moving ahead with many of London's most significant infrastructure

projects, using transport to unlock growth. We are working with partners on major projects like Crossrail 2 and the Bakerloo line extension that will deliver the new homes and jobs London and the UK need. We are in the final phases of completing the Elizabeth line which, when it opens, will add 10 per cent to London's rail capacity.

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

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

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

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

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This paper will be considered in public

I Introduction

This report provides a review of major issues and developments since the Board meeting of 19 September.

2 TfL Scorecard

Period 7

Breakdown of scorecard measures categories:

Safety and Operations: **25%** Customer: **25%** People: **25%** Financial: **25%**

Long-term objectives	2018/19 scorecard	Period 7		Year-to-date	
Outcome	Measure	Actual	Target	Actual	Target
Healthy Streets and healthy people (18%)					
London's transport system will be safe and secure	Reduction in people killed or seriously injured on the roads from 2005-09 baseline (%) ¹	Qtrly	Qtrly	37.9 ■	44.4
	Reduction in people killed or seriously injured on roads from 2005-09 baseline (incidents involving buses) (%) ¹	Qtrly	Qtrly	67.6 ■	58.4
	Injuries on the public transport network	879 ■	952	6,335 ■	6,414
London's streets will be used more efficiently and have less traffic	Operational improvements to sustainable travel	1,255 ■	1,803	9,564 ■	8,024
London's streets will be clean and green	Number of London buses that are Euro VI compliant ²	Qtrly	n/a	5,560 ■	n/a
More people will travel actively in London	Healthy Streets scheme assessment	Qtrly	Qtrly	11 ■	10
A good public transport experience (17%)					
Journeys by public transport will be fast and reliable	Tube excess journey time (minutes)	5.62 ■	4.70	4.42 ■	4.42
	Average bus speeds (mph)	9.1 ■	9.1	9.3 ■	9.2
Public transport will be accessible to all	Additional time to make step-free journeys (minutes)	Qtrly	Qtrly	9.7 ■	9.7
Journeys by public transport will be pleasant	Customer satisfaction (percentage of Londoners who agree we care about our customers) (%)	Qtrly	Qtrly	49 ■	49

Safety and operations (25%)

Customers (25%)

1. Reduction in KSIs: Measured in calendar years (YTD is January to June 2018). These are provisional estimates and may be subject to change.

2. Number of London buses that are Euro VI compliant: The full year target for this measure is 6,050 buses. There are no quarterly targets due to the unpredictability of when operators will offer new buses. The retrofitting programme is on track.

■ Achieved
 ■ Partially achieved
 ■ Not achieved

Long-term objectives	2018/19 scorecard	Period 7		Year-to-date	
Outcome	Measure	Actual	Target	Actual	Target
New homes and jobs (2.5%)					
Transport investment will unlock the delivery of new homes and jobs	The percentage of affordable houses we take to market in the year (%)	Qtrly	Qtrly	40 ■	95
Mode share (5%)					
80% of journeys will be made by sustainable modes in 2041	Improve sustainable mode share ³	Qtrly	Qtrly	1 of 3 ■	3 of 3
All MTS themes (7.5%)					
All MTS outcomes	Deliver key investment milestones (%)	100 ■	90	90 ■	90
	Open Elizabeth line central section	Delayed ■	On track	Delayed ■	On track
People (25%)					
A capable and engaged workforce representative of London	Workforce representativeness – all staff (%)	Qtrly	Qtrly	69.9 ■	70.2
	– director/band 5 (%)	Qtrly	Qtrly	41.7 ■	42.5
	Inclusion index (%) ⁴	See note	n/a	Annual	Annual
	Total engagement (%) ⁴	See note	n/a	Annual	Annual
Financial (25%)					
We are prudent and cover our costs	Net operating surplus (£m)	58 ■	32	227 ■	82
	Investment programme (£m) ⁵	125 ■	154	975 ■	1,184

3. Sustainable mode share improvement: The walking survey is scheduled to take place in Q4. Therefore, YTD reflects the three elements of passenger journeys, traffic index and cycling, with only cycling on track as at YTD.

4. Total inclusion index/total engagement: These measures are a result of the annual Viewpoint survey. Results are expected to be available in Q3.

5. Investment programme: This measure is rated amber as spend is behind target owing to rephasing rather than value engineering or other cost reductions.

3 Safety and security

Croydon tram overturning

This report comes to the Board following the second anniversary of the tragic tram overturning at Sandilands, on 9 November 2016. Our thoughts remain with all those affected by the tragedy. Since the overturning, we have taken more than 450 calls to our Sarah Hope Line, and continue to make contact with people periodically to ensure they are receiving the support they need.

To date, more than £5m has been paid for counselling, rehabilitation, compensation and other activities to assist all those who need it.

This year, a public ceremony took place in New Addington on 9 November, with a period of silence and the laying of floral tributes. Our staff were in attendance and we held a minute's silence on our tram network on the same day as a mark of respect.

Following the tragedy, we proactively undertook a programme of works to improve safety on the tram network.

The Rail Accident Investigation Board (RAIB) investigated and published its report on 7 December 2017, making far-reaching recommendations on the tram sector and the Office of Rail and Road (ORR) as its regulator. Progress on the RAIB's 15 recommendations is reported to our Safety, Sustainability and HR Panel.

In summary, our programme of works and our responses to the RAIB recommendations have been as follows:

- a. Implementing a permanent speed reduction across the tram network, from 80kph to 70kph
- b. Installing chevron signs at Sandilands and at the three other significant bends to provide an additional visual cue for drivers. The number of speed signs has been increased and additional lineside digital signage provides added speed warnings to drivers
- c. Fitting an in-cab driver protection device to all trams; any sign of driver distraction or fatigue will result in the driver being alerted, with this being fed back to the control room
- d. Assessing the options available to strengthen the type of glazing fitted on the tram fleet
- e. Working to procure a new safety system that would automatically apply the brakes should the speed limit be exceeded at high-risk locations, with a contract planned to be awarded by the end of the year
- f. Adopting iBus technology on the tram network as part of a package of safety improvements – this is referred to as iTram

- g. Working closely with other UK tram operators and infrastructure managers to establish the structure, governance and function of a new Light Rail Safety & Standards Board
- h. Working to improve locally powered emergency lighting, so that there is no unintentional interruption during an emergency, with contract award expected before the end of the year
- i. Replacing and upgrading the CCTV recording system
- j. Holding two trams summits where we look to share experiences and examples of best practice with industry partners, and
- k. Considering any learning points following the tragedy and applying them across TfL

To commemorate those affected by the tragedy, Croydon Council has unveiled two memorial plinths: one in a communal area at New Addington and another near to Sandilands Junction. In March 2018, the Mayor made provision of £750,000 to the London Borough of Croydon for its work in supporting the local community. Croydon Council has established a steering group to oversee the allocation of the funding and we are part of this.

We remain determined to ensure such a tragedy never happens again.

Roads

Latest road casualty figures released

On 27 September, we released figures from the Casualties in Greater London report. These show that 131 people were killed and 3,750 seriously injured on London's roads in 2017. While the number of overall casualties fell by an estimated one per cent from 2016, these figures highlight the continuing need for widespread action to tackle road danger, and reaffirm the importance of our Vision Zero approach to eliminating all deaths and serious injuries from London's roads by 2041.

New internal reporting systems, used by police across the UK, have changed the way data is provided, leading to more reliable figures for serious injuries and an increase in reported serious injuries. In addition, a new online self-reporting tool, introduced last year by the Metropolitan Police Service (MPS), has made it easier for people to report collisions and injuries. This led to a 35 per cent increase in self-reporting – accounting for more than 20 per cent of all casualties in 2017. These new ways of reporting collisions will give us a more in-depth understanding of road casualties in London and help inform London's future safety initiatives.

People walking, cycling or riding motorcycles made up more than half of all casualties on London's roads and 87 per cent of all deaths. The number



Our latest road casualty figures reaffirm the importance of our Vision Zero approach to eliminating all deaths and serious injuries from London's roads by 2041

of people walking who were killed or seriously injured in 2017 increased by an estimated 10 per cent, while the number of cyclists killed or seriously injured reduced by an estimated one per cent and motorcyclist casualties increased by an estimated five per cent. Reducing road danger for people walking is a major priority for us and we are commissioning research to better understand the increase in pedestrian casualties. Later this year, we will launch a Freight Action Plan that sets out new measures to improve the safety of HGVs, which are involved in a disproportionately high number of collisions involving people walking and cycling.

For motorcyclists, we are taking a number of steps, including offering three free training courses to boost rider confidence, skills and knowledge before and after Compulsory Basic Training.

As part of the Healthy Streets Approach, the Mayor is investing a record £169m a year on cycling infrastructure over five years, including new Cycle Superhighways, Quietways, and improvements to London's most dangerous junctions. Already, 140km of new cycle infrastructure has been built since May 2016, with substantial improvements made for pedestrians too. We have also outlined the 25 corridors in London with the greatest potential for new safer cycling routes in the future. These focus on

outer London, with potential corridors from Pimlico to Putney in the west, Ilford to Barking Riverside in the east, Camden to Tottenham Hale in the north and Deptford to Oval in the south.

The Vision Zero ambition is fundamental to achieving the Mayor's and our ambition of creating Healthy Streets across London by reducing reliance on cars and encouraging walking, cycling and public transport use. This is a central part of making London a greener, healthier and more attractive place to live, work, play and do business.

Safer Junctions

Following our list of Safer Junctions published in April last year, which identified 73 junctions on our roads with the highest vulnerable road user collision rates between 2013 and 2015, we have now made improvements at 24 of these. We are monitoring the completed projects to ensure they have been successful in reducing collisions and are taking the other 49 through design and construction.

Works began at the Charlie Brown Roundabout on the North Circular in early August, aimed at making the area safer for people walking and cycling. New signal-controlled toucan crossings will be installed on all arms of the roundabout, and footways and central islands will be widened to encourage slower speeds and

make the area feel less intimidating. On 19 September, we partnered with a local primary school, Oakdale Junior School, to mark the European Day Without A Road Death (project EDWARD). Fifty-four pupils who regularly have to cross the Charlie Brown Roundabout on their way to and from school took part in a Walking Bus and Big Breakfast. It was particularly poignant for many of the staff who volunteered on the day following the fatality in 2016 of the mother of one of the Oakdale pupils at the roundabout.

Operation Goldstein

We have been running a programme of road danger problem-solving activities as part of Operation Goldstein on Tooting High Street, the A23 (Brixton Hill and Streatham High Road), Seven Sisters Road and Marylebone Road, after they were identified as high-risk locations.

We have used analysis of Environmental Visual Audits and collision data to develop a plan for more than 200 actions. Working with the MPS, we began short-term engagement and enforcement activities in October including red light jumping enforcement, parking and loading enforcement, and pedestrian engagement. This important work continues and is already making recommendations that we will use to inform engineering improvements such as changes to signalling and signs and lines, as well as larger-scale engineering changes.

Operation Venom

This MPS operation, led by the Roads and Transport Policing Command (RTPC), is aimed at reducing the dangerous riding, violence and offending associated with BikeLife. BikeLife brings young bikers together to ride, perform dangerous tricks and share videos to a large social media following. Before the MPS intervention in 2017, BikeLife had accounted for 18 per cent of powered two-wheeler fatalities in London. Since then, no fatalities have been attributed to this group.

In September and October 2018, seven warrants were executed at addresses in North London. Six males were arrested and have been charged with 21 offences, including dangerous driving, handling stolen goods, and other traffic and drugs-related offences. Additionally one stolen moped and nine other mopeds and motor-bikes used in crime were seized and examined. All charged individuals were disqualified from taking part in the Halloween 'Rideout'.

Bus Safety Standard

We officially launched the new Bus Safety Standard for London on 16 October at our second Bus Safety Summit at Millbrook Proving Ground. The Deputy Mayor for Transport, Heidi Alexander, gave the keynote speech, to an audience of bus operators, manufacturers, other transport

authorities, members of the press, the union Unite and road safety campaign groups such as Guide Dogs and Roadpeace.

The Bus Safety Standard is aimed at harnessing the best technology and structural design available to prevent fatalities and reduce the severity of injuries. We have carefully planned its roll out to ensure we get the most out of our investment in safer buses and achieve the ultimate Vision Zero target of no fatalities on or by a bus on London's roads by 2030.

We have developed a roadmap to support the introduction of the standard, as well as guidance to the wider UK bus industry on adopting similar measures in their areas. The roadmap will provide the bus industry with confidence that investment in safety features – particularly those with long lead times or that incur greater costs – is thoroughly researched, independently tested and supported by cost-benefit analysis. It also sets out minimum safety requirements for new buses, which is how the bus industry traditionally adopts successive advances in vehicle technologies and auxiliary equipment from the open market.

Research by the Transport Research Laboratory has informed us about the most prevalent causes of fatalities and serious injuries on the London network and directed us towards the most suitable technologies to address them. These

will now be incorporated into a revised vehicle specification for new buses to ensure manufacturers incorporate the changes into vehicles entering the fleet from the end of 2019. As Intelligent Speed Assistance was ready ahead of the new specification, it has already been rolled out to more than 100 buses in the fleet to ensure compliance with highways limits when traffic is flowing more freely.

The technology demonstrated at this year's Safety Summit included a noise device which raises awareness of buses approaching, technology to help drivers avoid mistakenly pressing the accelerator instead of the brake, greater visibility through reversing cameras, better near-side and off-side mirrors and more occupant-friendly interiors to help reduce injuries from trips and falls.

Later versions of the standard will be brought in to incorporate some promising technologies that are not yet ready for introduction. Among these is likely to be a revised front to buses that will help to make any collision with pedestrians or cyclists less severe.

Work also continues on reducing road traffic incidents of all types on the bus network. This includes large-scale safety site meetings at locations where there are higher rates of collisions. Good progress is being made in developing a new bus driver safety training course which will be delivered through our operators to

all 25,000 bus drivers. It will specifically focus on drivers' awareness of more vulnerable passengers as well as looking at how to reduce the number and severity of injuries that occur on board. This training contract will be awarded later this autumn, with the initial sessions to be held from early 2019. All drivers will have completed training by the end of 2020.

Safer Travel at Night

The Safer Travel at Night campaign this year was between 24 September and 7 October, with targeted police enforcement and engagement activity to identify, disrupt and deter illegal cab activity and inform the target audience how best to travel safely at night. This year we used operator visits, foot patrols, joint working and a police compliance car, across a wider time period to engage with the public before and after visiting night venues. We have also continued to use the marketing leaflet developed last year, focusing on the ways to get home safely.

The campaign involved 797 total deployments, including 122 high-visibility patrols by the Roads and Transport Policing Command (RTPC), 36 stop sites and 101 night foot patrols. A total of 18,675 drivers and vehicles were checked during the course of this campaign.

Improving private hire safety and security

In September, we published guidance to London private hire vehicle (PHV) operators on the reporting of suspected

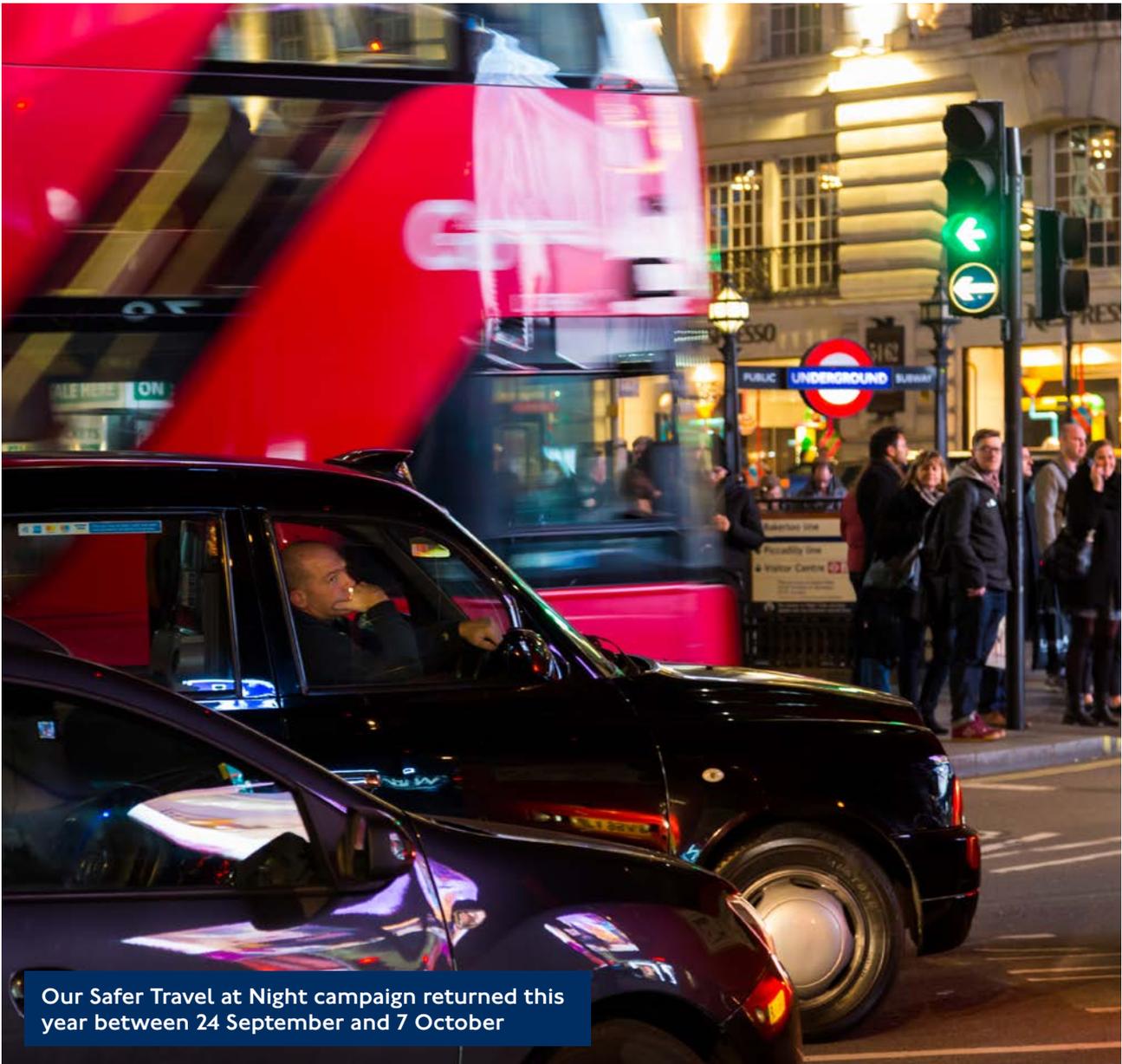
criminal conduct. We worked closely with the MPS to produce the guidance, which is designed to assist London's PHV operators to report this kind of behaviour to the police in an appropriate and timely way.

Since 1 October, private hire operators are required to ensure a person is available for passengers to speak to at all times during operating hours. This applies to journeys being made in the event that a passenger wants to make a complaint to the operator or discuss any other matter about the carrying out of a booking.

Violent Crime Task Force – tackling knife crime and keeping the public safe

We are supporting the Mayor's decision to increase the number of officers dedicated to tackling serious youth violence by allowing officers from the RTPC to be released to bolster the numbers of officers working on the Violent Crime Task Force. The RTPC has been very successful in keeping serious youth violence on the bus network down, with bus-related youth violence victims dropping by 12.9 per cent from 412 to 359, when comparing year-on-year data from 2017/18 and 2018/19. We have worked in partnership with the MPS, introducing measures to minimise the impact on other priorities, and accelerating Vision Zero.

Operations across London on speeding, reckless and dangerous driving, mobile phone use, drink and drug driving will continue.



Our Safer Travel at Night campaign returned this year between 24 September and 7 October

Customer safety

After a good start to the year, we saw an increase in the number of customers who were injured over the summer while boarding or leaving trains on the Underground. As a result, we reviewed our platform train interface (PTI) plan, taking ideas from our station staff and train operators. We have acted to ensure our train operators and station staff understand the PTI hot-spot locations, and have improved the train operators' camera view of the platform and awareness of announcements made to our customers. As a result, the number of accidents at the PTI has reduced in

the past two months. Further work to raise customer awareness of the risk of accidents is underway and we are holding 'PTI days' every month on London Underground (LU) to ensure we maintain our focus on this issue. The October PTI day focused on the risks of customers being caught in train doors.

The number of accidents on escalators also increased in August and September. We are refocusing attention onto escalators and stairs by revisiting our successful Escalator Excellence plan at our top 30 stations.



More than 250 community engagement events were held during National Hate Crime Awareness Week to raise awareness of this issue

Workforce safety

We are rolling out a new ‘slips, trips and falls’ video and sharing a ‘What safety means to me’ campaign with staff. This is supported by a special focus on the top locations where workforce accidents occur. We also saw an improvement in the number of accidents to staff and suppliers in the LU Renewals and Enhancements team when we successfully increased the rate of accident reporting, and we are reviewing LU’s near-miss reporting to see if this success can be repeated more widely.

National Hate Crime Awareness Week

Between 13 and 20 October, we worked with the police and partners to support National Hate Crime Awareness Week. More than 250 community engagement

events were held to raise awareness of hate crime and encourage people to come forward and report so action can be taken against these offenders.

We promoted how we work with partners in the British Transport Police and MPS, highlighting the message that we will never tolerate hostility towards anyone using our services. Alongside these engagement events, our police partners increased enforcement activity during the week, targeting offenders who committed hate crime on our services. This was part of our wider strategy to tackle hate crime through increased awareness, improving confidence to report and targeting anyone who commits hate crime on our services.

London's network remains a safe, low-crime environment, but reports of hate crime offences have increased as more people feel confident to speak out about incidents. Between 2016/17 and 2017/18, reports of hate crime on public transport increased by two per cent.

National Cyber Security Awareness Month

Throughout October, our Cyber Security Incident Response Team toured head office buildings to highlight:

- The biggest cyber security threats we face
- How we are tackling them
- What we can all do to keep our organisation cyber safe

Employees were encouraged to ask questions about cyber security and improve awareness by learning best practice. Information sessions explained how awareness is critical in ensuring we remain cyber safe as well the common cyber threats we face.

Attempted murder conviction

We have worked closely with the BTP to secure a conviction for a man caught pushing a customer on to the track at Marble Arch station and unsuccessfully attempting to push a second man on

to the tracks at Tottenham Court Road. On 5 October, a 46-year-old-man was found guilty at the Old Bailey of attempted murder.

Westminster Bridge inquest

On 22 March 2017, four people – Kurt Cochran, Leslie Rhodes, Aysha Frade and Andreea Cristea – were killed on Westminster Bridge in a terror attack when they were struck by a vehicle driven along the pavement on the bridge. The attacker also stabbed a police officer – PC Keith Palmer – who died from his injuries in the grounds of the Palace of Westminster. The attacker was shot and killed by police. The inquests for each of the victims took place between 10 September and 3 October 2018. We were an 'Interested Person' in the inquests and Siwan Hayward, Director of Compliance, Policing and On-street Services, gave evidence on the height of the parapet on the bridge. The coroner concluded that all five victims were unlawfully killed but did not find any issues related to us.. The coroner has requested suggestions from the parties by 9 November on matters that should be included in a Prevention of Future Deaths report.

4 Healthy Streets and healthy people

Air quality

Ultra Low Emission Zone

Most vehicles will need to meet the stringent exhaust emission standards of the Ultra Low Emission Zone (ULEZ) or pay a daily charge to travel when it comes into force on 8 April 2019. ULEZ will operate 24 hours a day, seven days a week, within the same area as the current Congestion Charging Zone.

We have completed the design and build of the new IT system, and the final phase of build on the website is nearing completion. System testing is underway and progressing to plan. In addition, we have gained Department for Transport approval for the new ULEZ signs that will be installed at the entry to zone.

The project also involves the expansion of the central London ULEZ to the North and South Circular Roads. Following a public consultation, the Mayor announced that this will be introduced in October 2021. A feasibility study is in progress to understand the options for delivering the systems and services. Requirements and volumes have been established and we will aim to make a decision on the delivery strategy in January 2019, ahead of a recommendation to our Programmes and Investment Committee in March 2019.

Delivery has begun on 90 ULEZ-compliant Dial-a-Ride vehicles ready to operate in the zone.

Low Emission Bus Zones

We continue to upgrade buses to the ultra-clean Euro VI engine standard along four primary zones, including High Road to Green Lanes in Haringey, Camberwell to New Cross taking in Peckham High Street and Deptford Bridge, Wandsworth to St John's Hill, taking in Lavender Hill and Wandsworth Road, and the A12 from Homerton High Street to Eastern Avenue.

All vehicles will be lifted to the Euro VI engine emission standard which reduces harmful exhaust emissions to a fraction of previous levels. This means the retrofitted buses using these corridors now are cutting nitrogen oxide (NOx) levels by up to 95 per cent, and particulate matter by up to 80 per cent. Their preparation follows the introduction of the first two zones in Putney High Street and Brixton to Streatham, and is part of a much larger air quality programme to raise the entire bus fleet to the same ultra-clean level by 2020.

Around 60 per cent of all our 9,000 bus fleet is at the same ultra-clean standard now through a combination of retrofitting and vehicle replacement. The newest buses mostly combine the cleanest diesel engines with hybrid technology which is helping us reduce tailpipe CO2 by up to 30 per cent and reduce the impact of public transport on climate change. The bus fleet continues to rapidly adopt zero-emission vehicles with 106 already available for service, split between 96 electric and 10 hydrogen fuel-cell vehicles.



On 22 September, around 50 streets were closed to traffic across London for World Car Free Day

This number is to grow to at least 140 with the conversions of the CI, 46 and 70 bus routes to start from this autumn.

Rapid electric vehicle charging

We continue to build a network of rapid charge points across London to support the growing number of Zero Emission Capable taxis and the wider take-up of electric vehicles. We have installed 135 to date, of which 64 are dedicated to taxis. We have awarded the contract for the first hub site which involves seven rapid charge points at one location in Greenwich. The total number of charge points will increase to 150 by the end of December 2018, which is a major step towards our target of 300 rapid charge points by December 2020. At present, there are more than 520 Zero Emission Capable taxis licensed in London.

World Car Free Day

On 22 September, people across London took the opportunity to make the most of traffic-free streets on World Car Free Day. Around 50 streets from Hackney to Ealing were traffic free to help encourage people to ditch their cars and reclaim streets from traffic, which will open up spaces to the whole community.

London Play, a charity that works to give children freedom to play by shutting roads to traffic, was also able to take advantage of the day. Play streets, where roads are regularly shut to traffic for a few hours each week or month, offer more than just a safe space for children to play outside with their friends, as they also encourage a sense of community, making streets feel friendlier and safer.

Poor air quality is estimated to contribute to more than 40,000 premature deaths across the country each year, with emissions from cars and vans estimated to cost £6bn annually. Supporting streets without cars is part of the Mayor's and our efforts to make London's communities greener, healthier and more attractive places to live, work, play and do business.

Airports National Policy Statement - Judicial Review - Mayoral Direction

The Mayor has joined with the London Boroughs of Hammersmith and Fulham, Hillingdon, Richmond and Wandsworth, the Royal Borough of Windsor and Maidenhead and Greenpeace in bringing a legal challenge by way of judicial review against the designation by the Secretary of State for Transport of the Airports National Policy Statement (ANPS). We are an interested party in the proceedings.

The ANPS sets out the government's policy in respect of achieving increased airport capacity in the south east of England, and identifies a third runway at Heathrow Airport as the preferred location and scheme for delivering such capacity. The Mayor considers that the ANPS fails to adequately address a number of fundamental environmental and social problems that will arise from a third runway. These include the significant health impacts of the proposal in terms of air quality and noise; the adverse effect on surface transport

infrastructure that will result from the huge increase in staff, passenger and freight movements; and the implications for the UK's obligations in respect of climate change.

On 30 October, the Mayor directed us to meet his legal costs incurred as a result of his participation in the legal challenge, including any appeals, and delegated his statutory powers to us to the extent necessary to allow it to meet those costs.

Walking and cycling

Cycling

We have undertaken new research which shows that breaking down the barriers to cycling could increase the number of women using a bicycle to get to work.

The daily number of women cycling could rise by 30,000, increasing cycling in London by around 10 per cent, the equivalent of more than 50,000 extra journeys a day.

The research identifies several reasons why women choose not to cycle, including the fear of being involved in a collision, concerns around too much traffic and not feeling confident. We are tackling these barriers to cycling by working with the boroughs through a number of initiatives, such as cycle training and Cycling Grants London, which supports community groups through training sessions and guided rides.



We are actively progressing various cycling schemes across the Capital to encourage as many people as possible to take it up

Cycling has grown faster than any other form of travel over the past 10 years and there are now more than 730,000 journeys by bike every day. However, only 10 per cent of women in London cycle regularly.

New infrastructure is helping to increase cycling in London and is encouraging women to take to two wheels. The number of women cycling in London has increased four per cent in the last three years and since Quietway 1 was launched in 2016, the number of women using the route has increased from 29 to 35 per cent.

Continuing improvements to cycling infrastructure in London, such as new cycle routes, are expected to go on increasing the number of cyclists, but breaking down the barriers that have deterred women from cycling will boost this number even more.

We are encouraging even more Londoners of all ages and backgrounds to take up cycling, improving their wellbeing and London's air quality and helping to reduce traffic congestion.

North-South Cycle Superhighway Phase 2

On 20 September, we launched the second phase of the North-South Cycle Superhighway, between Farringdon and King's Cross. The route links with the first phase of the Cycle Superhighway

opened in 2016 connecting to Elephant & Castle in the south and is already being used by more than 10,000 cyclists a day. The scheme makes significant safety improvements for cycling in the city, including tackling three Safer Junction locations, as well as introducing benefits for pedestrians such as new crossings at busy junctions.

Cycle Superhighway East-West and Trinity Square

Following the opening of the full eastern section of the East-West Cycle Superhighway in December 2017, we have continued work on the remaining non-core parts of the route. Design work for North Carriage Drive continues with build due to begin in January 2019. All works at Trinity Square, which involved the reconstruction of a signalised junction to further improve safety, were completed in October.

Cycle Superhighway II

Work that was due to begin on site in July for Cycle Superhighway II (CSII), running between Swiss Cottage and the West End, was delayed after we received an application for a judicial review from Westminster City Council in June. Following a hearing on 6 September, the Court gave judgment on 13 September. An application for permission to appeal to the Court of Appeal was filed on 11 October and in parallel we are committed to addressing the points in the Judgment.

Mini-Hollands, Cycling Quietways and Central London Grid

We continue to make good progress on the Mini-Hollands, Quietways and Central London Grid programmes, with a focus on completing and opening whole or significant sections of these routes.

On 27 September we launched a Quietways marketing campaign for Q2 from East Bloomsbury to Walthamstow; Q2 from West East Acton to Notting Hill; Q3 from Gladstone Park to Kilburn; Q5 from Clapham Common to Oval; Q6 from Wanstead Flats to Barkingside; Q14 from Southwark to Tower Bridge Road; Q15 from Earls Court to Belgravia; and, Q22 from Stratford High St to Newham Way. We have constructed 112km and have a further 7km under construction of the proposed 250km network of Quietway routes through inner and outer London.

The Mini-Holland Programme involves 98 infrastructure schemes and five behaviour change schemes across three outer London boroughs – Waltham Forest, Enfield and Kingston. Thirty-two of the 103 Mini-Holland schemes are now complete, including the A105 Green Lanes scheme, a five kilometre protected cycle route linking Enfield Town to Palmers Green. Twenty further schemes are currently under construction including segregated cycle routes on Wheatfield Way in Kingston, on the A1010 in Enfield and on Lea Bridge Road in Waltham Forest. Twenty-one schemes are

going through design and consultation, including a number of Quietway links and Enfield's Quieter Neighbourhoods.

Work continues on the Central London Grid, with 39km of the original 85km network now complete, including strategically important routes such as Quietway 13 between Broadway Market and Old Street, and Quietway 15 between Earls Court and Belgravia. An additional eight kilometres of network is currently under construction, including a new pedestrian and cycle crossing over City Road, and a further nine kilometres is awaiting installation of wayfinding. These routes are due for completion in early 2019. A further 65km of potential Quietway routes have been identified and we continue to work with boroughs to define more detailed plans. This includes important routes such as the link between Cycle Superhighways 2 and 3 in Tower Hamlets, a link between Dalston and Bethnal Green via Queensbridge Road in Hackney and a route connecting Kensington High Street to Notting Hill in Kensington and Chelsea, which began public consultation in September.

Mayor's Active Travel Innovation Challenge

Go Jauntly, a discovery and wayfinding app for walking, has been selected as the winner of Mayor's Active Travel Innovation Challenge, which was launched to encourage tech firms to develop solutions to social and environmental problems

facing the Capital. The app enables people to enjoy self-guided routes with directions, photos and facts along the way, encouraging active travel which is key to tackling some of the greatest health and congestion issues facing London. Go Jauntly will receive a grant to develop routes specifically for London over the next few months with our support.

As part of the pilot, it will create two TfL 'Walk London' routes, the Thames Path and Capital Ring, reaching from Wimbledon Park to Greenwich. Go Jauntly will also be adding additional features to the platform, making it easier for customers to identify and walk to their nearest station. We have asked Go Jauntly to consider accessibility features and we continue to liaise with them on this.

Old Street changes

The concept design has now been completed and detailed design is under way on a project at Old Street involving removal of the existing roundabout and replacing it with a two-way traffic system, with improved facilities for cyclists and signal-controlled pedestrian crossing points. A new public space will be created on the western side of the roundabout together with a new LU station lift. The existing station entrance and subways will be closed and replaced with a new main station entrance on the peninsular and a new entrance at Cowper Street. A planning application for the project will be submitted to Islington

Council by the end of the month, and the detailed design will begin in December. Subject to the necessary approvals, we anticipate work to start in early 2019, with the main works starting in March.

Next steps confirmed for the transformation of streets around Nine Elms

On 12 October, we announced the next steps for improving the streets of Nine Elms and making them better for people walking, cycling and using public transport.

The proposals support the wider regeneration in the area and will see the 2.5km stretch of Nine Elms Lane and Battersea Park Road completely redesigned to make more attractive, accessible and people-friendly streets.

The proposals include a connecting cycle route to CS8 (Wandsworth-Westminster) and improvements to signals and junctions designed to better separate cyclists and motor vehicles by time or space.

Other measures include new, wider pavements, improvement to bus lanes and 23 new or improved pedestrian crossings.

Feedback from the consultation will enable us to improve proposals for the western section, bringing further benefits to pedestrians and cyclists. This scheme will enable more people to walk and cycle, reducing car use which is crucial to improving air quality.

Highbury Corner

Work is progressing well on site at Highbury Corner with the transformation of this outdated roundabout into a two-way system with segregated cycle facilities, a partially opened arboretum, extension of the green space and new trees planted in the new public realm area. We started the second works phase and have installed new paving on Highbury & Islington station forecourt. We have also opened a new direct crossing outside the station. Our main works will complete by summer 2019.

A23 Brixton Hill

On 9 November, we finished making significant changes to the A23 Brixton Hill as part of our commitment to improve journeys for bus passengers and pedestrians. Buses account for more than half of all trips along this corridor so improving journey time by widening bus lanes will make a real difference to people's journeys. A new pedestrian crossing, funded by Lambeth College as part of its redevelopment, has also been incorporated into the build, alongside enhanced footways.

Bridge replacements

We achieved a significant milestone in August on the Ardleigh Green bridge replacement project. The major structural elements of the new bridge are now complete and works are under way to construct the highway on its approaches, with a planned opening

to four lanes of traffic in spring 2019. At Power Road Bridge, the highway construction has continued as planned and remains on course to open to four-lane traffic at the end of this month.

'TestFest' for the A2/M2 Connected Corridor

On 10 October, connected vehicles were trialled on the London section of the A2 as part of a 'TestFest' for the A2M2 Connected Corridor. We are partnering with the Department for Transport, Highways England and Kent County Council to develop a 'Connected Corridor' along the A2 and M2 to pilot technology that will provide wireless links between vehicles and road infrastructure. It will enable vehicles to receive information about road and journey conditions to reduce congestion and improve mobility, travel-time reliability and safety, and make more efficient use of our road network. The corridor is part of the UK's ecosystem of connected and autonomous vehicle testbeds, enabling an environment for research, development and deployment. The corridor is also part of Intercor, an EU project that aims to test services that work across borders, connecting the UK to the Netherlands, France and Belgium.

Events

We teamed up with a number of celebrities to once again support The Royal British Legion's London Poppy Day on 1 November as the country marks the centenary since the end of the First World War.

The voices of Shane Richie, Jo Brand and Lesley Joseph were heard on the Underground as they encouraged Londoners to give generously and support the vital work the Legion does in supporting the Royal Navy, British Army, Royal Air Force (RAF), Reservists, veterans, and their families.

More than 1,200 members of the Royal Navy, Army and RAF volunteered to collect donations at 44 Underground stations and there was a special collection taking place on the Circle line, where our staff who are serving or ex-serving military were joined by Britain's Got Talent winner, Lance Corporal Richard Jones, and actress Lesley Joseph.

Poppy roundels were installed at 10 Underground and four Overground stations, and multiple transport modes – including Santander Cycles, eight London buses, DLR, trams and London Overground & Underground trains – were covered in poppy vinyls.

A number of additional events have been taking place to commemorate the centenary of the end of the First World War and Armistice Day. The Tower of London event 'Beyond the Deepening Shadow – The Tower Remembers' attracted large numbers of spectators to view the light display which took place in the Tower Moat every evening

between 4 and 11 November. There was an enhanced parade on Remembrance Sunday in addition to the annual Royal British Legion event with a 'People's Thank You' parade involving more than 10,000 participants. This was followed by a service of commemoration at Westminster Abbey attended by senior members of the Royal Family and the centenary was also commemorated by a number of other specific events across London and well-attended Armistice Day parades and gatherings.

There have also been a number of sporting and fundraising events – including the Shine night walk on 22 September, the Ealing Half Marathon on 30 September, the Royal Parks Half Marathon on 14 October, the North London Half Marathon on 28 October and numerous fireworks displays across London. Teams across the organisation have planned these events with stakeholders to ensure success while mitigating their impacts on local communities.

There have also been demonstrations in relation to the referendum decision to leave the European Union, which led to some road closures and traffic diversions. As always, we worked in partnership with event organisers and the police to plan these events and limit the impact on journeys.



We supported the annual Poppy Day appeal to raise money for the vital work carried out by The Royal British Legion to support our armed forces and their families

5 A good public transport experience

Elizabeth line

Following the announcement of the delay to the opening of the central section of the Elizabeth line between Paddington and Abbey Wood, Crossrail Ltd (CRL) has been working hard on a revised delivery programme to ensure opening in autumn 2019. Progress is being made on completing the stations and testing their systems as well as completing the installation of the rail system in the central tunnels to facilitate a period of intensive underground testing of signalling systems, train and rail infrastructure. Testing of the vital signalling transitions between the central tunnel section and the east and west surface sections has continued.

On 26 October 2018, the Department for Transport (joint sponsor of the project) announced that an interim financing package of £350m had been made available to the Mayor, which will enable CRL to continue its construction work and vital testing at pace to open the Elizabeth line to passengers as quickly as possible.

To see the project through its critical final phases, London Underground (LU) Managing Director Mark Wild was formally appointed Chief Executive of CRL from 19 November 2018. Mark has been working alongside Simon Wright, who has now stepped down from the role.

Network Rail's surface works for Crossrail

The upgrade of the existing rail network for Crossrail, being undertaken by Network Rail, continues. Award of the contracts for enhancement works on six western surface stations is progressing, and enabling work for these station upgrades is continuing with significant works. Network Rail remains committed for these stations to be upgraded by December 2019, while recognising this will be challenging given the delay in contract award.

London Underground

Strike action

RMT members took strike action on the Piccadilly line for 48 hours from midday on 26 to 28 September and from 20:30 until 01:30 on 29 September following a breakdown in talks at ACAS.

Services returned to normal at around 07:30 on Saturday between Heathrow and Cockfosters and at around 08:30 from Uxbridge to Acton Town.

On 5 October there was a 24-hour strike on the Central line with the strike also affecting the Waterloo & City line. There was no Night Tube on the Central line either.

We advised customers to plan alternative journeys and managed to run a limited service. From 09:30 on 5 October, the Central line ran trains between Ealing Broadway and White City and between Woodford and Liverpool Street, although with severe delays.

On 7 November, there was a 24-hour strike on the Central line, which also affected the Waterloo & City line. Planned strike action on the Piccadilly line, which was scheduled to take place on 7/8 November, was called off. Our Travel Ambassadors were at key locations throughout all the strike action to provide travel information and advice to affected customers.

Not providing a full service causes major disruption for our customers, with increased crowding at stations on our other lines, and a challenging working day for everyone involved in keeping our network running. We had travel ambassadors out on the network to advise customers of alternative routes.

Connect – telecommunications system on the Underground

On 13 September, we signed a contract with Thales for continued support of the services currently provided under the Connect private finance initiative (PFI). This new contract is for a period of four years, extendable up to seven. It will provide us with the ability to keep the Connect radio and fixed

telecommunication system running without any breaks, which is essential for the operation of the Underground. It will also provide the technology upgrades urgently needed to bring the Connect radio system up to date from its current obsolete level. Further, it will reduce our operating costs on Connect to under half of what we pay today, down nearly £40m a year. It will also provide an upgrade of the radio system funded by Thales.

The Connect PFI was one a suite of PFI contracts signed in the 1990s with long tenures. Most of the others have either expired or, as in the case of the Prestige contract for Oyster and other ticketing services, terminated early. The Connect PFI was signed in November 1999 with a 20-year term that is due to expire in November 2019.

Northern Line Extension

The Northern Line Extension will provide twin tunnels from Kennington to a new terminus at Battersea Power Station, via a new station at Nine Elms.

At Nine Elms station, we completed the primary construction works in late September. More than two-thirds of the pre-cast platform sections have been installed and casting of the lining wall and column encasement continues on schedule. The blockwork to create the internal walls for the rooms in the new station and construction of the eastern superstructure are now underway.

We have installed track in the tunnel sections from Nine Elms station to the station at Battersea Power Station. The cable management system between the Kennington Green shaft and Nine Elms station is complete and installation between the Kennington Park shaft and Nine Elms station was completed in late October.

Excavation of the basement for the vent and emergency access at Kennington Green is complete, which has enabled us to cast the base slab, and the secondary lining in the shaft is also complete.

At Battersea Power Station, construction work has started on the internal walls to form the rooms in the new station. Construction of the eastern and western service lift shafts and emergency stairs was completed in September. Installation of the architectural ceiling in the station ticket hall continues, with 80 out of 92 sections complete.

We achieved an 'Excellent' rating on our interim assessment for the CEEQUAL sustainability assessment, rating and awards. This reflects the team's commitment to the environmental, economic and social aspects of the project.

Kennington

Bank branch trains did not stop at Kennington from the end of May until 17 September while we excavated four new customer passageways as part of the Northern Line Extension project.

The final fit-out of the passageways will now continue as planned during engineering hours. This includes the installation of the flooring and electrical equipment as well as tiling the passageway walls.

The complex and intricate work included:

- Digging out almost 2,000 tonnes of spoil (mostly clay) by hand
- Installing timber and steel supports to strengthen the structure of each customer passageway
- Using around 900 tonnes of concrete and 500 tunnel ring segments to create the new structures

Once fully completed, the four additional passageways will make it quicker and easier for customers to change between the two branches of the Northern line at Kennington, and will be essential for those using the new Northern line extension from Kennington to Battersea Power Station.



Modernising the Circle, District, Hammersmith & City and Metropolitan lines

We are installing a new digital signalling system on the Circle, District, Hammersmith & City and Metropolitan lines, enabling trains to run closer together, and increasing frequency and capacity. Overall, the modernisation will make journeys quicker on 40 per cent of the Tube network.

We will be introducing the new signalling system progressively in sections around the network.

With 192 S-stock trains running on all four lines, the focus of the project is installation of the new line-side and in-cab signalling systems. Line-side signalling installation progresses to schedule. We have completed 120 out of 192 in-cab installations to 18 (out of 33) engineering vehicles, and have successfully run one of these in test conditions.

We are also working on depot and sidings upgrades and building of signalling equipment rooms (SERs) around the network. We have completed 24 out of 46 SERs.

We continue testing and improving the software ahead of the first section of new signalling going live between Hammersmith and Latimer Road early next year.

Piccadilly line

We are working to extend the life of our 45-year-old Piccadilly line rolling stock. The overhaul will increase the fleet's safety and reliability, improve performance and provide a more comfortable journey for our customers. It includes an overhaul of door locks, saloon doors, saloon seating and flooring, and replacing central wiring.

As part of the project, we are also overhauling the pneumatic control mechanism, which controls the acceleration and braking of the train through the traction motors. We expect to complete the project in 2022. Our current estimate is that the first of the brand-new trains on the line will be in service in 2024.

Bakerloo Line Extension

Last year we consulted on proposals to extend the Bakerloo line beyond Elephant & Castle, and we have now made some decisions based on more than 4,800 responses received. Many people took the opportunity to support the scheme overall. We asked for feedback on proposals for stations at Elephant & Castle, New Cross Gate, Lewisham and two new stations along the Old Kent Road.

Our decisions based on the consultation responses include:

- Elephant & Castle station. We are developing plans to move the Bakerloo line station and integrate it with the planned new Northern line ticket hall. This would provide customers with an easier interchange with both Northern line and Thameslink services and help reduce crowding at the busiest times
- Bricklayers Arms roundabout. Changes to the plans mean there should no longer be a need for a ventilation shaft between Elephant & Castle and the Old Kent Road stations. While a new station at the Bricklayers Arms was considered, it will not be progressed. We decided this based on how close it would have been to the existing Elephant & Castle and Borough Tube stations and the location we are focusing on for the new proposed 'station I' on the Old Kent Road

- Old Kent Road stations. We are developing plans for Old Kent Road 'station 1', focusing on the site near to the junction with Dunton Road and Humphrey Street. Plans for Old Kent Road 'station 2' are being developed for the site of the former Toys R Us store near the junction with Asylum Road. Both these locations had the most support in the public consultation
- New Cross Gate station. The site of the proposed station at New Cross Gate continues to be evaluated. This includes looking at ways to minimise the impact of construction
- Lewisham station. Designs for the potential new station are being developed to ensure it will provide an effective interchange for customers between the Bakerloo line, DLR and National Rail services

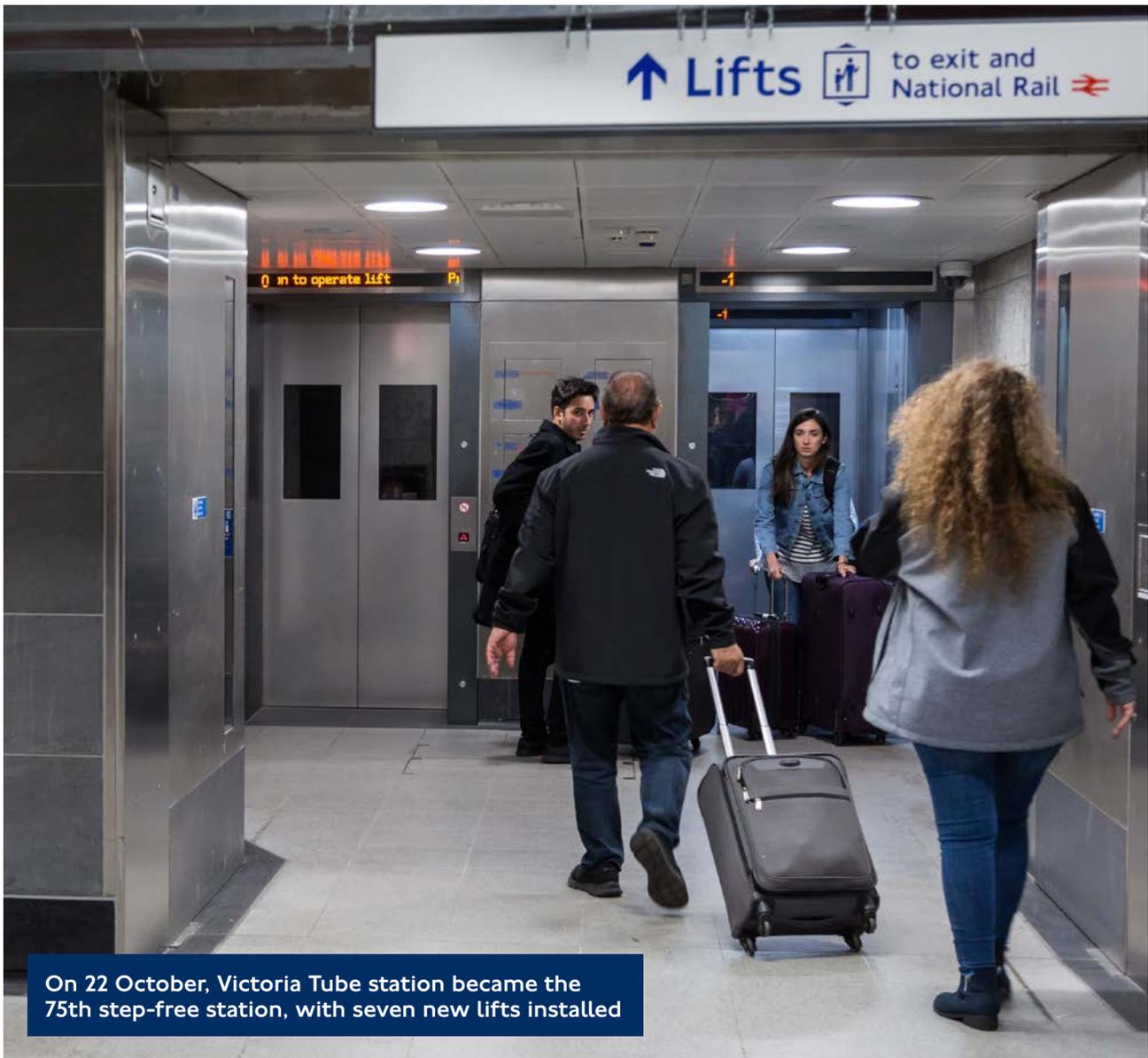
The Bakerloo Line Extension could support at least 25,000 new homes and 5,000 new jobs, with extra Tube capacity for 65,000 journeys in the morning and evening peak, helping relieve congestion on local bus and National Rail services. There will be a more detailed public consultation in 2019.

Bank

At Bank station, we are boosting capacity by 40 per cent. This includes creating a new Northern line tunnel, platform and circulation spaces; one new entrance on Cannon Street and another within the ground floor of Bloomberg's European HQ; the introduction of step-free access to the Waterloo & City line and Northern line platforms; and a moving walkway between the Central and Northern lines to reduce customer journey times.

Tunnelling is progressing well. With 80 per cent now complete, the waterproofing of the new tunnels has begun ahead of schedule. Waterproofing has also been installed along the new Central line moving walkway link. The remaining tunnelling works are continuing on schedule.

At the Cannon Street entrance, we have completed the large-scale excavation of the new station box, marking a significant achievement for the project. The next phase involves starting the lift shafts for the new station entrance. Preparatory works at the Northern line platform are almost complete and will ensure an efficient connection between the existing and new parts of the station in the future.



On 22 October, Victoria Tube station became the 75th step-free station, with seven new lifts installed

At the new Bloomberg entrance onto Walbrook, the remaining activities to achieve the planned opening are progressing. The systems and fire integration works are ensuring the station is fit for purpose. The handover process across all asset areas of the new station has begun.

Victoria

The enlarged southern ticket hall at Victoria station and the relocated Wilton Road entrance opened in January. Most of the remaining access passageways, along with three additional escalators from the southern ticket hall, were brought into use in August 2018.

The work to rebuild the Duke of York pub - which was partially demolished to enable significant pumping of material during the works - is planned for completion in November.

All remaining station modernisation works will be finished by the end of December, with the project close-out including property refurbishment, reinstatement of the roadway and bus station by mid-2019.

On 22 October, Victoria Tube station became the 75th station to be declared step-free, improving access to the transport network for millions of people.

Seven new lifts have been installed at the Underground station, making journeys step-free between the street and the Circle, District and Victoria line trains. Customers can now also travel step-free from the mainline station trains to the Underground station and interchange more easily between the three LU lines.

The station is the fourth busiest on the Underground, serving more than 79 million customers each year. The new lifts will help ensure the station is accessible to all customers, including disabled or older passengers, parents or carers with buggies and people with heavy luggage. The new lifts are part of an upgrade project that has almost doubled the size of the station, with the very final work on the Tube station to be completed later this year.

We are improving step-free access across our network and we are determined to do all we can to ensure our customers experience all London has to offer.

Paddington

The Bakerloo line link will provide step-free access from the Bakerloo line to the new Elizabeth line station at Paddington. Two new escalators and a new lift have been installed. The installation of vitreous enamel wall and ceiling panels is progressing.

The primary permanent power supply has been installed, enabling temporary power to be removed. The secondary permanent power supply has been scheduled for October.

Brixton

Brixton Tube station is step-free once again, after we installed two new lifts to replace the ones that were installed in 2005 and had become unreliable. The new lifts will help to ensure the station is accessible to all customers, including disabled or older customers, parents or carers with buggies and people with heavy luggage. The new lifts are easier to maintain than the previous ones and will operate more quickly.

The two lifts at the station connect customers from street to ticket hall level and from the ticket hall to platform level. They were replaced at the same time to complete the crucial work as quickly as possible. The rest of the station, including the stairs and escalators, was not affected by this work and continued to operate as normal.

Surface

Improving the bus network

On 28 September, we published proposals to modernise our bus network in central London. The changes, the first to comprehensively address the central network in 16 years, will enable the



From 28 September–9 November, we carried out a consultation on proposals to change 33 bus routes to make the bus network simpler and more efficient

Capital’s bus network to grow in outer London, while adapting underused and inefficient services in central London that contribute to congestion and the damaging effects of air pollution. The proposals are about providing the right number of buses, in the right place, at the right time.

The plans, now open for public consultation, would reshape the central London bus network to respond to current and predicted passenger demand mainly through frequency changes or partially restructured routes.

While spare capacity is removed in central London and air quality improved, we are planning increases in outer London bus mileage, in areas where improvements to public transport are most needed.

Central London has dramatically changed in recent years but its bus network has not. In the last three years, demand for buses in central London has dropped by 12 per cent. A key reason for this is the increased transport options available as a result of upgrades to the Tube and Overground network and investment in cycling and walking.

The last time such comprehensive review of the central London bus network took place was before the Congestion Charge was introduced. As a result there are some extremely complicated and inefficient sections of the road network. Some roads in central London, such as Kingsway in Holborn, are now served by more than 100 buses an hour, many of which are significantly underused. This oversupply of buses can cause congestion, slowing down journey times and worsening reliability, air quality and road safety.

To ease pinch points where routes overlap, it is intended that some routes will be shortened, providing an interchange onto other services that will continue to serve final destinations. On Kingsway, for example, we can reduce the number of buses each hour by 10 while still ensuring enough buses and interchanges to maintain connectivity. Passengers can of course use the Mayor's Hopper Fare to change buses unlimited times within an hour for just £1.50. It is also proposed that the frequency of some other services is adjusted to reflect demand better, while protecting journey times. Full details on the consultation are available on our website.

As part of taking a new approach, extensive pre-consultation has been undertaken with the Assembly, boroughs, MPs and local community groups.

Bus service disruptions

We recently awarded the contract to Trapeze Group UK for a new system to handle bus service disruptions more efficiently.

Development and testing will follow from early 2019, with go live expected in 2020. The plan is to replace existing systems and interface with iBus, ticketing and other internal systems. The system will also provide us with a new flexible platform for capturing service changes and disruption information.

It will allow colleagues in the on-street Bus Service Delivery team to input details of service disruptions remotely and be prompted with details of the potential impact and alternative routes, which can be displayed in map format.

This will help us make operational changes more easily and get live service information to our people and customers more quickly. When fully integrated with iBus and Countdown, it will also reduce the amount of time our people spend manually entering data into different systems.

Reliability

Bus reliability is at record levels for regular waiting intervals between buses. This is due to less roadwork disruption, which has been helped by lighter traffic on London's roads, enhanced traffic

signals that give priority to buses over other road vehicles and controls to keep buses spaced apart. The summer has seen excess wait time equal or better than the same period last year, and average bus speeds have been consistent for the past six months compared with April to September 2017.

Lane Rental

On 1 November, we published our annual Lane Rental Scheme evaluation report. This scheme was introduced in June 2012 to incentivise behaviour change and minimise the length of roadworks by applying a daily charge for companies working on the busiest roads at the busiest times. The report highlights a number of key achievements; most notably, 830 days of lane rental were saved through early discussions with works promoters. Between April 2017 and March this year, the scheme surplus funded 19 applications to a value of just more than £4.3m for projects targeted at reducing congestion from roadworks. The estimated social cost of delay saved through the use of this funding is in excess of £16.2m. We have recently approved a further two bids for Lane Rental surplus funding totalling £3.32m for the GLA Infrastructure and Development Coordination Unit and the Kingsway pipe subway in Camden.

London Overground customer consultation

Between 20 September and 19 October Arriva Rail London, which operate the London Overground service, ran a consultation on proposals to modernise customer service on London Overground. The way customers pay for travel has changed rapidly as they embrace new technology, creating an opportunity to improve the way stations are managed and how staff serve customers.

The statutory consultation process involved engagement with London TravelWatch and relevant rail industry bodies, with London TravelWatch leading a public consultation on the proposals. We are clear that the proposals will not compromise safety and all stations will remain staffed at all times.

On-Demand Transport

We have recruited around a third of the 300 participants for our Assisted Transport pilot which looks to give Taxicard users more flexibility and choice over how they make journeys in London. We expect to recruit the full number before the end of the year so that we have a broad sample of users trying out two adaptable forms of budget. Both were designed to retain aspects of Taxicard favoured by customers and reduce perceived barriers to travel, such as the ability to make longer journeys

while staying within the overall yearly budget limit. The first model is based on a trip budget, similar to the existing Taxicard offering, while the other tests a virtual cash budget. Participants are being drawn from existing Taxicard users and people who are eligible but do not currently use Taxicard. The pilot is being run in partnership with London councils and the boroughs of Hounslow and Southwark.

Taxi fares and tariffs

In September, the Finance Committee, through a Chair's Action, approved a number of changes to taxi fares and tariffs with effect from 6 October. These included increasing the minimum fare to £3, freezing the tariff rate for journeys over six miles, and extending the fuel charge arrangement until the next taxi fares and tariffs update.

Judicial Review

The United Cabbies Group has issued a judicial review claim against the decision by Westminster Magistrates' Court on 26 June 2018 to grant Uber London Limited a private hire operator's licence. The main ground of the challenge is bias on the part of the chief magistrate who heard the case as a result of information about a potential conflict of interest, which has come to light since the case was heard. It is also alleged that the Magistrate applied the wrong legal test when considering the appeal. The claim was granted permission to proceed on 2 November and will

now proceed to a hearing in the High Court. We are an interested party in the proceedings, as are Uber London Limited and the Licensed Taxi Drivers' Association.

Woolwich Ferry

We are replacing the Woolwich Ferry with new, modern, low-emission boats that will start operating in January.

The new ferries will have increased capacity, cycle-specific facilities and use a quieter, low-emission engine, all helping to deliver the Mayor's ambition to grow river transport and improve air quality.

The construction of the new berths, which are required for the new, larger ferries, began in June. The next stage of this complex work has required closure of the service since 6 October until the end of the year while the berths are replaced.

During this period, drivers will need to use alternative routes and can plan their journey through our website. The Woolwich Foot Tunnel will remain open for foot passengers and cyclists throughout the work.

The new ferries will provide 14 per cent more space than the current vessels and will be able to carry 150 passengers, with a total of 210 metres of space for vehicles and dedicated cyclist spaces across four lanes.



Our new Woolwich ferries, which will start operating in January, will have greater capacity, cycle-specific facilities and a quieter, low-emission engine

The boats will be powered by hybrid-propulsion engines, improving fuel efficiency and reducing noise. They are fitted with equipment to reduce emissions to 90 per cent less particulate matter and 70 per cent less NOx than legal standards.

The future of National Rail fares
Early in September we submitted our response to the Rail Delivery Group's (RDG) public consultation on the future of National Rail fares. The submission is available for inspection in the publications and reports section of our website.

Fare payment in London has been revolutionised over the last 15 years with the development of Oyster pay as you go (PAYG) and growth of contactless. Rail users outside London have not shared in this revolution and the underlying structure of rail fares has become more complex. Market research shows consistently that many rail users, particularly those making long-distance trips, are confused by the ticketing options and uncertain that they are getting best value for money.

Our response to the RDG consultation calls for:

- Single-leg pricing to ensure that two single tickets are not undercut by return fares
- Distance-based fares to prevent customers being charged more for one ticket for the whole of their journey than if they buy tickets for each part
- The widespread introduction of contactless payment card PAYG to provide guaranteed best value and enable customers to tap in and go without needing to buy a ticket or acquire a special card in advance

In our view, contactless PAYG could be extended from London to operate across the whole of the National Rail network

and on local bus and metro systems as well. Our experience in London since the launch of contactless in 2014 indicates that this would be tremendously popular and could encourage more people to use public transport and significantly improve the experience for existing customers.

Partnership with Merlin

As part of the continuous promotion of our off-peak fares, we have launched a joint promotion with Merlin, which runs attractions such as Madame Tussaud's, London Eye and the London Dungeon. When travelling off-peak on the TfL network, customers are able to get 30 per cent off entrance fees to all five of Merlin's attractions by showing the journey they have made on the TfL Oyster and contactless app.

The partnership is being promoted through social media and Merlin is also providing monthly 'money can't buy' experiences. For example, customers could swim with sharks in the Sea Life Centre or get access to Madam Tussaud's before it opens to the public. The partnership runs for six months and we will seek to include other London attractions. We continue to work closely with Business Improvement Districts, London & Partners and others to promote London's many attractions.

6 New homes and jobs

Crossrail 2

Following the submission in the summer of the Independent Affordability Review's (IAR) Draft Interim Report to the Mayor and Secretary of State for Transport, we are working with DfT colleagues to address some queries raised through the IAR process in order to prepare for a decision on the next steps for the project.

We have also been continuing to develop and refine the scheme and are preparing to provide the Government with an update to our business case in anticipation of the next phase of work. We have been working with Network Rail colleagues to undertake a programme of informal community engagement along the on-network sections of the route, speaking to local stakeholders about work on level crossings and seeking views to help us develop our proposals further.

Affordable homes Build-to-rent

We have started the search for a partner to work with us to create a new build-to-rent portfolio, capable of building more than 3,000 homes. Often in town centres, and well connected to transport hubs, our sites are well suited to build-to-rent schemes. We will identify a preferred partner by March 2019, and once selected this partnership will create a reliable, long-term revenue stream to re-invest in the transport network.

Harrow car parks

We have brought forward three sites in Harrow, with capacity for 400 affordable homes. We will select a development partner for the car parks at Canons Park, Rayners Lane and Stanmore Tube stations using the GLA's London Development Panel 2 in early 2019. The homes will be built alongside retail, commercial and leisure spaces as well as improved pedestrian and cycling connectivity for the local area. We are also committed to working closely with the London Borough of Harrow and the selected partner to improve the step-free access at Stanmore station.

New partnership with Apartments for London

On 26 September, we announced a new partnership with property developer Apartments for London (AfL) to create high-quality, affordable homes across a number of sites.

The agreement will see AfL establish homes over car parks and other available sites on our land. A specialist residential developer, AfL is looking to use precision-manufactured modular construction techniques and is able to build on challenging sites that may not otherwise have come forward for development, enabling new homes to be built quickly and efficiently, with most ready for occupation within 12 months of full planning permission. We expect to submit planning applications for the first

three developments later this year, with the potential for around 450 affordable homes.

The partnership with AfL is one of many announced in recent months. We are leading the way on creating homes on public sector land, with plans in place to build more than 10,000 homes on its own portfolio across London. Since May 2016, half of all homes that we have brought forward are affordable. As well as providing homes, our sites are opening up new spaces, creating thousands of jobs and delivering improvements to the transport network, such as step-free access.

Pocket Living

On 15 October, we announced a partnership with Pocket Living to provide 100 per cent genuinely affordable homes for first-time buyers at a number of its sites.

Subject to planning, Pocket Living will build around 125 one-bedroom homes on our land, which will then be sold outright to buyers at a discount from the open market value. Pocket homes are prioritised for people who already live or work in the borough and are first-time buyers. Our commitment to social rented and other genuinely affordable housing on sites released for residential development is one part of the Mayor of London's work to tackle London's housing needs.

Pocket homes are targeted at local singles and couples, who earn more than allows them to qualify for social housing, but are priced out of the open market. Pocket buyers own 100 per cent of their property from day one. In the future when Pocket homes are sold on, new purchasers must meet the original criteria and have a household income below the Mayor of London's affordable housing threshold.

Construction Skills Programme – Mayoral Delegation

On 25 September, the Mayor delegated his statutory powers to allow us to coordinate and provide skilled training for the construction industry in Greater London, initially as part of the Mayor's Construction Academy Programme. We will seek to do this by establishing a Mayor's Construction Skills Academy Hub using the Tunnelling and Underground Construction Academy as a training venue. We intend to make a bid to the GLA for funding to provide construction training programmes for our own staff and others from third parties. The skills training will be related to housing construction as well as that required for our infrastructure upgrade programme.

7 Our people

Awards

Michèle Dix CBE - Sir Robert Lawrence Award

Michèle Dix CBE, our Crossrail 2 Managing Director, has been recognised for her outstanding and sustained contribution to the transport profession with the 2018 Sir Robert Lawrence Award from the Chartered Institute of Logistics and Transport. The award is the Institute's premier Award for Logistics and Transport and Michèle is only the second woman to win the award.

Harun Khan – Investing in Ethnicity Awards

Harun Khan, who is a Lead Sponsor in our Strategy and Network Development team, recently picked up the award for 'Outstanding Contribution to Communities' at the Investing in Ethnicity Awards. Harun – who, alongside his day job, is also Secretary General of the Muslim Council of Britain - is the first second-generation Muslim to be elected into the leadership. Harun has volunteered with the MCB since he was a teenager, and founded the Eid celebrations in London's Trafalgar Square in partnership with the Mayor of London, attended by up to 20,000 visitors.

Global Light Rail Awards

On 3 October, our Trams Fleet team won the Team of the Year at the prestigious 2018 Global Light Rail Awards.

Picked from a strong field of entrants, the judges were impressed with the work the team does, keeping our ageing tram fleet moving while improving the failure rate at the same time.

Trams and Trams Operations Ltd were also highly commended in the Safety Initiative for the Guardian device, adding to a great night for the team.

National Air Quality Awards

On 4 October, our Low Emission Bus Zones team won 'Passenger Transport Air Quality Initiative award' at the National Air Quality Awards.

Low Emission Bus Zones see the exclusive use of buses with top-of-the-range engines and exhaust systems meeting or exceeding the highest Euro VI emissions standards.

The first zone was introduced along Putney High Street in March 2017 and was followed by a second between Brixton Road and Streatham High Road in December 2017.

All 12 zones are set to be completed by 2019 and form a central part of the Mayor's far-reaching plans for a drastic clean-up of London's toxic air.

Diversity & Inclusion

Stuart Ross BAME internship programme

We are piloting an expanded version of the Stuart Ross BAME internship programme in the Press Office to three new areas of our communications team, including Public Affairs and External Relations, our Customer team (which delivers behaviour-change campaigns) and our Travel Demand Management team, which communicates with and influences customers to reduce congestion.

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

We want to build on the success of our original scheme, which was launched in 2007, and address the continuing under-representation of people from diverse communities in these areas and across our whole communications area.

We will take on three people – one for each of the new teams – for the internship, which will begin in September 2019 during the pilot phase of the extended scheme.

The structure will differ slightly from the original Stuart Ross programme because interns will spend the first six months in their 'home team' before rotating onto one of the others in the new scheme.

Interns receive a bursary paid at the London Living Wage, as well as 28 days of annual leave, free travel across London and a pension, which means the programme is accessible to the widest possible demographic.

The original scheme was initially six months long, but was gradually extended to an 11-month programme. We believe this allows interns to have a chance to develop, as well as to complete any important projects they have worked on.

Since 2007, 26 interns have passed through the organisation's doors as part of the Stuart Ross scheme. Many of them have gone on to communications jobs in a variety of public sector organisations, including the Metropolitan Police Service, the NHS and within our own organisation.



Winners of our recent Children's Book Competition will have their stories and images turned into a limited edition book

National Inclusion Week

From 24–28 September, we held a number of events to celebrate National Inclusion Week. This year's theme was everyday inclusion. One of our main events was hosting a Global Transport Industry Diversity and Inclusion Conference at Endeavour Square in partnership with the UITP – the International Association of Public Transport. UITP is the only worldwide network to bring together public transport stakeholders and all sustainable modes to share learning and best practice.

Our Time

On 19 September, 'Our Time' was launched at City Hall. Part of the #BehindEveryGreatCity campaign, it works by pairing high-potential women with senior leaders, either at TfL or

another organisation within the GLA family, to help tackle gender inequality in the workplace.

Speakers included the Mayor, and there was training, a panel discussion and a pairing session between the 32 new participants and champions, who will take part in meetings and face-to-face events over the coming year.

Winners of Children's Book Competition

We recently announced the winners of our Children's Book Competition which tells the stories of women in transport.

The competition, organised in partnership with British book printing institution Clays, is part of the Mayor of London's #BehindEveryGreatCity campaign, marking the centenary of the first women in the UK winning the right to vote.

Winners Tess Kearney, now aged 8, Ibraheem Saleemi, now aged 9, and Isra Sulevani, now aged 14, have had their stories and images turned into a limited edition book, 'Keeping London Moving', with the winning drawing featured on the front page. They also got to take part in a behind-the-scenes tour of TfL, discovering the different job within the transport industry.

It is great to see this fantastic collection of stories and drawings from children across the city, capturing the crucial role women play in keeping London moving. Telling the stories of engineers, drivers and designers, this book will encourage young Londoners to explore the opportunities available to them in our city, and ensure they know that these opportunities are open to all.

Black History Month

This is an international celebration, recognising inspirational black people who made, and currently make, a huge contribution to a more equal and progressive society. This year we are also celebrating the 70th anniversary of the arrival of SS Windrush, the ship that carried 450 people from the West Indies to London to take up jobs, and the contribution black people have made in shaping our transport, city and culture since then.

Throughout October, we hosted events to celebrate and support the people who make our organisation and London truly inclusive. These included panel discussions, lunch and learn sessions, a film night and a series of presentations under this year's theme 'By supporting each other, we support ourselves'.

World Mental Health Day – here to support you

On 10 October, we marked World Mental Health Day. Nine in 10 people who experience a mental health problem say they face negative treatment from others as a result. We do not want this to be the experience of people working in our organisation.

Our peer support group 'WellMent' hosted an event to mark World Mental Health Day in which employees could go along and speak to our mental health first aiders in confidence. WellMent started in 2013 following discussions between our Staff Network Group for Disability and Occupational Health.

Our support for those experiencing mental health problems was recognised on 20 October by the Marsh Awards for Mental Health Peer Support, recognising WellMent's support in the workplace.

As well as regular peer support meetings, WellMent works alongside our Supporting Colleagues Network – run by Occupational Health – which has more than 140 employees trained as Mental Health first aiders to support their colleagues.

One very successful event organised with Ferrovial Laing O'Rourke for the Northern line extension employees saw a talk by Frank Bruno on 10 October, to speak about his struggles with mental health.

Coming Out Day

On 11 October, we marked 'Coming Out Day' by hosting two 'lunch and learn' sessions on 11 and 12 October. These sessions raised awareness of some of the issues faced by the LGBT+ community and the various support networks available.

Staff Network Groups

Our Staff Network Groups (SNGs), which play an important role in helping us to become a better and more inclusive place to work for all, recently appointed new chairs and vice chairs to most of our SNGs. The outgoing network leads have done a great job and contributed significantly to this work in our organisation, leaving a brilliant legacy for the incoming

SNG leads to build on. The incoming SNG leads will continue this important work to make our organisation an even better place to work.

European Union exit

On 3 October, we held a session for employees whose immigration status (or that of their families) is affected by the UK's upcoming withdrawal from the European Union. This session was hosted by an immigration lawyer who explained the principles of the immigration regulations before and after the exit from the European Union, based on the current state of the negotiations.

This is part of the continuing support provided by our European Staff network group.

Viewpoint survey

This year's annual staff survey, Viewpoint, ran from 8-26 October. All employees were invited to have their say on what it's like to work here. We renewed our focus on driving up participation this year, following a six per cent decline in last year's response rate. Clearly, a higher response rate gives us a more complete picture of life at TfL and what's really important to our people.

We received 18,186 responses in total – 66 per cent of our workforce. This is an increase of nine per cent overall on 2017 (when it was 57 per cent). Response rates rose in most areas of TfL, with Finance, Major Projects Directorate and Customers, Communication and Technology all having a response rate of more than 80 per cent. Our largest population, London Underground, saw a nine per cent rise in its response rate.

People are motivated to take part when they believe we listen and take action so, across the business, we have campaigned to showcase what was done as a result of last year's survey. We have also worked to address concerns about the confidentiality of the survey, including trade union visits at our invitation to our independent survey company ORC international.

We expect the results of the survey to be available in December 2018.

Ada Lovelace Day

On 9 October, our Women's Staff Network Group (WSNG) celebrated Ada Lovelace Day, which is inspired by the world's first programmer. The day is an international celebration of women

in Science, Technology, Engineering and Maths (STEM) industries. The day raises awareness about careers in STEM and creates role models for the next generation.

As part of the celebrations, our WSNG engaged with more than 100 Year 8 students at the Camden School for Girls about programming, enabling them to use our open data to create an application to map stations and Tube lines using only code.

Employees also hosted career stands at Southwark and Stratford Tube stations to share their experiences of what it is like to work in technology and discuss the projects that they have been involved in.

Anonymous recruitment – removing bias in appointments

Anonymous recruitment aims to remove bias from our recruitment processes to help us achieve a workforce that is representative of the city we serve. We are introducing software to redact personal information from applications and will roll this out across priority recruitment areas before the end of this calendar year.



In September, the London Transport Museum remembered the contribution of London's transport workers during the First World War by displaying the last four 'Battle Buses'

We will monitor the roll out over the coming months, with a view to extending anonymous recruitment to all our recruitment campaigns by the end of this financial year.

London Transport workers' contribution during WWI remembered

A century ago in 1918, around 250 of London's B-type buses returned to the Capital from the Western Front where more than 1,000 served as military vehicles. At the end of September, the last four surviving B-type buses – three of which had been commandeered for military service – were displayed together for what is expected to be the final time as part of the First World War commemorations. The event, outside London Transport Museum in the Covent Garden Piazza, remembered the contribution of London's transport workers during the war.

Built in North London from 1910, these B-types were the world's first, reliable mass-produced motor buses. Feats of engineering, they soon dominated the Capital's streets, replacing Victorian horse-drawn vehicles. One of the last four surviving buses has been restored

by London Transport Museum to its former military livery. Known as the Battle Bus, its interior reveals how drivers would have lived on board while in Flanders and France, and as far afield as Greece and Egypt. The transformation was made possible thanks to a National Lottery grant from Heritage Lottery Fund, and the London Transport Museum Friends.

Since 2014 – as part of the First World War centenary commemorations – the Museum has been working with people from across London to involve them with this unique part of their city's transport history. More than 200 volunteers, including our staff and children from the city's primary schools, have shared more than 3,000 hours of their time to explore the impact of the war on London's transport system and its workers. A legacy of these incredible stories is represented by a newly commissioned artwork now on permanent display at the Museum alongside the Battle Bus. 'Forget Me Not' is made from more than 100 flowers, which represent the hand-embroidered postcards soldiers sent to their loved ones back home.

8 Securing value and generating income

Reducing costs

We have made significant progress in reducing our operating costs by removing duplication, reducing management layers and streamlining teams. With our 'functional' structural changes nearly complete, we are now looking at further cost reduction by looking at end-to-end processes and structural integration opportunities 'across' the organisation.

We are creating a new, single Business Services function that will bring together operational activity currently sitting in HR Operations and the Financial Services Centre. By drawing the teams together, as many other organisations have, there will be further opportunities to streamline common processes, standardise reporting and look for other ways in which to provide a better service at reduced cost.

Other parts of the business continue to look at how they can operate differently to reduce costs.

Generating income

Change Please kiosk at Clapham Common

We have created a new commercial partnership with Change Please, an award-winning coffee company that trains people who have been homeless as baristas. This month, Change Please opened its first kiosk at Clapham Common station, staffed by ex-homeless individuals.

More than 90 per cent of our tenants are small or independent businesses and one of the ways we support them is by offering simple and cost-effective locations across London.

This new partnership, in collaboration with the Mayor of London and our dedicated public transport outreach team, means we are helping rough sleepers to get back on track and build sustainable futures for themselves.

The social enterprise empowers the homeless community to rebuild their lives with its 'hand up, not a hand out' model – training them to become coffee baristas and eventually supporting them back into the wider workplace in similar roles. In addition to providing barista training, Change Please supports its trainees with accommodation and mental wellbeing, and pays the Living Wage.

With 100 per cent of profits going back into the social enterprise's mission, every cup of coffee sold will directly help Change Please to train and support homeless individuals.

StreetDots – trading platform

On 2 October, we announced a new partnership with online street trading platform StreetDots which gives small businesses the opportunity to trade at transport hubs across the Capital.



Zip and Zing Juices is just one of the many street traders popping up around the Capital, following our partnership with StreetDots

The project enables customers to buy street food and coffee and will later offer them the opportunity to purchase gifts, flowers, and grab-and-go fresh produce from mobile retailers. Pitches or 'dots' are open at several locations, including North Greenwich and Hammersmith. The stalls at the dots take many forms from simple tables, to customised vans, trucks, carts and bikes.

The partnership aims to liberate traders from the hassle involved in finding a pitch, while introducing customers to new brands. Traders use a smartphone app to choose a 'dot' for a few hours at a time. For example, a coffee truck might book a morning slot outside a Tube station during peak commuting hours. In

turn, customers passing the same 'dot' regularly get the chance to discover new businesses and products each day.

Café Bueno is one of the flourishing businesses taking advantage of Londoners' thirst for coffee, working from a variety of locations including North Greenwich bus station. Another business trialling our 'dots' is Zip and Zing Juices, which sells organic smoothies and slow-pressed juices.

More than 90 per cent of our tenants are small or independent businesses. Working with StreetDots, we will be giving more people the opportunity to try out their new business ideas in a simple and cost-effective way at locations across

London. It is another great example of how we are supporting small businesses alongside generating vital revenue to reinvest in the transport network.

Collaboration with Adidas

We recently announced a partnership with Adidas, with the release of three limited-edition shoes inspired by London Underground and the 15th anniversary of the world-renowned Oyster card.

Just 1,500 pairs of the trainers are available, and those who get them also receive a limited-edition Oyster card with £80 on it. This is the start of a fantastic collaboration, which not only brings two iconic brands together but also yields additional revenue to reinvest in public transport.

Cooling the Tube and recycling heat

We are working with Islington Borough Council to reduce temperatures for customers on the Northern line and reuse the waste heat for the benefit of local people.

The City Road mid-tunnel ventilation system is a large fan in a redundant station between Angel and Old Street stations. This will bring chilled air into the tunnels to cool Tube trains during summer months, providing a more comfortable journey for our passengers.

At the same time, the project will reuse the heat recovered to provide hot water for around 500 homes in the area as well as for a new school. Islington's local district heating system is supported by the EU-funded CELSIUS project, which focuses on maximising the use of primary and secondary energy sources to minimise carbon emissions and maximise energy efficiency.

This innovative project started in summer 2016 and Islington will be ready to connect the heat recovery system in spring 2019. Heat from the network is potentially a huge energy source, and the team hopes the Bunhill Heat and Power Network trial in Islington will point the way to similar district heating and cooling schemes on other Tube lines as a revenue stream in the future.

Greenwich Power Station

Greenwich Power Station has secured a short-term operating reserve (STOR) contract with National Grid to provide a demand reduction service.

On days when the demand for power exceeds what is available from the National Grid, we will provide an additional source of reserve power.

The Greenwich generating station can provide the emergency power to evacuate the Underground if there is a loss of supply from the National Grid. It also provides energy cost savings and revenue for TfL by reducing our energy demand at peak times during the winter, and by off-setting our demand at times of stress on the National Grid.

The STOR contract runs from 1 April 2019 to 31 March 2020 and is worth almost £0.5m in additional revenue for us, which will be another source of income to re-invest in public transport.

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November 2018