

Safety, Health and Environment Annual Report



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About this report

Measuring our actions to improve our safety, health and environment performance

Throughout this report, our customers refers to direct users of our services, and our workforce includes our directly employed staff as well as people working in our supply chain. For both groups, we use data collected directly from our operational businesses. Some assault data comes from our own internal reporting systems and from the police. Health data relates to employee wellbeing and includes employee sickness absences, but does not cover contractor or customer health issues.

Unless otherwise stated, streets refers to all of London's roads, including those managed by the London boroughs. Safety data for streets is collected by the Metropolitan Police Service (MPS) and the City of London Police, in line with Government requirements. All road safety data is provisional and subject to review and assurance, with the final data published annually in line with Department for Transport requirements.

Reporting period

Most data cover the period from I April 2020 to 3I March 202I. Some data is provisional and subject to change

Foreword

I am proud of our work during the pandemic and determined to continue to progress on our safety, health and environmental goals

This is my first foreword to our Safety Health and Environment annual report since taking over as Commissioner, and I could not be prouder to be leading such a fantastic organisation. Equally, as I reflect on the last year, I am deeply saddened by the tragic losses of lives or injuries to our valued people and customers on our transport network.

When I joined TfL in June, I set the organisation five priorities: secure our future funding; completing transformative projects; recovering from the pandemic; creating a new vision for our people with greater diversity and inclusion; and delivering a green and sustainable future. The golden thread of safety, health and environment runs through these priorities and our day-to-day business and I applaud the dedication of all our staff and partners in maintaining – and often going beyond – the high standards we set.

In April 2020, our then new Safety, Health and Environment directorate was officially stood up. Little did we know just how important this work would be in the midst of a global pandemic and will continue to be as we grapple with wide-reaching societal, climate and technological changes that impact the provision of safe, reliable and sustainable public transport in London. There will always be new and more ways we can better serve our people, customers and London.

I am immensely proud of the work we have done throughout the pandemic and am determined that we continue to make progress on our safety, health and environmental goals as we support London's recovery.

Andy Byford London's Transport Commissioner



Foreword

Safety, health and the environment have never been more at the forefront of our thinking than during the global coronavirus pandemic

We are committed to supporting Londoners and the key workers, including transport workers, on which our society depends during this important time for our city and our country.

This report looks back from I April 2020 to 3I March 202I and predominantly covers the period that the coronavirus pandemic affected London. Sadly, 89 people from TfL and our partner organisations lost their lives to this virus during this time. At the time of publication, a further person had lost their life, bringing the total to 90. Our thoughts are with their friends and families, and of all those who have suffered during the pandemic.

I am so proud of all the efforts made to keep our staff safe and ensuring we continued to run a transport network for key workers. We rapidly adapted the network with safety measures such as social distancing and enhanced cleaning and ventilation. Throughout the year, we supported our staff through our occupational health and wellbeing initiatives, adapting them to home working where required.

I am also proud of our ongoing work throughout this challenging period to make London greener and safer. This year, we successfully launched the Direct Vision Standard and introduced tougher requirements for our Low Emission Zone. Along with London's Boroughs, we rapidly adapted our streets to create more space for walking and cycling through our Streetspace for London programme.

Looking forward, the pandemic will profoundly change the city in which we work. As London recovers, it will be vital that we do not waver in our commitment to safety, the environment and the wellbeing of our own people. As I reflect, I am proud of the progress we have made in pushing our Vision Zero agenda for safety, health and environment.

Lilli Matson

Chief Safety, Health and Environmental Officer



We will work to continually improve our performance for London

Introduction

Ensuring safety, health and the environment are at the heart of everything that we do

Our commitments to safety, health and the environment are summarised in our Vision Zero objectives of eliminating deaths and serious injuries from the transport network, doing zero harm to our people, and working towards zero-carbon transport. To achieve these, we must meet all our legal and regulatory obligations, but also go beyond those requirements in order to drive improvement.

We continually strive to improve the safety of our customers and our workforce. Nevertheless, 90 people from TfL and our partner organisations sadly lost their lives to COVID-19 this year. Tragically, four customers lost their lives following accidental incidents on the Tube and three people died in incidents involving buses. Our thoughts are with all of their families and friends and we continue to do all we can to support them.

This year, absence and sickness levels were complicated by the pandemic and widespread use of the Government's furlough scheme in the first quarter.

Occupational health and wellbeing activity has been dominated by the response to the pandemic, particularly as it became the largest cause of short-term absence in the year. Mental health conditions and musculoskeletal injury remain the largest cause of long-term absence, which is why we continue to focus on preventative measures to address this.

Despite the challenges of the pandemic, we have introduced a wide range of programmes and initiatives across our organisation to improve staff safety. We have continued the rollout of bodyworn cameras to discourage violence and aggression against our people and have worked to tackle fatigue among construction staff and bus workers.

Road safety data remains provisional until fully validated, however the data available indicates that the number of people killed or seriously injured reduced by I8 per cent compared to the previous year. While this is largely because of lockdown restrictions, which reduced travel, particularly the number of people walking, this reduction has been helped by our rollout of measures such as lower speed limits on our roads, protected spaces for active travel and support for Low Traffic Neighbourhoods.

The Direct Vision Standard was launched this year, helping to make more than 30,000 heavy goods vehicles safer. Construction activity came to a Safe Stop at the start of the year, and cautiously restarted under COVID-I9-compliant conditions, such as virtual site visits and social distancing.

As part of our commitment to improve London's air, we introduced tougher standards for our Low Emission Zone. This is already having an impact, with nearly 90 per cent compliance with the standards, compared to around 70 per cent in May 2019.

Key events from 2020/21

Some of our activities from the past year



April 2020

We rolled out enhanced safety measures and cleaning across our network



May 2020

The phased restart of our construction activity in a COVID-compliant way

We introduced COVID-I9 risk assessments for public transport operators



June 2020

Wearing face coverings becomes mandatory on the network, unless people are exempt



We introduced the first Streetspace for London schemes

University College London published the first report into bus driver deaths



We set out measures to reduce fatigue in transport workers



September 2020

We introduced school bus services to provide extra capacity to enable social distancing

Imperial College London started taking regular coronavirus samples on our network



We introduced UV cleaning devices on Tube escalators



January 2021

We started testing staff for COVID-I9 at key locations

March 2021

We completed the 41st Safer Junction
We introduced tougher standards for the Low Emission Zone

The Direct Vision standard launched



Our scorecard

We have adapted our performance scorecard to reflect the ongoing situation of the pandemic

Measure	Unit	2020/21 target	2020/21 actual
People killed or seriously injured in road traffic collisions	People killed or seriously injured per million journey stages	0.63	0.43 (I person injured for every 2.3 million journeys)
Customer and workforce injuries	People killed or seriously injured per million journeys	0.13	0.09 (I person injured for every II.I million journeys)

Measure	Unit	2020 target	2020 actual
People killed or seriously injured in road traffic collisions in or by a London Bus	People killed or seriously injured per million journey stages	0.021	0.019 (I person injured for every 54.I million journeys)

Measure	Unit	Target for second half of financial year	
Reduction in CO2 emissions from our operations and buildings	Tonnes of CO2e	409,000	399,550

Our role is to enable London to move safely and sustainably, in line with the goals of the Mayor's Transport Strategy. This includes increasing the attractiveness of public transport and making cycling and walking easier and more convenient options. We work with many partners, including London's boroughs, businesses, the police, local communities and consumer organisations.

Our performance scorecard has been adapted to the circumstances of the current pandemic, while reflecting the need to make progress against the goals in the Mayor's Transport Strategy.

We used a rate based approach to set our targets, to reflect the fluctuation in ridership patterns throughout the year. We only had a carbon emissions target for the second half of the year.

Performance summary

We are working towards the Mayor's goal of creating a safer, cleaner and greener London

We continue to focus on the safety of customers and workforce on our roads, buses and the wider transport network, as well as our environmental impact.

Road safety

Working towards our ambition to eliminate all deaths and serious injuries on our roads, our aim in 2020/2I was to reduce the number to fewer than 0.63 people killed or seriously injured per million journeys. In the first half of the year, the number of people killed or seriously injured was much lower than expected, offsetting a larger than expected number in the second half. Overall, we met our aim for the year, with 0.43 people killed or seriously injured on the roads per million journeys.

Bus safety

Our ambition is that no one is killed or seriously injured on, or by, a bus. In 2020/2I, our aim was to have fewer than 0.02I deaths or serious injuries involving a bus per million surface journey stages. There were 0.0I9 deaths or serious injuries per million surface journey stages. This is a positive result as we progress on our journey towards zero.

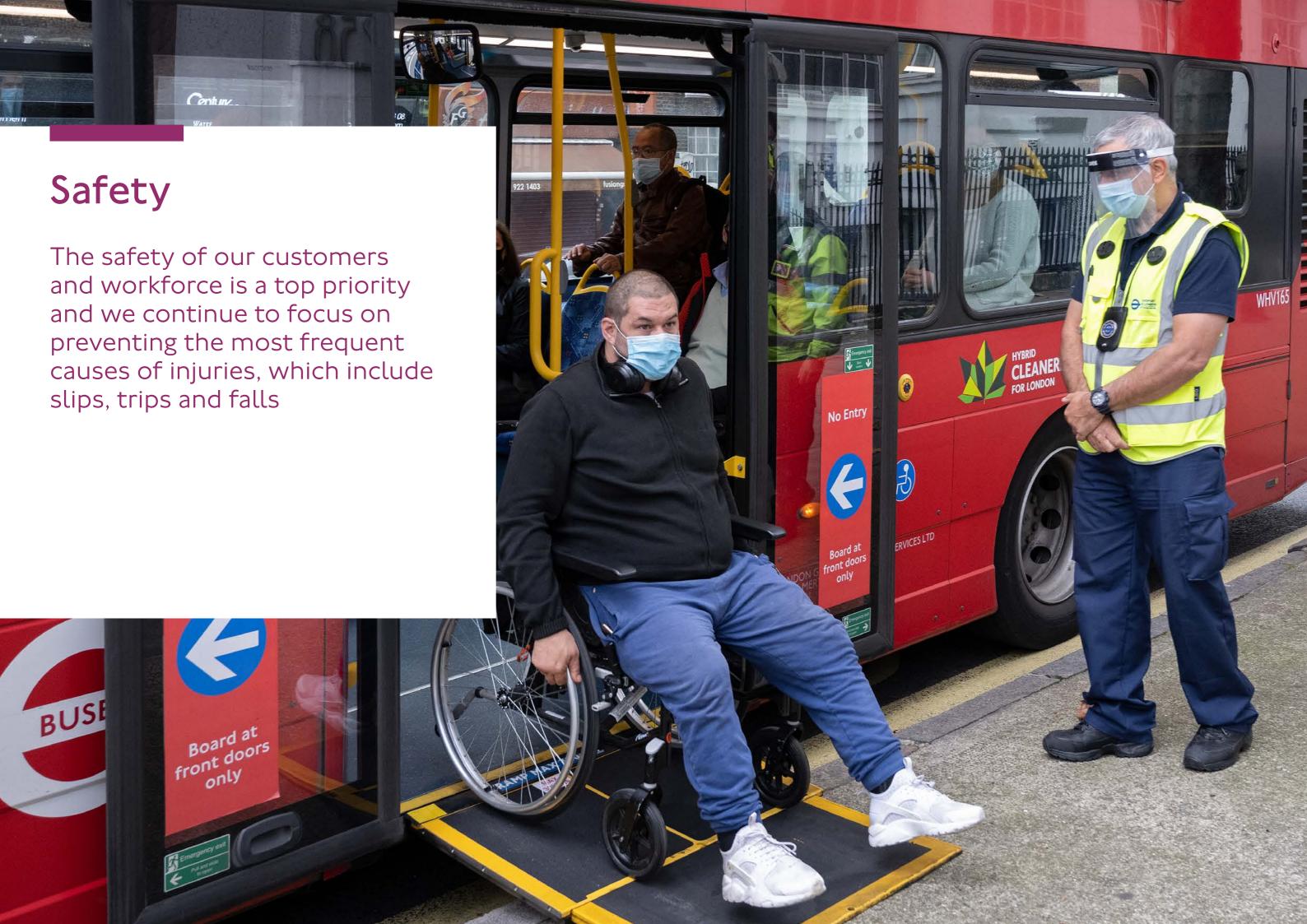
Customer and workforce injuries

We want everyone to get home safely from work and on our network every day. Our aim is to have fewer than 0.13 deaths or serious injuries to our customers and workforce per million journeys. While the rate of serious and fatal injuries to our customers and workforce fluctuated this year, our scorecard targets were met.

Carbon emissions

We aim to contribute to the goal of a carbon-neutral London by 2030. Our scorecard target for carbon dioxide emissions was met, with 399,550 tonnes compared to a target of 409,000 tonnes. This was I7 per cent lower than the previous year, owing to a combination of lower bus emissions, reduced electricity consumption and a cleaner grid.







Taking action to tackle the causes of customer injuries across our transport network

We have worked on measures to help prevent people being killed or injured

The number of people killed or seriously injured on our roads is provisionally estimated to have fallen by 18 per cent in 2020/2I compared to the 2019/20 financial year, which is a substantial improvement, although every death and serious injury is a tragedy and our thoughts are with all those affected. This is largely as a result of the pandemic restrictions, which reduced travel, particularly the number of people walking, alongside our rollout of measures such as lower speeds, protected spaces for walking and cycling and support for Low Traffic Neighbourhoods.

Fewer people were killed or seriously injured across all modes in 2020/21 than in the 2019/20 financial year, except for cyclists and other vehicles. However, the majority of the reduction in deaths and serious injuries was as a result of the fall in pedestrian casualties.

There was an increase in the number of people killed or seriously injured while cycling and using other vehicles, which reflects the increase in the number of people using bikes and e-scooters to travel around London.

The number of kilometres travelled by cycling increased by 46 per cent between 2019 and 2020 calendar years, and there was a 12 per cent increase in the number of people killed or seriously injured while on a bike.* Overall, as a result of increased journey numbers, cycling risk, which is measured by the number of people killed or seriously injured per billion kilometres cycled, fell by 24 per cent. This means cycling kilometres are at a record high, and the risk to people riding bikes is at a record low. This may be a result of a shift away from commuter cycling to more leisure and weekend travel.

This is clearly an area for further improvement and our Streetspace for London programmes will have a key role to play here. Our data relating to performance on cycling casualties is available through the online Road Danger Reduction Dashboard. This is publicly available and we use it to review and refine our approach to improving safety performance.

People killed or seriously injured on our roads

(number of injuries)



Figures relating to January to February 2021 are provisional and subject to change. Figures relating to March 2021 and beyond have been factored for police severity review and are provisional, subject to change. Risk estimates are currently only available for calendar years.



Launch of our Direct Vision Standard

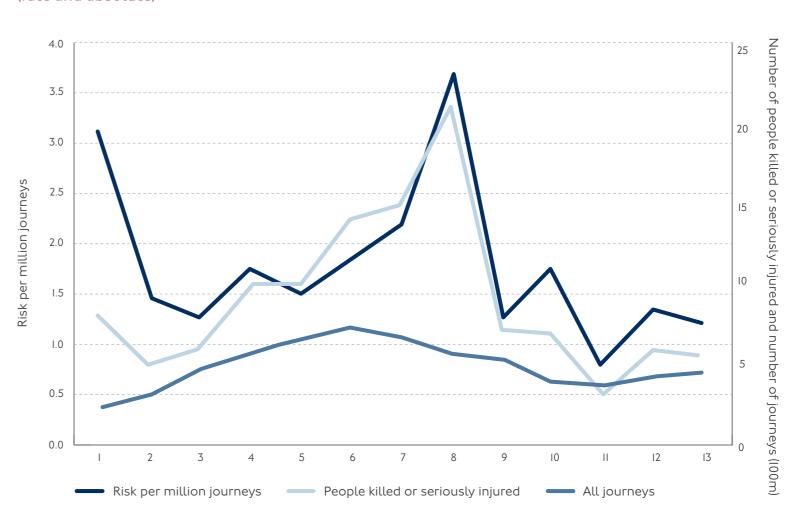
In March 202I, we began enforcing our pioneering Direct Vision Standard, which will help save lives and reduce serious injuries across London.

More than 40,000 heavy goods vehicles have been made safer thanks to the scheme, which reduces lethal blind spots by assigning vehicles with a star rating from zero to five based on how much the driver can see directly through their cab window. All owners of heavy goods vehicles over 12 tonnes now need a valid permit to operate in London or face a new penalty charge notice. More than 90,000 permits have been issued. including more than 3,000 to five-star vehicles, which provide the highest levels of direct vision.

This vital lorry safety scheme is now operating 24-hours a day, seven days a week and is enforced on all roads in London, with standards set to tighten further in 2024. Our data shows that around 150,000 heavy goods vehicles enter London every year.

Working to prevent people being killed on or by our buses

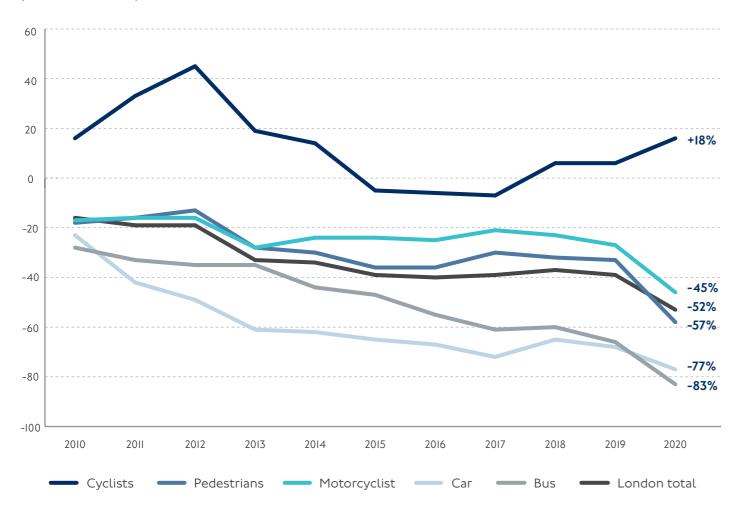
Buses involved in killing or seriously injuring people in 2020/21 (rate and absolute)



The risk of a bus being involved in a collision that kills or seriously injures either a bus passenger or someone else on the roads remains extremely low. Passenger injuries remained low throughout 2020/2I, with fluctuations reflecting the change in passenger numbers. October 2020, which covered Period 8, saw a peak in the risk that was not reflected throughout the rest of the year.

Our trajectory to achieving our Vision Zero ambition

People killed or seriously injured compared to the 2005-09 baseline (mode of travel)



While London has made great strides in reducing road danger, and outperformed many other UK cities, our journey to zero is far from complete. As a city, we need to do more to reduce deaths and serious injuries among people walking, cycling and riding motorcycles as these groups make up 82 per cent of all people killed or seriously injured on London's roads. We must also not slip back to previous trends, which suggest that if the roads return to 2019 levels of risk after the pandemic, we may not meet our ambitious 2022 target to reduce deaths and serious injuries by 65 per cent, against 2005-09 levels. In 2020, there was a 52 per cent reduction against the 2005-09 baseline. However, this is likely to be an anomaly to the long-term trend and we expect road risk in the medium term to more closely resemble pre-pandemic levels of risk.

Buses carry more people than any other public transport mode in London and are also the safest way to travel. Our Bus Safety Programme has helped achieve the greatest reduction in people killed or seriously injured of any mode on the roads, with a 78 per cent reduction in 2020 against the 2005–09 baseline, exceeding our Vision Zero target of 70 per cent by 2022.





Our Streetspace for London programme

Together with London's boroughs, we are creating more space for people to safely walk, cycle or scoot as we try to help authorities manage the coronavirus pandemic. Through our Streetspace for London programme, we are building a strategic network for cycling, transforming town centres and reducing traffic on residential streets.

Enabling more Londoners to walk and cycle safely is more important than ever. As London recovers from the coronavirus pandemic, it is vital that as many journeys as possible are made by walking, cycling or public transport rather than by car, to ensure a sustainable recovery.

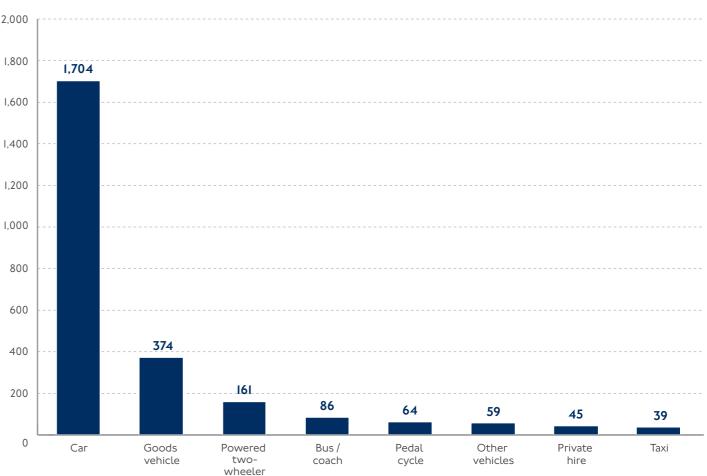
Police activity to support Vision Zero

Together with the MPS, we continue to support the Mayor's Vision Zero target of eliminating all deaths and serious injuries on London's roads by 204l. We have a range of initiatives to make our roads safer, including tackling speeding, which remains a top priority. Throughout the year, we have supported the Roads and Traffic Policing Command to tackle speeding, by responding to speeding concerns on borough roads.

In February, we ran an operation to tackle mobile phone use while driving in support of the National Police Chiefs' Council mobile phone campaign. This resulted in 436 traffic offence reports being issued for mobile phone use and II6 reports for dangerous or careless driving.

Reducing the risk for road users

Vehicles injuring others in 2020 (number of people killed or seriously injured)



Cars remain the most likely mode to be involved in a collision that kills or seriously injures someone else on the road, being involved in 67 per cent of these collisions that kill or seriously injure people outside the vehicle.

The size of cars being driven in London has been steadily increasing, meaning they have more kinetic energy and can cause more harm to vulnerable road users. Provisional figures for 2020 show that around one in five cars involved in collisions were sports utility vehicles.

There was a continued long-term trend in 2020/2I for certain vehicles to be disproportionately hazardous to other road users. Motorcycles are most likely, per journey, to be involved in a collision that kills or seriously injures another road user, particularly pedestrians and cyclists. Heavy goods vehicles also kill or seriously injure people at a rate disproportionate to their share of traffic. This is why we have specific programmes to reduce risks from these road users, such as our Direct Vision Standard and upcoming plans to tackle risk from powered two wheelers.



The pandemic created a unique year for public transport safety. With fewer customers travelling on our network, there was a corresponding fall in the number of customer and workforce injuries. However, seven customers were tragically killed on the public transport network through accidental causes, with four on London Underground and three on buses. There were 9I serious customer injuries. Details of specific incidents are reported every quarter and are available on our website. We work with our regulators to ensure incidents are investigated and actions are taken to prevent similar occurrences.

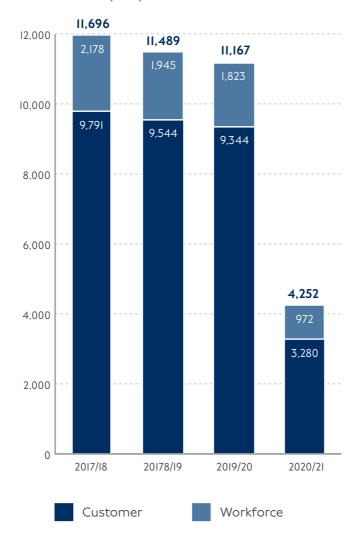
The number of customer injuries was lowest in April 2020, at the start of the first lockdown. Injury numbers then gradually grew, broadly in line with the easing of restrictions as customers returned to the public transport network. When restrictions were tightened again in autumn and winter, both customer journeys and numbers of injuries gradually fell again.

There were also fewer workforce injuries than previous years, with 20 serious injuries recorded. However, on average, the pandemic has had a less significant impact on workforce injuries than customer injuries. This is because, despite a large fall in customers using our services, the number people involved in the operation, construction and maintenance of our transport network was largely the same as pre-pandemic levels.

In the three financial years before the pandemic, both our customer and workforce injury numbers had been very gradually decreasing.



Customers and workforce injuries on public transport (number of people)

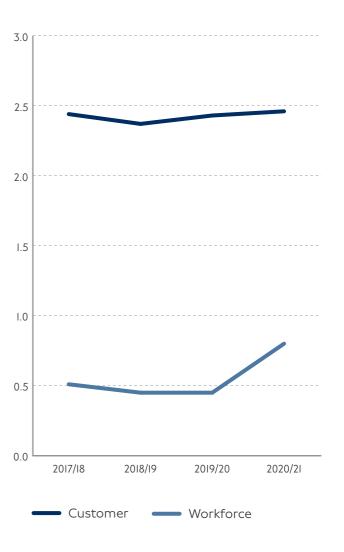


Calculating the injury rate of our customers and workforce

This year, we have calculated our workforce injury rate using passenger journeys. As the number of people travelling during the pandemic has been lower, particularly during lockdowns, it is expected that the peak in our workforce injury rate was driven by low passenger numbers, rather than increased injuries or risk to our workforce.

The rate of customer injuries has fluctuated more this year compared with previous years. However, on average, the risk of injury for our customers has not increased during the pandemic.

Customers and workforce injuries (rates of injuries)



Higher standard for bus safety

At the end of the financial year, we had 455 buses that met the first generation of the Bus Safety Standard. From late 2021, new vehicles will start meeting the second generation of this standard, which requires new buses to have camera monitoring systems in place of side mirrors, offering a wider field of view and clearer visibility in low light. It also includes toggling to help drivers identify the brake pedal and its relative position from their feet. There will also be new safeguards to the brake system to prevent buses rolling away without a driver in the cab and enhancements to the bus interiors to help reduce the risk of customer injuries.



Suicide prevention programme

Since 2018, our Suicide Prevention Programme has helped reduce the number of suicides by 44 per cent across the network. This represents the lowest number of suicides in a decade, equal to our previous low in 2014/15. We have trained 87 per cent of station staff in suicide prevention so far. Over the last few years, we have made more than 1,000 life-saving interventions at our stations. It is a reminder that, while vulnerable people still view our network both as a means of ending their life, they also see it as a place where they can find a friendly face and support when they have lost all other hope.



Supporting the Sandilands inquest

On 9 November 2016, Dane Chinnery, Donald Collett, Robert Huxley, Philip Logan, Dorota Rynkiewicz, Philip Seary and Mark Smith tragically died when a tram derailed and overturned on a curve as it approached Sandilands junction in Croydon. The Rail Accident Investigation Branch (RAIB) investigated the incident, as well as the British Transport Police and the Office of Rail and Road. The RAIB issued its report in 2017 and updated it in 2018. The report made 15 recommendations. All of those that related to TfL and London Trams have been implemented.

Owing to coronavirus restrictions, the Sandilands Inquests scheduled to start in 2020 were adjourned. They commenced on I7 May 2021 and are expected to last until I3 August 2021. We have, and continue to, support the inquests by providing disclosure and witness evidence and will take forward any learning lessons that are made.

The victims and all others affected by this incident remain in our thoughts and we continue to offer support to those people directly affected, as well as the wider community. Our Sarah Hope Line remains available to provide help with counselling and other support to anyone who needs it.

Taking action to tackle fatigue

Fatigue is a known risk across transport operations, resulting in slower reactions, reduced ability to process information, memory lapses, decreased awareness, lack of attention, underestimation of risk and reduced coordination.

We are working across the organisation to conduct fatigue risk screening, enabling us to better break down, define and quantify the factors that contribute to fatigue. This gives us better definition and understanding of specific fatigue risk factors to help us develop, target and prioritise interventions.

We are developing interventions to reduce fatigue risk through staff training, including providing supportive guidance to their family and friends, while more technical interventions around rostering and scheduling are being investigated across a number of modes.

As part of this screening process we have also started to establish baseline data to enable us to monitor and track progress improvements in reducing fatigue risk, with key performance indicators being developed to support this.

The fatigue programme also continues to work with our occupational health and wellbeing team to support people through initiatives such as online sleep clinics and sleep assessment surveys.

'Fatigue can lead to memory lapses, decreased awareness, underestimation of risk and reduced coordination'

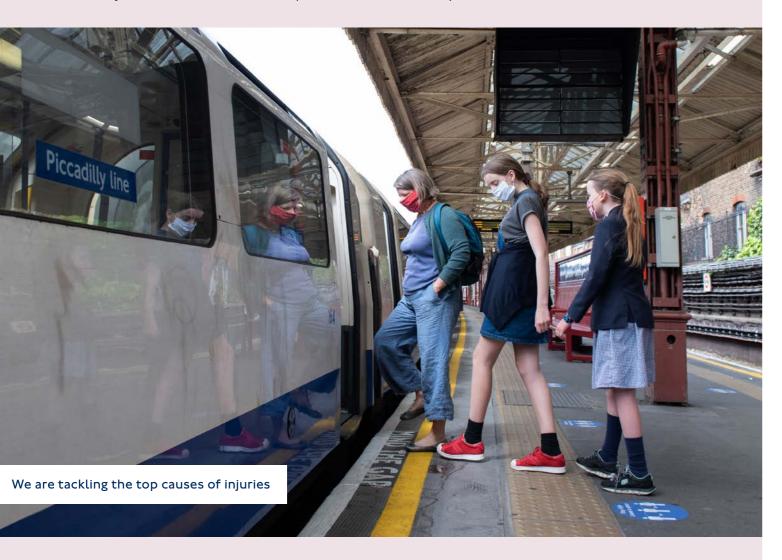
Reducing the risk of customer slips, trips and falls

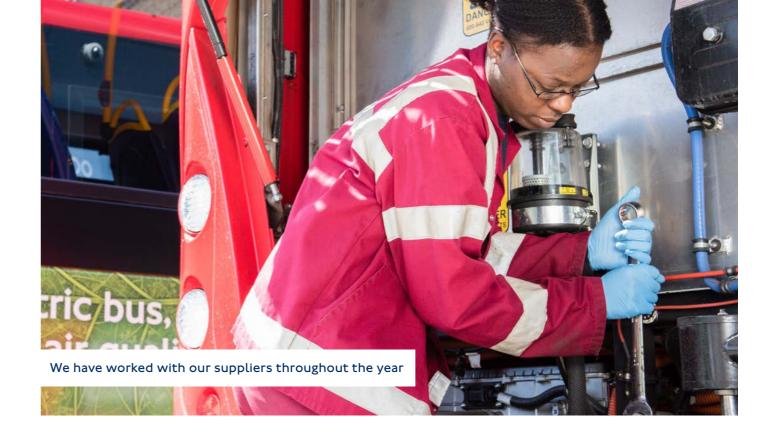
Across all our transport services, slips, trips and falls are routinely the top cause of customer injury. This year, they accounted for 89 per cent of London Underground injuries and 72 per cent across all surface transport modes, including buses. The most common reasons for slipping, tripping and falling vary between modes, but some common themes are intoxication, not holding on and carrying luggage. Older customers are also particularly vulnerable to these types of injuries.

On buses, many slips, trips and falls are the result of the driver needing to brake hard in reaction to other road users. These incidents are not new, but they have become more frequent

since the start of the pandemic, relative to the number of people travelling. In the short term, we are trialling posters on stairways and new announcements to encourage customers to hold on to rails and poles inside the buses. We have also reissued guidance to drivers on giving customers plenty of time to settle on board following calls at bus stops.

A longer-term strategy is being developed and will consider vehicle improvements, such as to flooring and lighting, and outcomes from predictive technology being trialled that warns a driver of hazards to help give them more time to be able to brake smoothly. We are also reviewing research and evidence, as well as best practices, from other transport authorities.



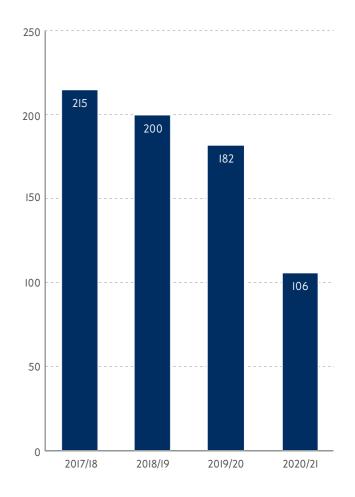


Capital delivery workforce injuries

Our capital delivery teams have had an incredibly difficult year but, working together with our suppliers, partners and stakeholders, we have overcome the challenges as an organisation to keep London moving, while improving our safety, health and environment performance. Despite the restrictions that were in place for most of 2020/2I, our capital delivery activity, following the Safe Stop in March 2020 and the phased restart in May 2020, continued to operate safely under COVID-secure conditions.

There were 108 physical injuries across our capital delivery teams, which is a 41 per cent decline on the previous year. This also continues our year-on-year decline in the number of injuries across our capital delivery projects. Despite this welcome news, injuries must be considered in the context of hours worked, which were 39 per cent lower in than in 2019/20, at 10.4 million.

Injuries in our capital delivery areas (number of injuries)





3,000

workers on our sites on Monday 23 March 2020



workers on our sites following Safe Stop procedures on I April 2020

Buried services training

We operate in a number of areas across London with difficult ground conditions, where unidentified buried services are often a risk. We have developed virtual training on avoiding utilities, such as buried pipes and power cables, within our surface transport projects area. This includes the associated safety risk and interruption of service. The training is aimed at improving people's ability to recognise when precautions need to be enhanced.



Safely stopping and restarting our construction activity

At the start of the pandemic in March 2020, to minimise the risk of transferring coronavirus, most of the activity at our construction sites came to a controlled stop. As we developed a better understanding of the virus, our Capital Delivery Improvement Group, chaired by Director of Major Projects Stuart Harvey, provided a consistent, coordinated approach to a range of project-related

issues, but particularly in our planning around COVID-19.

The return to work across our sites was done in a planned and controlled way, which included a safe-start process to ensure the COVID-I9 risks could be managed by ourselves and our suppliers. Initially a limited number of exemptions to a Safe Stop were considered, but as

our preparations developed, different projects could request approval for a Safe Start. This process examined the urgency and complexity of the work, and whether COVID-I9-secure arrangements were sufficient for the type and scale of works being proposed. This process began in May 2020, and virtually all sites and projects had resumed to some degree by July.

Keeping our capital delivery workforce safe during the pandemic

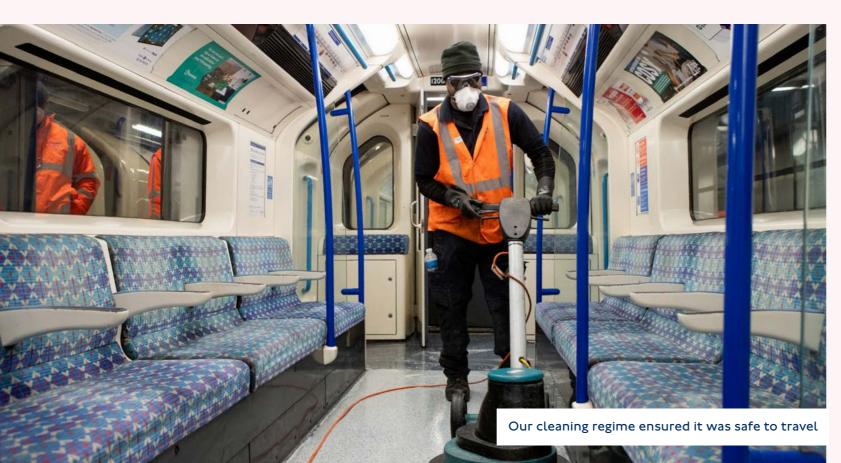
We ran a coronavirus induction for our workforce, which included essential information to keep themselves and others safe. Our Second Spike team within the Capital Delivery Improvement Group worked on our strategic planning in case urgent interventions were required. There was also agreement across all areas to encourage suppliers to adopt flexible shift patterns to minimise the number of people using public transport at peak times and across popular locations.

We supported our suppliers in their efforts to maintain the health of their workforce and managing their sites and tasks differently. Together with our suppliers, we quickly introduced extensive changes to worksites and ways of working to ensure sites could reopen as safely and quickly as possible, and to help all workers stay safe and maintain social distancing. For example, workers on the Northern Line Extension project were offered voluntary lateral flow tests. In the Four Lines Modernisation

project, the more transient work groups managed by Thales were organised into bubbles in order to minimise the risk.

Visits to construction sites were only made if it was essential to help minimise the possible spread of coronavirus. Sitebased workers were supported with regular communications and virtual site visits and tours to ensure they felt supported.

Nothing can replace the benefits of face-to-face contact, but the pandemic has also provided scope to innovate. Our Major Projects Directorate developed an app to record virtual safety health and environment conversations. This is now being used for more general conversations too. London Underground trialled virtual Beacon assessments, which is our award for sites with the best standards. While this will not be a direct replacement for Beacon, it has given sites the opportunity to demonstrate their high standards, and to motivate teams.





Learning together through our Zero Harm Forums

We have continued to run our Zero Harm Forums virtually, with the first forum in August 2020 focusing on coronavirus control measures and how to manage the re-start of our project sites in a safe and controlled way. These sessions were probably more necessary than ever as they helped us and our suppliers share information, ideas and initiatives.

In March 202I, our Zero Harm Forum brought together 6I representatives from 35 supplier organisations. Our guest speaker was Karl Simons OBE, Chief Health, Safety and Wellbeing Officer at Thames Water, who gave an insight into the work being done at Thames Water.

The forums are evolving to cover more than just traditional health, safety and environment issues, with an added emphasis on people issues. For example, the Morgan Sindall/Volker Fitzpatrick joint venture has been working on the social value of the Barking Riverside Extension project and the wider benefits being delivered beyond the site boundary. They have created and supported community gardens, worked with schools to offer work placements, supported 35 apprenticeships and carried out fundraising for the local community partnership. With this, we hope to create more than just a vital new addition to London's transport network.

Our next full conference event will be held towards the end of the year, which will focus on sharing knowledge on a wide range of relevant issues such as innovation, aspects relating to the Challenges within the Government's Transport Infrastructure Efficiency Strategy and our drive towards our goal of eventually becoming a carbon-neutral organisation.

Studying the effects

Research into bus driver deaths

We commissioned a two-part study looking at the impact of coronavirus on London's bus drivers, which was conducted by University College London's Institute of Health Equity.

The first phase, which looked at COVID-I9-related deaths among London bus drivers between March to May 2020, was published in July 2020. This research found that many of the drivers who sadly died had underlying health conditions and characteristics that contributed to their risk, such as being from a Black or minority ethnic background, or living in areas of deprivation. Crucially, it showed that the first national lockdown was an effective measure in saving lives, with most of the drivers who tragically passed away during this period having stopped work 10 days either side of 23 March 2020. It concluded that more lives could have been saved if lockdown had happened earlier.

For the second phase, we invited all London bus drivers to complete a questionnaire, which gathered data such as where they lived, personal characteristics, underlying conditions and whether they thought they had COVID-I9. The research found that bus drivers suffer from the same level of pre-existing conditions as the general population, although there is some evidence of earlier onset of some conditions. Monitoring the health of



our bus drivers is a priority, as well as consistently recording their ethnicity and pre-existing health conditions to help identify risk factors. We responded to the recommendations and moved quickly to ensure bus operators took extensive action to stop the spread of coronavirus. This included cleaning with long-lasting, anti-viral fluid and limits on the number of people onboard buses. We also sealed driver cabs and improved ventilation systems when needed.

Looking ahead, we will improve driver health assessments and support operators with the potential longterm impact of coronavirus, as well as continuing with our work on fatigue management. We have asked the operators to introduce the Office for National Statistics census ethnicity categories for their reporting. Throughout the pandemic, we have worked closely with bus operators and followed Public Health England and Government advice as it evolved.

The operators adapted staff facilities, reconfiguring them to enable better social distancing. Temporary Portakabin facilities have been installed to enable staff to spread out. Initiatives to improve staff physical and mental health have been trialled, such as self-service health assessment kiosks and access to health information. The outcomes of these initiatives are shared across the London industry to inform best practice.

Testing of our staff for COVID-19

We have been at the forefront of rolling out asymptomatic rapid testing to staff to help control infection outbreaks. Staff in our operational control centres are regularly tested to help reduce absence rates, by enabling testing as an alternative to self-isolation.

In March 2021, we launched a pilot programme in conjunction with the Department for Health and Social Care to enable the restart of incab training for train drivers, which had been suspended since December 2020. We used lateral flow home test kits, in conjunction with PCR tests, to ensure that drivers and trainers were negative before starting the training.

Remembering the transport workers we have lost

As of 3I March 202I, 89 TfL workers had tragically lost their lives to COVID-I9 since the start of the pandemic. At the time of publishing this report, 90 people had lost their lives. We sadly lost I7 people from our Tube and rail areas, two people who worked in our head offices, 67 people from surface transport, including 52 bus and two Dial-a-Ride drivers, and we also lost four people who worked for our partner organisations.

Each of these losses is a personal tragedy to their friends, family and colleagues and our thoughts are with everyone affected.

Ensuring everyone follows the rules to keep London safe

Face covering enforcement across the network

In June 2020, it became mandatory for customers to wear face coverings on all public transport modes, unless they were exempt. The enforcement of this was supported by the British Transport Police and the MPS's Roads and Transport Policing Command. Customer compliance remains very high in general, particularly during peak travel times. Research shows that 90 per cent of customers are wearing a face covering at all times while using our services. Of those not wearing a face covering, more than half claim to have an exemption or valid reason for not complying.

To help support our messaging, we have ongoing radio advertising and posters across the network. We have also developed new communications to target the minority who are still not wearing a face covering, including a video of our enforcement officers stopping people not wearing face coverings and reiterating that if you do not wear one you could be turned away or fined up to £6,400. The video runs on paid social media and mainly targets males aged 16 to 34, as research and enforcement team feedback has shown us that this group is least likely to comply.

We also used Instagram to target I2 to I8-year-old children ahead of schools restarting. We used trusted peer-to-peer voices to help change behaviours and persuade young people that wearing a face covering on public transport is the caring and vital thing to do.

Keeping the transport network clean

Our extensive anti-viral cleaning regime continues across the transport network, including using hospital-grade cleaning substances that kill viruses and bacteria on contact and provide ongoing disinfection. The testing by Imperial College London continues, with no traces of coronavirus being found on our public transport network.

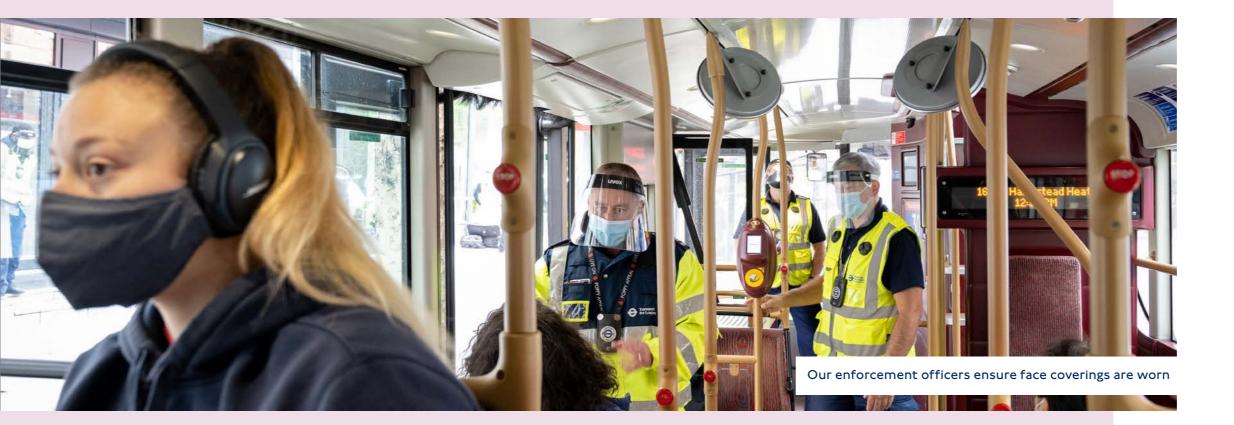
More than 1,000 hand sanitiser units have been installed across the network for everyone to use and we have used 33,885 litres of hand sanitiser. Our cleaning contractors continue to focus on customer touch points, such as card readers, handrails and help points.



Imperial College London sampling

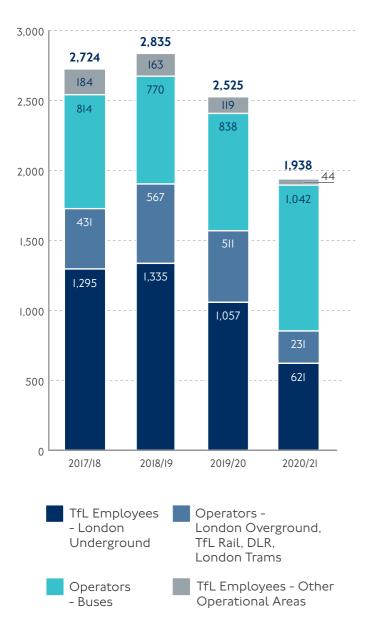
As part of our continued efforts to keep everyone safe, we have worked with Imperial College London to carry out monthly test for coronavirus in the air and surfaces on the Underground and the buses. This testing includes swabbing surfaces such as buttons, grab handles and escalator handrails to simulate a real customer journey, travelling at the same time each month to ensure comparable testing conditions. Throughout 2020 and 2021, the sampling has detected no active virus.

Our Occupational Health team continues to liaise with academic institutions and other transport networks worldwide to ensure our approach is at the cutting edge. The results of these surveys are continually communicated to the public and formed part of the campaign to reassure customers ahead of the Government's relaxation of restrictions.



Tackling workplace violence

Workplace violence incident data (number of incidents)



In 2020/21, we saw a reduction in the number of workplace violence incidents on the transport network. However, this was not in proportion to the fall in passenger journeys.

Around half of the offences were targeted at bus drivers, with the majority of incidents involving verbal abuse and threatening behaviour. We are working with the British Transport Police to take action against anyone who commits these offences.

Taking action against violence and public order offences

During 2020/2I, the overall positive outcome rate for offences against our staff was 22 per cent, compared with I6 per cent in 2019/20. This value fluctuates greatly between the British Transport Police and the MPS, reflecting the live nature of investigations, with many cases still open at the time of reporting.

The majority of work-related violence and aggression offences were on the London Underground and buses, with the positive outcome rate being 33 per cent and 14 per cent respectively.

Body-worn cameras were rolled out for staff

Our workplace violence and aggression strategy

A year after the launch of our first Work-Related Violence and Aggression strategy, we have made excellent progress in many important areas, despite the financial impact and restrictions imposed by the coronavirus pandemic.

We have completed the first phase roll out of body-worn cameras, introduced our new transport support and enforcement officers, created a workplace violence unit that combines teams in London Underground and surface transport, and launched customer communications outlining the consequences of assaulting our people.

While some projects had to be paused, our priority to do more to protect our frontline teams meant the roll out of body-worn cameras was given 'safety critical' status, enabling the work to continue. Around 6,000 colleagues now have access to a body-worn camera while they are on duty and we are assessing the possible roll out to other frontline colleagues.

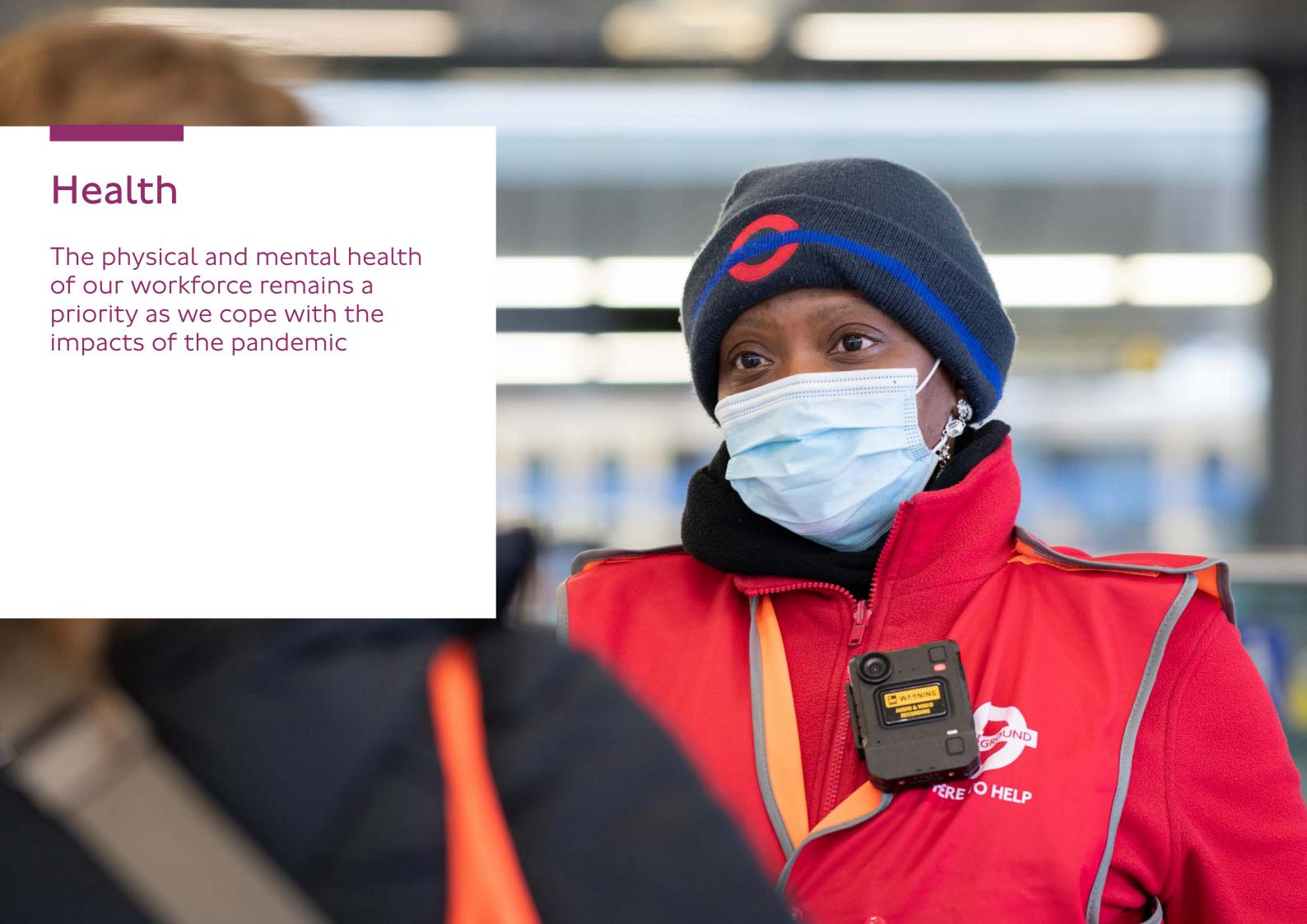
Despite the restrictions of social distancing creating challenges for training, we have recruited and trained 58 new transport support and enforcement officers, who provide a highly visible and reassuring presence on our network, tackling the triggers of work-related violence and aggression and dealing with anti-social behaviour through engagement and enforcement. They also enforce our byelaws, health regulations and other offences using a variety of powers. We will continue with our plans to recruit more officers over the coming year.

While developing our Work-Related Violence and Aggression strategy, frontline teams told us they wanted more customerfacing communications to show customers the consequences of assaulting them. We are now in the process of creating a multichannel campaign, which will launch in 2021/22

58

new transport support and enforcement officers have been recruited and trained





Supporting our people as we work through the impacts of the coronavirus pandemic

Our health performance overview

Our Occupational Health and Wellbeing activity over the last year has been dominated by the response to the pandemic. There was an immediate switch to remote assessments, with telephone, video and other online tools used to enable clinicians to continue to support both individuals and groups. The service criteria were extended for both physiotherapy and counselling services, to enable more people to get help.

Bereavement guidance was added for staff and managers to our internal resources alongside self-help tools, podcasts, guidance on lifestyle factors for maintaining and improving mental and physical health, and other information.

Our Occupational Health team also adjusted working arrangements to ensure compliance with social distancing and sourced PPE for clinicians whose activities mean that social distancing is not always possible. This meant that periodic and preemployment medical examinations were able to restart and other appointments that could not be carried out remotely. We now have a mix of face-to-face and remote assessments and treatments being offered by medical and treatment services.

When looking our health performance, it is important to distinguish between short- term and long-term sickness, which is classed as absences more than 28 days. While short-term sickness absence can



be influenced by a range of factors, such as personal life issues, it can provide an indication of trends and can lead to longterm sickness absence.

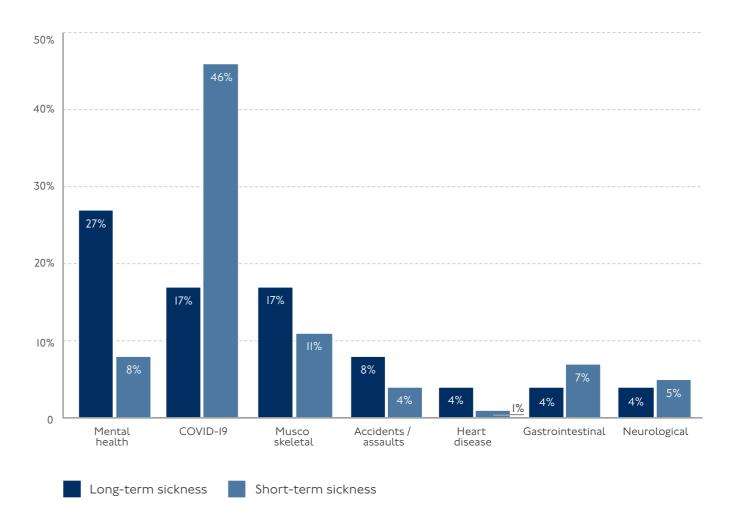
By looking at the underlying causes in detail, we gain a meaningful insight into where we can best target preventative measures. Around 60 per cent of absences at any time are caused by long-term sickness.

In 2020/2I, the average sickness level was 4.9 per cent, which means at any point in time, around one in twenty planned work days were lost due to absence.

Mental health was the top cause of longterm absence, accounting for 27 per cent of all long-term absences. However, it only related to eight per cent of short-term absences in the same period.

Mental health and musculoskeletal pain were the top two causes of long-term absence, which is similar to the previous year. COVID-19 was the top cause of short-term sickness in 2020/2I, coinciding with the start of the global pandemic.

Top causes of sickness (%)



Working together to tackle mental health issues

We launched two new online mental health training courses in 2020. All our employees can access the MIND Mental Health Awareness at Work e-learning course, along with another course for managers called Managing Mental Health in the Workplace. Both are available online on our Ezone learning platform.

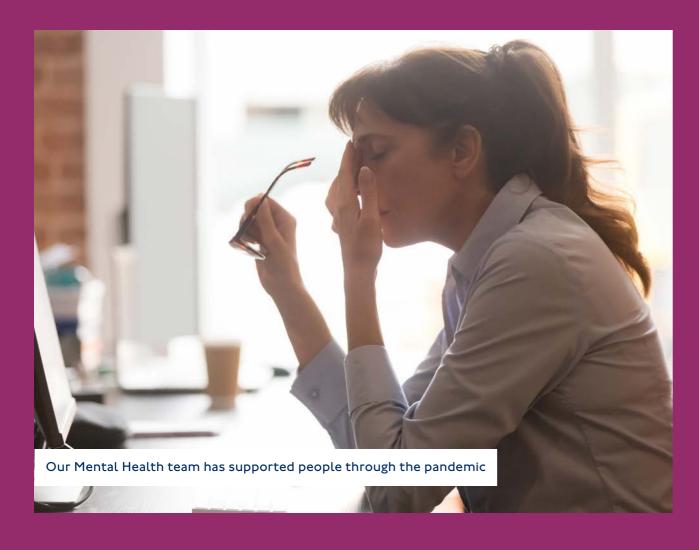
Our Stress Reduction and Management Resilience groups continued to run by moving online, and a COVID-19 Anxiety Support group was set up for those struggling with anxiety. Practical skills training was provided for managers on how to support their own mental health and that of their teams during the coronavirus pandemic.

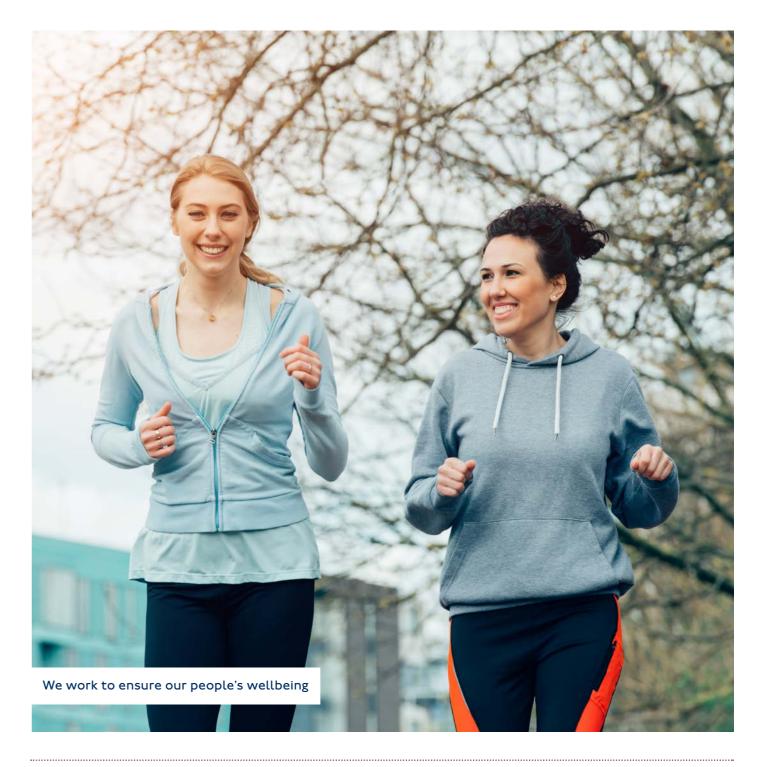
The Mental Health team offers remote counselling services via video appointments. Trauma response training sessions were provided to new employees within our Compliance, Policing, Operations and Security team to support them in their roles. All the training and support sessions for mental health peer supporters were moved online and have continued throughout the year.



2

new online training courses were launched to help support our people's mental health



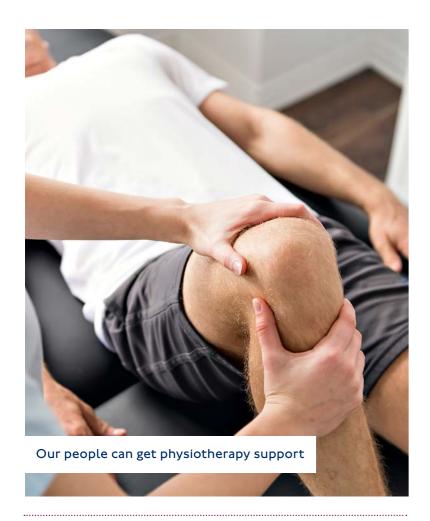


Our wellbeing initiatives

We had a full programme of wellbeing initiatives, including mental health awareness, tackling obesity, a focus on prevention and management of Type 2 Diabetes, and increasing physical activity.

We launched an 'Out of sight but not out of mind' campaign to support those

working remotely or on furlough, with a focus on improving physical health and mental wellbeing. This included remote exercise and pilates classes, wellbeing webinars giving resilience tips and support, and a wellbeing channel containing videos, including warm-up routines and workouts.



Providing physiotherapy support

During the year, our Physiotherapy Service has offered fast appointments to employees with musculoskeletal pain that impacts on their work. Although assessments have remained remote, there has been a move towards a mixture of telephone and video appointments, as well as the return of some face-to-face treatment. Group lower limb and back fitness classes and a new maintenance class have been offered online to support staff.

The Physiotherapy team has developed new guidance to help our train operators and instructors look after their musculoskeletal health while in train cabs. This includes leaflets and videos, and gives people advice and tips on how to reduce the risk of pain and discomfort.



2,000 people signed up to our Kaido team wellbeing challenge

Providing health assessments

In October 2020, we ran a trial of COVID-19 secure faceto-face health assessments at our Acton Depot. The assessments are a mini health MOT and include evidencebased assessments of health risk, including blood pressure, cholesterol and glucose tests.

Employees received a report with their statistics, an indication of their risk of developing health problems and how to reduce their risk. The health assessment trial was then continued virtually, with test kits being sent out and the assessments carried out either by phone or online.

Supporting our people through health and wellbeing team challenges

We ran two wellbeing team challenges with the Kaido app, which were open to all our employees. The challenges were designed to show improvements in physical, mental and social wellbeing and included various activities, tasks and team boosters.

More than 2,000 employees have signed up for the Kaido challenges. After the first challenge, 50 per cent felt more motivated, 46 per cent felt calmer and 39 per cent noticed their mood had improved.





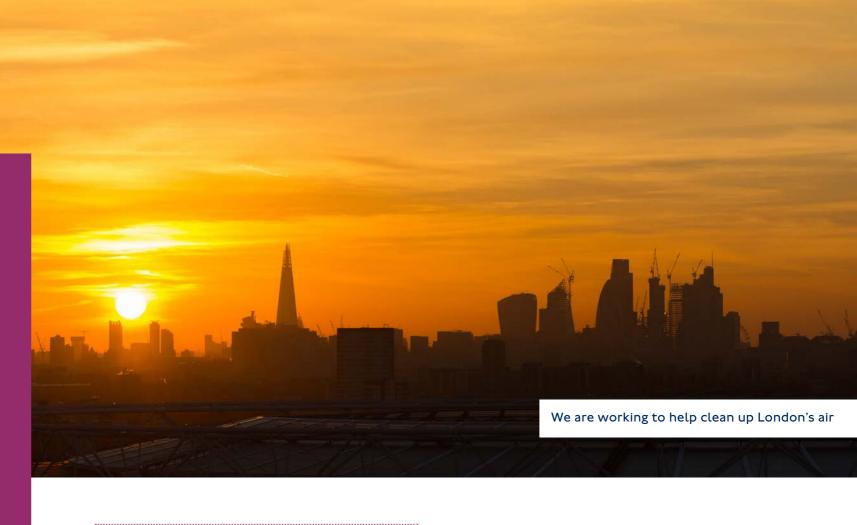
Creating a sustainable environment

The sustainability of our environment is a key priority and covers everything from air quality to waste and carbon. We are committed to securing a greener and more sustainable recovery for London by making environmental sustainability a top priority.

London has one of the most mature low-carbon transport systems in Europe, and our capital expenditure is already focused on a green recovery. Our Financial Sustainability Plan, published in January 2021 at the request of Government as part of our funding agreement for the second half of 2020/21, showed how, with the right level of capital investment, we can support the Government objectives to meet the 2030 ambition of decarbonising transport and securing a sustainable green recovery for London. Our forthcoming Corporate Environment Plan will set out our approach to environmental sustainability across our activities.

Installing more LED lighting

We are increasingly replacing fluorescent lighting with LED lighting, which reduces the risk of obsolescence and maintenance costs. LEDs have around a threetimes longer maintenance interval as they have a longer lifespan. This reduces our energy costs, reduces our carbon footprint and improves lighting levels.



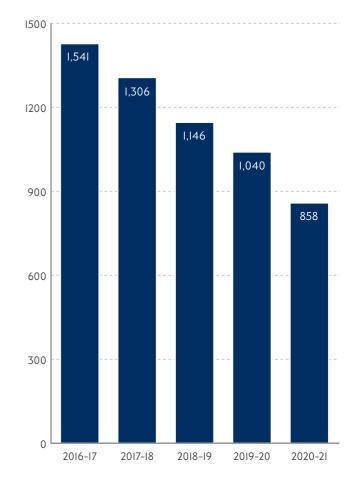
Tackling the climate emergency

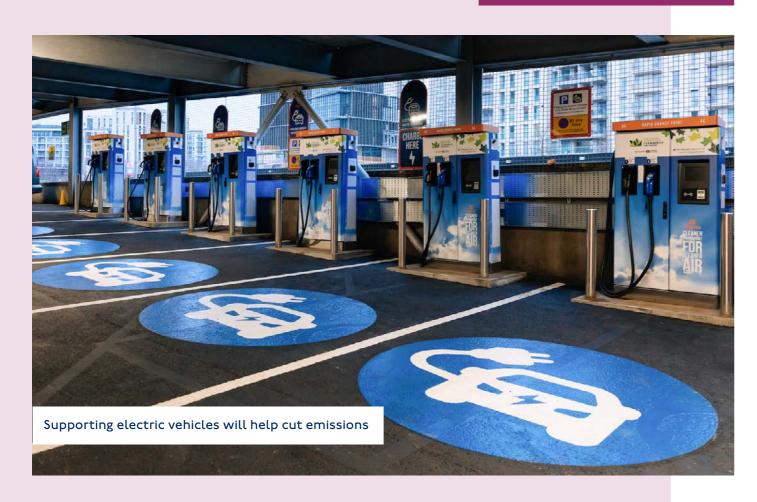
The years leading to 2030 are crucial in our fight to prevent devastating climate change. The UK must make significant reductions in its carbon emissions if it is to meet its legally binding goal of reaching net-zero carbon by 2050. In London, the Mayor has set an ambitious goal of London becoming carbon neutral by 2030.

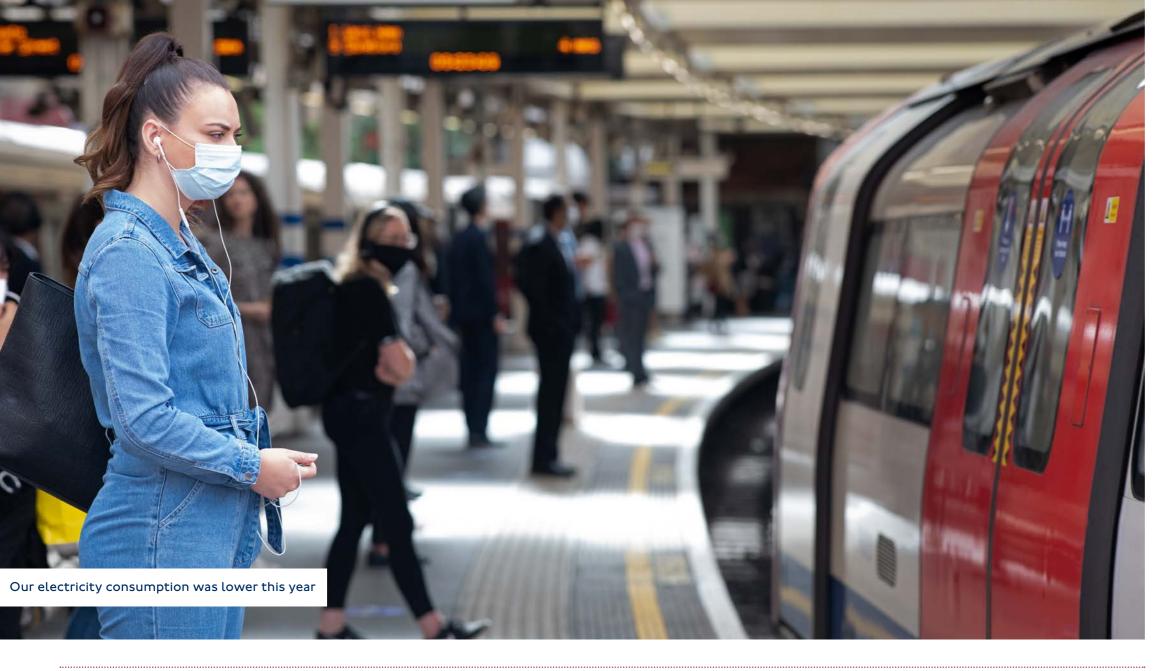
Transport is responsible for more than a quarter of London's carbon emissions, and this is increasing as other sectors decarbonise. We play a vital role in providing low carbon public transport to Londoners and in promoting walking and cycling. However, we must also lead by example and reduce carbon emissions from everything we do.

In 2020/21, carbon emissions from our services continued to fall, as a result of reduced rail and bus services caused by the pandemic, reduction in the carbon intensity of grid electricity supplies and the further roll out of electric buses.

CO2 emissions from our operations (kilotonnes)







Working to reduce our electricity consumption and move to cleaner energy

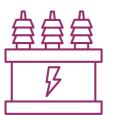
The reduction in public transport services as a result of the pandemic led to a decrease in our overall electricity consumption, compared to previous years. The total electricity consumption across our network was around 10 per cent lower than in 2019/20. We remain London's largest user of electricity, and CO2 emissions from the electricity we use is the second largest component of our carbon footprint after our bus fleet.

We have a strategy to move to 100 per cent renewable energy and are using Power Purchase Agreements with renewable generators to achieve this. Procurement will begin in 2021/22, with the aim of securing



10%
less electricity consumption than last year

up to 20 per cent of our consumption in this first step. We are working with the Greater London Authority (GLA) to explore opportunities to jointly procure renewable electricity in this way for the GLA Group, alongside potentially creating a fund for public and private investors to invest directly into new renewable projects, which in turn supply energy to the GLA Group.



1.54

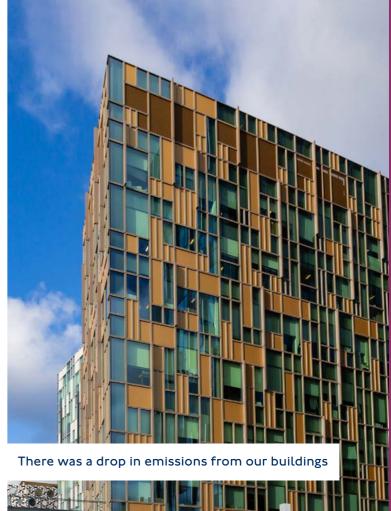
tera watt hours of total electricity consumption on our network

'We are working with the Greater London Authority to explore ways to jointly procure renewable electricity'

Emissions from our support services

Emissions of CO2 from our head office buildings, London Transport Museum and our support vehicle fleet were significantly lower in 2020/2I than previous years, as a result of our office staff moving to home working and use of the Government's furlough scheme.

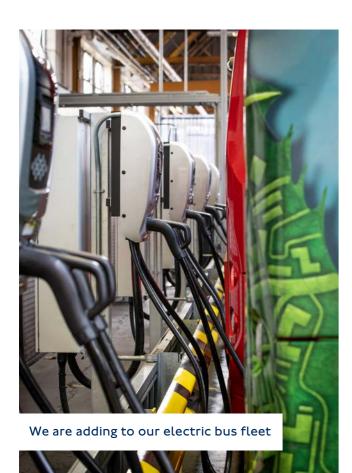
The emissions from these areas contribute to the Mayor's target of a 60 per cent reduction in the GLA Group's CO2 emissions by 2025, compared to a 1990 baseline.



Creating a greener bus fleet for London

This year saw a major milestone in helping to transform London's air quality. Our entire 9,000-strong core bus fleet now meets or exceeds the cleanest Euro VI emissions standards, the same strict standards that apply in the Ultra Low Emission Zone (ULEZ). This has significantly reduced the contribution from our bus fleet to nitrogen oxide (NOx) emissions and will play a key role in London's green recovery from the pandemic.

We have invested around £85m in retrofitting older buses with cleaner engines and phasing out polluting diesel buses. Each retrofitted bus emits up to 95 per cent less NOx and 80 per cent less particulate matter than before. As a result, NOx emissions from our bus fleet were more than 55 per cent lower than in 2019/20,



and emissions of particulate matter reduced by around 20 per cent over the same time period.

We continue our move towards a zero-emission bus network, with more than 500 zero-emission buses already introduced, including the UK's first full routes of electric double-deck buses. Around 300 additional zero-emission buses are expected to join the fleet by the end of 2021/22. We continue to roll out zero-emission buses, with plans for up to 2,500 to be in operation by 2025.

We are pressing ahead to make all buses in London zero emission by no later than 2037. However, we have an ambition to bring this forward to as early as 2030. We continue to engage with the Government to secure the funding certainty needed to help accelerate the conversion of the fleet. With 500,000 tonnes of carbon emitted each year from the bus network, or IO per cent of London's road based carbon, making all buses in London zero emission earlier will help the UK meet its new carbon target of a 68 per cent reduction by 2030, compared to 1990 levels.



300

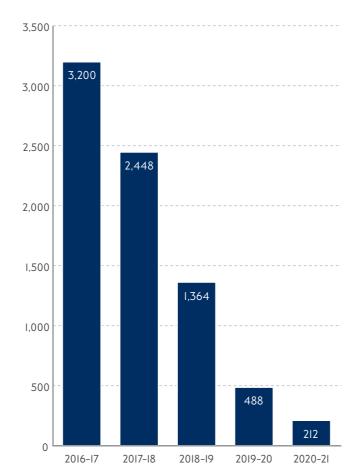
zero-emission buses expected to join our fleet by the end of 2021



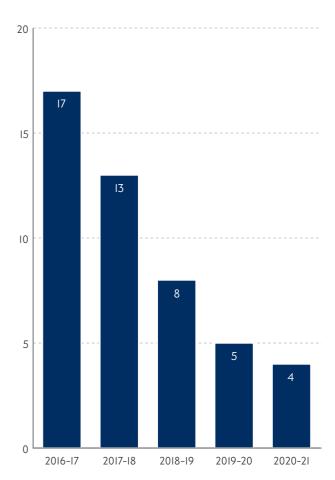
500
zero-emission buses already introduced to our fleet



NOx emissions from London Buses (tonnes)



PMI0 emissions from London Buses (tonnes)



Our Low Emission Zone standards

The Low Emission Zone (LEZ) aims to encourage the most polluting heavy diesel vehicles driving in London to be cleaner. It covers most of Greater London and operates 24-hours a day, every day of the year. On I March 202I, stricter LEZ emissions standards for heavy vehicles came into force, with standards for heavy goods vehicles, vans and other specialist vehicles more than 3.5 tonnes and minibuses, buses and coaches more than five tonnes increasing from Euro IV to Euro VI.

This brings the LEZ standards for these vehicles into alignment with the ULEZ standards. The tougher LEZ is already having an impact, with data showing compliance with the new standards at nearly 90 per cent, compared to around 70 per cent in May 2019.

Tree planting on our roads

We continue to be ahead of our average one per cent target for planning trees on our streets. Despite restrictions from the pandemic limiting the 2020/2I tree planting season to a single month from its usual six month window, 7I7 new trees were planted, although this figure was lower than the number of trees removed for disease and safety reasons as part of our annual inspections.

Despite this year's challenges we are ahead of our Mayor's Transport Strategy target, owing to tree planting efforts in previous years.



717

more trees planted on our streets



24,103

trees across our road network



The Ultra Low Emission Zone and its expansion

Research evaluating the impact of the central London ULEZ was published in March 202I. It showed that throughout the pandemic, compliance with the standards has remained high. At the end of December 2020, compliance was more than 90 per cent for cars and 85 per cent for all vehicle types. This compares to 39 per cent compliance in February 2017, when the Toxicity Charge, the precursor to the ULEZ, was announced.

Later this year, the ULEZ will be expanded up to, but not including, the North and South Circular roads. This is expected to further reduce NOx emissions from road transport by around 30 per cent across London in 2021 and will help deliver wider benefits for the Capital, including preventing more than one million air pollution-related hospital admissions over the next 30 years, saving the NHS around £5bn.



million

air pollution related hospital admissions prevented over the next 30 years from the ULEZ expansion



£5bn

saving to the NHS from preventing air pollution related hospital admissions

London Underground polychlorinated biphenyls

Polychlorinated biphenyls (PCBs) are substances that are toxic to humans and animals. There is legislation in England and Wales, as well as an international agreement, which bans their use. Some of the thousands of different types of electrical capacitor used in signalling, power, fleet, tunnel telephone systems on the London Underground predate this legislation and therefore sometimes contain PCBs.

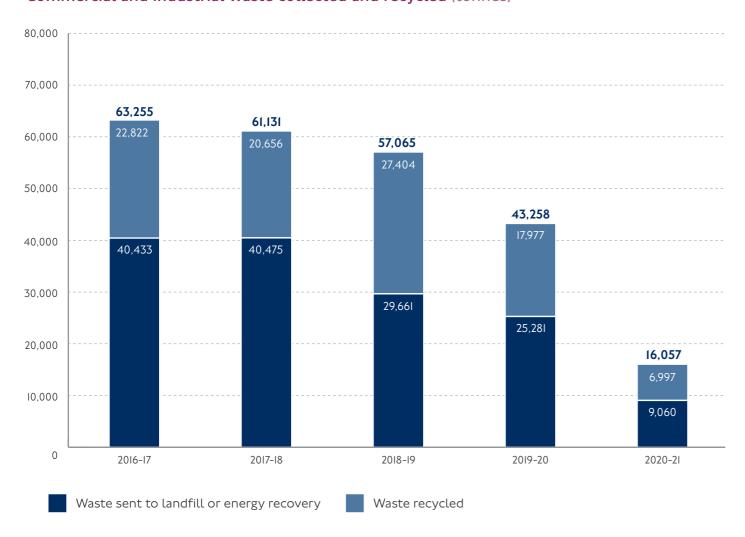
These PCBs are contained within the oil of transformers and, in the last weeks of 2020/2I, we reached a big milestone when the last two remaining PCB transformers had their oil changed. These large power transformers in substations hold the largest volumes of potentially PCB contaminated oil and our last few were hermetically sealed, so posed particular challenges. Transformers have their own specific PCB legislative requirements and London Underground has applied them a few years ahead of the UK and international deadline.

We continue to survey and test for equipment that may contain PCBs and prepare to re-start on-site retrieval and replacement programmes, which were delayed due to the pandemic.

'Transformers have their own specific PCB legislative requirements and London Underground has applied them a few years ahead of the UK and international deadline'

Working towards our ambition of becoming a zero-waste city

Commercial and industrial waste collected and recycled (tonnes)



We are committed to supporting the Mayor's ambition of making London a zero-waste city and embedding circular economy principles in how we operate, maintain and improve our network.

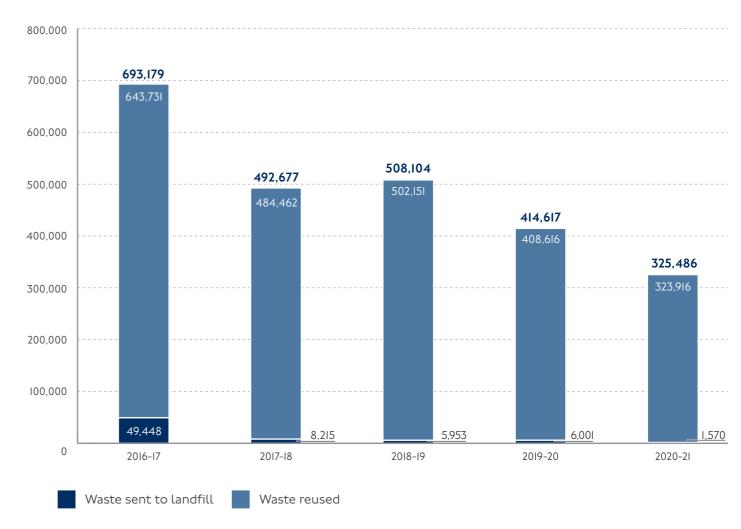
The overall quantity of waste collected in our operations reduced significantly in 2020/2I, as a result of the pandemic. Total commercial and industrial waste collected on the network was more than 60 per cent lower than in 2019/20.

Overall levels of recycling increased slightly to around 44 per cent. High recycling rates

in non-public locations, such as depots and offices, were balanced by low levels for waste collected on buses or at stations. We are working with our waste collection partners and operators on initiatives to increase recycling in these areas.

The quantity of waste produced in our projects and construction activities also reduced in 2020/2I as work in a number of sites was suspended. The proportion of non-hazardous waste from these activities that was reused or recycled remained high, at more than 99.5 per cent.

Construction, demolition and excavation waste collected and reused (tonnes)



About TfL

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

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

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

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

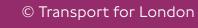
We are moving ahead with many of London's most significant infrastructure projects, using transport to unlock growth. We are working with partners on major projects like Crossrail 2 and the Bakerloo Line Extension that will deliver the new homes and jobs London and the UK need. We are in the final phases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

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

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

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

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



July 2021

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