

Agenda

**Meeting: Safety, Sustainability and
Human Resources Panel**

Date: Wednesday 12 February 2020

Time: 10.00am

**Place: Conference Rooms 1 and 2,
Ground Floor, Palestra, 197
Blackfriars Road, London, SE1
8NJ**

Members

Kay Carberry CBE (Chair)
Dr Nina Skorupska CBE (Vice-Chair)
Bronwen Handyside

Dr Mee Ling Ng OBE
Mark Phillips

Copies of the papers and any attachments are available on [tfl.gov.uk How We Are Governed](https://tfl.gov.uk/How-We-Are-Governed).

This meeting will be open to the public, except for where exempt information is being discussed as noted on the agenda. There is access for disabled people and induction loops are available. A guide for the press and public on attending and reporting meetings of local government bodies, including the use of film, photography, social media and other means is available on www.london.gov.uk/sites/default/files/Openness-in-Meetings.pdf.

Further Information

If you have questions, would like further information about the meeting or require special facilities please contact: James Varley, Secretariat Officer, 020 7983 4613; email: JamesVarley@TfL.gov.uk.

For media enquiries please contact the TfL Press Office; telephone: 0343 222 4141; email: PressOffice@tfl.gov.uk

Howard Carter, General Counsel
Tuesday 4 February 2020

**Agenda
Safety, Sustainability and Human Resources Panel
Wednesday 12 February 2020**

1 Apologies for Absence and Chair's Announcements

2 Declarations of Interests

General Counsel

Members are reminded that any interests in a matter under discussion must be declared at the start of the meeting, or at the commencement of the item of business.

Members must not take part in any discussion or decision on such a matter and, depending on the nature of the interest, may be asked to leave the room during the discussion.

3 Minutes of the Meeting of the Panel held on 13 November 2019 (Pages 1 - 8)

General Counsel

The Panel is asked to approve the minutes of the meeting of the Panel held on 13 November 2019 and authorise the Chair to sign them.

4 Matters Arising and Actions List (Pages 9 - 16)

General Counsel

The Panel is asked to note the updated actions list.

5 Rail Accident Investigation Branch Update (Pages 17 - 54)

Chief Safety, Health and Environment Officer

The Panel is asked to note the report and presentation.

6 Quarterly Safety, Health and Environment Performance Report (Pages 55 - 142)

Chief Safety, Health and Environment Officer

The Panel is asked to note the report.

7 Bus Safety Update (Pages 143 - 148)

Managing Director, Surface Transport

The Panel is asked to note the paper.

8 Bus Driver Facility Improvements (Pages 149 - 164)

Managing Director, Surface Transport

The Panel is asked to note the paper.

9 TfL's Work-related Violence and Aggression Strategy (Pages 165 - 198)

Managing Director, Surface Transport

The Panel is asked to endorse the Work-related Violence and Aggression Strategy.

10 Human Resources Quarterly Report (Pages 199 - 210)

Chief People Officer

The Panel is asked to note the report.

11 Update on Our Gender and Ethnicity Pay Gaps (Pages 211 - 214)

Director of Diversity, Inclusion and Talent

The Panel is asked to note the paper.

12 Sustainability in TfL Property Development (Pages 215 - 234)

Director of Commercial Development

That the Panel note the content of this paper and endorse the approach being undertaken.

13 Transformation Update (Pages 235 - 236)

Transformation Director

The Panel is asked to note the paper.

14 Member suggestions for future agenda discussions (Pages 237 - 242)

General Counsel

The Panel is asked to note the forward programme and is invited to raise any suggestions for future discussion items for the forward programme and for informal briefings.

15 Any Other business the Chair Considers Urgent

The Chair will state the reason for urgency of any item taken.

16 Date of Next Meeting

Wednesday 10 June 2020 at 10.00am.

17 Exclusion of Press and Public

The Panel is recommended to agree to exclude the press and public from the meeting, in accordance with paragraphs 1 and 2 of Schedule 12A to the Local Government Act 1972 (as amended), in order to consider the following items of business.

18 Sustainability in TfL Property Development (Pages 243 - 274)

Director of Commercial Development

Exempt Supplementary Information relating to the item on Part 1 of the agenda.

Transport for London

Minutes of the Safety, Sustainability and Human Resources Panel

Conference Rooms 1 and 2, Ground Floor, Palestra, 197 Blackfriars Road, London, SE1 8NJ

10.00am, Wednesday 13 November 2019

Members present

Kay Carberry CBE (Chair)
Dr Nina Skorupska CBE (Vice Chair)
Dr Mee-Ling Ng OBE
Mark Phillips

In Attendance

Stephen Inch	Senior Policy and Programme Officer, Air Quality, GLA
Catherine Baker	Director, CIRAS

Executive Committee

Howard Carter	General Counsel
Andy Lord	Managing Director, London Underground and TfL Engineering
Lilli Matson	Chief Safety, Health and Environment Officer
Andrew Pollins	Transformation Director
Gareth Powell	Managing Director, Surface Transport
Alex Williams	Director, City Planning
Tricia Wright	Chief People Officer

Present

Siwan Hayward	Director of Compliance, Policing and On-street Services
Stuart Reid	Interim Director of Vision Zero
Mike Shirbon	Head of Integrated Assurance
James Varley	Secretariat Officer

60/11/19 Apologies for Absence and Chair's Announcements

An apology for absence had been received from Bronwen Handyside. Shirley Rodrigues and David Howell (CIRAS) were unable to attend.

To reflect TfL's focus on safety, the Chair invited Members to raise any safety issues in relation to items on the agenda or within the remit of the Panel at the start of the item or under Matters Arising. Any other safety issues than these could be discussed with the General Counsel or an appropriate member of the Executive Committee after the meeting.

Members confirmed there were no further safety matters they wished to raise other than those to be discussed on the agenda.

The Panel noted that 9 November 2019 marked the third anniversary of the tram overturning at Sandilands, Croydon. Our thoughts remained with all those affected by the incident.

61/11/19 Declarations of Interests

Members confirmed that their declarations of interests, as published on tfl.gov.uk were up to date and there were no interests that related specifically to items on the agenda. It was noted that Mark Phillips was a Board Member of CIRAS and it was agreed that this did not preclude him from taking part in discussions on Item 7 on the agenda.

62/11/19 Minutes of the Meeting of the Panel held on 4 September 2019

The minutes of the meeting held on 4 September 2019 were approved as a correct record and were signed by the Chair.

63/11/19 Matters Arising and Actions List

Howard Carter introduced the item.

The Panel noted the actions list.

64/11/19 Annual Presentation from CIRAS

Catherine Baker introduced the report and presentation, which provided an overview of the work of the independent confidential reporting line service.

The role of CIRAS was to receive and act on incoming reports from staff. While CIRAS did not involve itself in the review of TfL's internal process, its activities could highlight issues that would be fed back into process reviews and improvements.

An increase in reporting had been seen over the last six months, with the greatest numbers of reports related to health and wellbeing, fatigue and rules and procedures. Absolute numbers remained relatively low and it was recognised that TfL promoted CIRAS as well as Safeline, another confidential independent reporting service, to staff. Without seeing how other organisations promoted the service with staff, it was difficult to draw comparisons with other organisations.

Consideration would also be given as to whether the themes identified by CIRAS were reflected in findings from Viewpoint, TfL's annual staff survey.

Members noted that there was a link between health and wellbeing and fatigue, and that an update should be provided to see which activities were taking place to make improvements in this area. **[Action: Lilli Matson]**

The Panel suggested that consideration be given to developing a system to allow ideas and recommendations to be drawn from CIRAS reports and these fed back to TfL.

The Panel noted the paper.

65/11/19 Quarterly Health, Safety and Environment Performance Report

Lilli Matson, Andy Lord and Gareth Powell introduced the report, which provided an overview of health, safety and environmental performance for London Underground, TfL Rail, Surface Transport (including London Overground) and Crossrail for Quarter 2 2019/20 (23 June to 14 September 2019).

A fatality involving a maintenance contractor working at Waterloo station occurred on 18 September 2019. An update was included on the agenda for the meeting.

On 31 October 2019, a collision involving two buses and a car resulted in the death of the driver of one of the buses, Kenneth Matcham. The car driver was reported to have failed a drugs test at the scene and was subsequently arrested. TfL was providing support to those affected. Our thoughts remained with the family of Kenneth Matcham and all those affected by the incident.

On 31 October, the Crown Prosecution Service (CPS) announced their decision not to prosecute the driver of the tram which overturned at Sandilands, Croydon on 9 November 2016. It was also confirmed that the CPS would not prosecute TfL or Tram Operations Limited (FirstGroup) for corporate manslaughter. Two investigations were ongoing – those of the Office of Road and Rail and the Coroner's Inquests. The Panel would be kept updated.

There had been a 4.4 per cent reduction in people killed or seriously injured on the roads against the previous year, although a recent upward trend had been identified. There had been a 21 per cent decrease in people killed or seriously injured involving buses and this reduction was within the Scorecard target. There had been an increase in the number of customers and workforce killed or seriously injured, and actions were taking place to address this trend.

The period had seen a fall in the number of vulnerable road users killed or seriously injured in incidents involving buses. Analysis had shown that there was a direct correlation between this reduction and the introduction of the bus safety standard.

Members were provided with an updated graph showing customers killed or seriously injured on other services (Victoria Coach Station, London River Services, Taxi and Private Hire, Cycle Hire and Dial-a-Ride). The overall trend continued downwards.

Three customer fatalities had occurred on the London Underground network. Two had been the result of knife related criminal activity, at Elephant and Castle and Hillingdon

stations. A third fatality occurred at Waterloo Underground station where a customer had fallen over and sustained head injuries. The customer died six days later in hospital. TfL was providing support to staff at the stations.

TfL was working with British Transport Police to reduce train surfing. An action plan had been drawn up and this would be shared with Members. **[Action: Lilli Matson]**

The Panel noted the report.

66/11/19 Workforce Fatality at Waterloo Station on 18 September 2019

Lilli Matson and Andy Lord introduced the item, which provided an update on the tragic accident where Christian Tuvi, a maintenance contractor, died as a result of an injury sustained while working on a moving walkway at Waterloo station.

Investigations were being led by the British Transport Police (BTP) and the Office of Rail and Road (ORR). TfL had commissioned its own internal report, overseen by Claire Mann. This would be reviewed and actions taken as necessary. An industry wide review of escalator and traveller maintenance was being launched. TfL would continue to look at, and learn from, similar rail organisations and would access expertise from other sectors.

Engagement with Trades Unions would continue, with a methodical approach to achieving the desired safety outcomes.

Work on travellers had been suspended awaiting the outcome of the BTP and ORR reports.

TfL had held a 'Time for Reflection' for staff involving a minute's silence followed by the opportunity to talk about safety and how it impacted everyone. Support was being provided for Christian Tuvi's family.

Members discussed the nature of the safety culture and the need to maintain a strong safety culture.

The Panel noted the paper.

67/11/19 Vision Zero Update – 20mph Limit on the TLRN in London

Lilli Matson and Stuart Reid introduced the item, which provided a summary of the work relating to the introduction of 20mph speed limits on the Transport for London Road Network.

A significant challenge was to create an environment on the roads that reinforced the 20mph speed limit. Automatic speed limiting technology was being trialled on buses, and businesses were also looking at driver monitoring systems for fleet vehicles.

The Panel noted the paper.

68/11/19 TfL Work Related Violence and Aggression Strategy

Gareth Powell and Siwan Hayward introduced the item, including the exempt information on Part 2 of the agenda, which provided an update on the development of the pan-TfL Work Related Violence and Aggression Strategy.

The Panel noted the paper and the supplementary information on Part 2 of the agenda.

69/11/19 Air Quality Update and Road to Zero Emission

Alex Williams introduced the item, which set out implemented and forthcoming proposals to improve air quality.

The Ultra Low Emission Zone commenced on 8 April 2019 and work was underway to prepare for its extension. Work was also taking place with City Hall to develop zero emission zones, with a target date for introduction of a central London zone by 2025.

The roll out of a network of rapid charging points continued, with 207 points in place to date and a target of 300 by the end of 2020. Members requested a progress update with a focus on what was being done to encourage inter-operability of charging points.

[Action: Alex Williams]

In December 2018, the Mayor had announced funding for a van scrappage scheme, targeted at micro-businesses and charities to replace older, more polluting vans and minibuses. Engagement was taking place and other similar organisations in the voluntary sector would also be provided with relevant information. Members would be updated when the scrappage scheme was launched.

[Action: Alex Williams]

The Panel noted the paper.

70/11/19 Human Resources Quarterly Report

Tricia Wright introduced the report, which provided an overview on key Human Resources-led activities and statistics from Quarter 2 2019/20 (23 June to 14 September 2019).

Workforce representativeness remained ahead of target, driven by increases in Black and Minority Ethnic and minority faith employees under the age of 25. Workforce representativeness for Band 5 and Directors fell during the quarter.

The annual Viewpoint Staff Survey had taken place and had a response rate of 64 per cent. This was two per cent less than 2018 but up seven per cent on 2017. Total engagement had increased to 57 per cent for the year which meant that the Scorecard target had been met.

The Gender Pay Gap Report for 2019 had been published and showed a decrease in the median gap from 21.5 per cent to 19.5 per cent. The Ethnicity Pay Gap report and the Diversity and Inclusion Impact report were due to be published in December 2019, along with the 2018/19 Diversity and Inclusion Impact Report, and updates would be provided in due course. **[Action: Tricia Wright]**

The latest cohort of 141 graduates, apprentices and interns had commenced work with TfL. Applications for the 2020 intake had begun with open days and recruitment events taking place.

The Leadership Foundation was nearing the end of its design phase. Its purpose would be to professionalise leadership using experiential development, peer learning, coaching, work experience and focus on solving business priorities. Panel Members would be given an update on development activities at a future meeting. **[Action: Tricia Wright]**

The Panel noted the report.

72/11/19 Transformation Update

Andrew Pollins introduced the item which provided an update on the Transformation programme.

The Panel noted the paper.

73/11/19 Member Suggestions for Future Agenda Items

Howard Carter introduced the item. Members noted the paper and that items raised earlier in the meeting would be added to the Forward Plan.

The Panel noted the forward plan.

74/11/19 Any Other Business the Chair Considers Urgent

There was no urgent business.

75/11/19 Date of Next Meeting

The next scheduled meeting of the Panel would be held on Wednesday 12 February 2020 at 10.00am.

76/11/19 Exclusion of the Press and Public

The Panel agreed to exclude the press and public from the meeting, in accordance with paragraph 7 of Schedule 12A to the Local Government Act 1972 (as amended), when it considered the exempt information in relation to the item on: Work Related Violence and Aggression Strategy.

77/11/19 Close of Meeting

The meeting closed at 12.40pm.

Chair: _____

Date: _____

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Date: 12 February 2020

Item: Actions List

This paper will be considered in public

1 Summary

- 1.1 This paper informs the Panel of progress against actions agreed at previous meetings.

2 Recommendation

- 2.1 **The Panel is asked to note the Actions List.**

List of appendices:

Appendix 1: Actions List

List of Background Papers:

Minutes of previous meetings of the Panel

Contact Officer: Howard Carter, General Counsel
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Safety, Sustainability and Human Resources Panel Actions List (reported to the meeting on 12 February 2020)

Actions from the meeting held on 13 November 2019

Minute No.	Description	Action By	Target Date	Status/note
64/11/19	Annual Presentation from CIRAS Provide an update on how health and wellbeing activities were impacting on fatigue.	Lilli Matson	10 June 2020	On agenda forward plan.
65/11/19	Quarterly Health, Safety and Environment Performance Report Share the train surfing action plan with Members.	Lilli Matson	Spring 2020	The Plan is currently being prepared and will be shared with Members when available.
69/11/19	Air Quality Update and Road to Zero Emission (1) Members to be provided with an update on the taxi scrappage scheme following its relaunch.	Alex Williams	12 February 2020	Completed. The scheme launched on 22 January 2020 and the Press Release can be viewed here: Mayor's Press Release
69/11/19	Air Quality Update and Road to Zero Emission (2) Members requested a progress update with a focus on what was being done to encourage inter-operability of charging points.	Alex Williams	12 February 2020	Completed – See Appendix 2.
70/11/19	Human Resources Quarterly Report Provide an update on the pay gap reports.	Tricia Wright	12 February 2020	On agenda for this meeting
70/11/19	Human Resources Quarterly Report Panel Members would be given an update on development activities at a future meeting.	Tricia Wright	9 September 2020	On agenda forward plan.

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Briefing Note: Electric Vehicle Infrastructure - Interoperability Update

1 Purpose

- 1.1 The purpose of this note is to update the Panel on TfL's work to improve interoperability of electric vehicle infrastructure.

2 Background

- 2.1 The Mayor launched an Electric Vehicle (EV) Infrastructure Taskforce¹ in May 2018 to look at the scale of charging infrastructure London is likely to need by 2025, how best this should be delivered, and what could be done to further enable this to happen. A number of topics were considered, including interoperability. The output of this work was the London [Electric Vehicle Infrastructure Delivery Plan](#), published in June 2019.
- 2.2 At the SSHR Panel meeting on 13 November 2019, TfL was asked to provide an update on the action being taken to improve interoperability of electric vehicle charge points.

3 Overview of interoperability issues

- 3.1 The need for greater interoperability was identified during the work of the Taskforce and we are working with others to address some of the issues raised. We consider interoperability an umbrella term that captures the need to deliver a clear and consistent level of service to consumers.
- 3.2 London requires a major expansion in the level of charging infrastructure and this can only be achieved in partnership with the private sector. Several network operators now exist in the capital, with competition driving down users' costs and delivering better customer experience. However, with the

¹ Taskforce members: British Electrotechnical and Allied Manufacturers' Association; Cross River Partnership; Energy UK; Federation of Small Businesses; Freight Transport Association; London Councils; London First; Mayor of London; Office for Low Emission Vehicles; Ofgem; Royal Automobile Club Foundation; Royal Institution of Chartered Surveyors; Society for Motor Manufacturers and Traders; Shell UK; SSE Enterprise; Transport for London; UK Power Networks

market in early development and the public sector having limited influence over interoperability, the following issues have been identified:

- (a) Convoluted ways to pay, with customers typically needing to obtain a Radio-Frequency Identification (RFID) card or to download an app before they can access a charge point. Some operators offer a pay as you go option using a contactless payment, however, this is not presently a universal option;
- (b) Confusing subscription models with varied tariffs across different charge point operator networks. Some operators require initial charges and many offer a range of monthly subscription and pay as you go charge options (now mandated through the Automated and Electric Vehicles Act). It is not always clear which charging options offer the best economy and the cost to users is not always sufficiently transparent;
- (c) Different ways for the charge point to interact with the vehicle, including types of cables, how and where the cable plugs into the car and the maximum speed of charge a vehicle can take. This can be addressed in the short term with clearer communication but it needs to be a joint effort between dealerships, vehicle manufacturers and charge point operators;
- (d) Limited data sharing on the location and use of charge points means it is challenging to present a holistic picture of London's charge point offering and it is difficult for the public sector to understand the most cost effective way to support the future rollout of charge points.

4 Actions taken to improve interoperability

- 4.1 We acted to improve interoperability as part of two concessionaire frameworks it awarded for the procurement of charge points. The first framework, for rapid charge points, went live in August 2017 and required that drivers can pay as they go using a credit or debit card, without having to sign up to membership. We also required that operators provide data on the location and use of charge points.
- 4.2 The Automated and Electric Vehicles Act 2018 introduced regulatory making powers for the Secretary of State to ensure public chargepoints are compatible with all vehicles, standardise how they are paid for and set reliability standards. However, no such regulations have yet been made. The Government has though announced a target for all newly installed rapid and higher powered chargepoints provide debit or credit card payment by spring 2020.
- 4.3 In February 2019 the REA, a trade association for renewable energy and clean technology published a position paper on interoperability of EV charging networks, intended to build on 'ad hoc' access to both improve the customer experience and facilitate / future-proof charging networks for a smart energy system.
- 4.4 The London EV Infrastructure Delivery Plan identified the need for a new coordination function to oversee the delivery of charge points in London.

Since its publication, London Councils have been leading work to establish this function with support from us and the GLA. As part of this, we will lead the proposed procurement [responsibilities of the coordination function](#), including embedding best practice on interoperability. Details of the coordination function can be found at <https://www.londoncouncils.gov.uk/node/36290>

- 4.5 An important purpose of the coordination function will be collating the necessary data to inform the future rollout of charge points but this is a challenge given operators are not obliged to engage with the coordination function. Ideally, the Government would upgrade and resource the existing National Charge Point Registry to support this effort. Its [consultation report in 2018](#) highlighted the benefit of having a government mandated and funded repository of information that must be demonstrably accurate, complete and up-to-date. Currently there is uncertainty around how charge point data can and should be handled by the public sector and third party organisations. This is partly because operators are reluctant to share data and there is no uniform agreement within the industry of the best protocol for sharing. In the meantime, the GLA have created a new publicly available London charge point map on London Datastore using direct data supplied voluntarily by charge point operators but this has required custom data APIs to be created.
- 4.6 We have been supporting the British Electrotechnical and Allied Manufacturers' association (BEAMA) to draft guidance on future-proofing EV infrastructure to encourage investors. The guidance will be consulted on in January ahead of publication in spring 2020. The guidance will cover the interoperability of charge points, looking at different energy suppliers and service providers, energy management systems, vehicle-specific issues, and data management and software.
- 4.7 The GLA has established a London charge point operators' forum, which held its first meeting in November 2019 and will reconvene in Spring 2020. The purpose of the forum is to discuss industry wide challenges with charge point operators, such as interoperability, and to update on public policy and funding.
- 4.8 With the GLA, we submitted joint responses to recent government consultations on building regulations and standardising smart charging technologies.

5 Next steps

- 5.1 We will attend and contribute to an event on interoperability hosted by the REA in February 2020. The event will explore the implications of an interoperability standard – whether and how it could improve customer experience, if there are competition concerns and what the process and timeline for ratification and adoption might be. Importantly, it will need to establish if there are other means (such as voluntary agreement between all charge point operators – rather than potential government regulation or imposition), which could achieve the same outcomes.

- 5.2 We will continue to support the GLA and BEAMA with their respective endeavours to improve interoperability by engaging in the London charge point operators' forum.
- 5.3 We will explore how the interoperability position can be strengthened for future frameworks as part of our role in the new coordination function being set up with London Councils and the GLA.

Contact Officer: Alex Williams, Director of City Planning
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Date: 12 February 2020

Item: Rail Accident Investigation Branch Update

This paper will be considered in public

1 Purpose

- 1.1 The attached report provides an overview the role of the Rail Accident Investigation Branch and its investigations into events on TfL's railways and tramway.
- 1.2 The report and presentation have been provided by Simon French, Chief Inspector of the Rail Accident Investigation Branch.

2 Recommendation

- 2.1 **The Panel is asked to note the report and presentation.**

List of appendices to this report:

Appendix 1: Report and Presentation

List of Background Papers:

None

Contact Officer: Lilli Matson, Chief Safety, Health and Environment Officer
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Paper for the TfL Safety, Sustainability and HR Panel, 12 February 2020

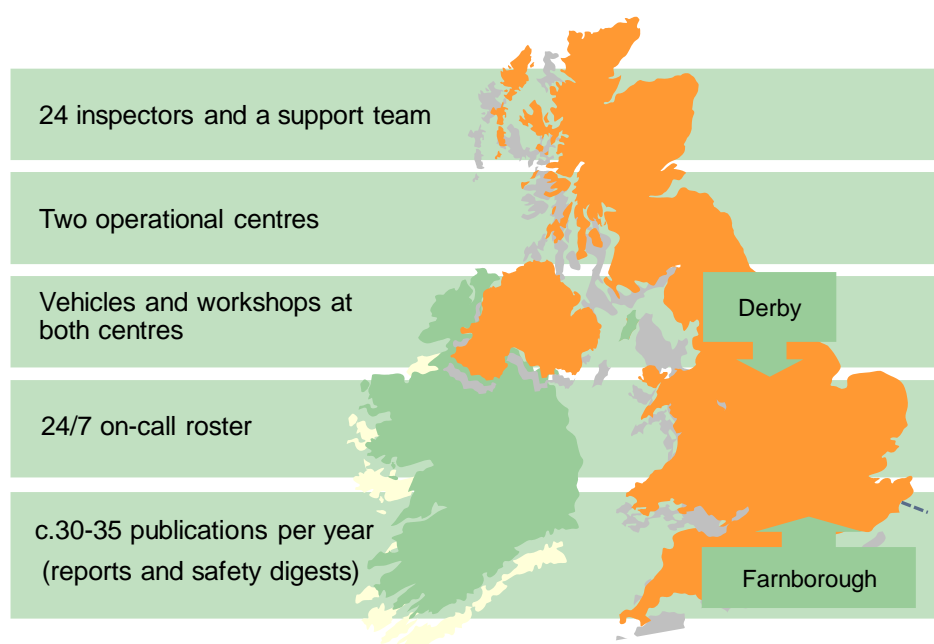
The role of the Rail Accident Investigation Branch (RAIB), and its investigations into events on TfL's railways and tramway

1. Background

Lord Cullen's inquiry report on the Ladbroke Grove rail accident in 1999 recommended the creation of an organisation to independently investigate railway accidents to improve safety. RAIB became operational in October 2005 as the independent body for investigating accidents and incidents on mainline railways, metros, tramways and heritage railways throughout the UK.

RAIB investigations are focused solely on improving safety. RAIB is not a prosecuting body and does not apportion blame or liability. Possible breaches of legislation are dealt with by other organisations, usually the police and safety authorities.

To undertake its role, RAIB has recruited expert and trained inspectors, procured specialist equipment and developed detailed processes governing every stage of the investigation process.



More detail on the role of the RAIB, its legal powers and the way it works are provided at Appendix 1.

2. Investigations in the last 5 years involving TfL railways in London

Between 1 January 2015 and 31 December 2019, the RAIB has undertaken 10 investigations into events on TfL railways (of these, 3 were published as safety digests and 7 as full reports). These are summarised in Table 1 (a-e).

Table 1a RAIB investigations involving London Underground 2015-19

Event	Date of event	RAIB output	Report ref.	Date of publication	Number of recommendations
Clapham South person trapped and dragged in door (serious injuries)	12-Mar-15	Full investigation report	04/2016	09-Mar	1
Ealing Broadway derailment	02-Mar-16	Full investigation report	24/2016	05-Dec-16	3
Wimbledon derailment (LUL infrastructure)	06-Nov-17	Safety Digest	01/2018	07-Feb-18	NA
Person trapped and dragged into tunnel, Notting Hill Gate (serious injuries)	31-Jan-18	Full investigation report	14/2018	03-Sep-18	5
Train travelling with doors open at Finchley Road on the Jubilee line	01-Sep-18	Full investigation report	06/2019	10-Jul-19	4

Table 1b RAIB investigations involving Docklands Light Railway 2015-19

Event	Date of event	RAIB output	Report ref.	Date of publication	Number of recommendations
Person trapped in train doors at Bank (DLR)	06-Feb-17	Full investigation report	12/2017	21-Sep-17	3

Table 1c RAIB investigations involving London Overground 2015-19

Event	Date of event	RAIB output	Report ref.	Date of publication	Number of recommendations
Peckham Rye, unsafe detrainment of passengers	07-Nov-17	Full investigation report	16/2018	09-Oct-18	3
Passengers self-detraining at North Pole Junction	15-Jul-19	Safety Digest	09/2019	20-Nov-19	NA

Table 1d RAIB investigations involving the Croydon tramway 2015-19

Event	Date of event	RAIB output	Report ref.	Date of publication	Number of recommendations
Low speed derailment of a tram near Mitcham Junction	29-Dec-14	Safety Digest	B01/2015	22-Apr-15	NA
Fatal tram accident in Croydon (7 fatalities, 19 seriously injured passengers)	09-Nov-16	Full investigation report	18/2017	07-Dec-17	13 (+ two to ORR)

Table 1e RAIB investigations involving the TfL Rail

Event	Date of event	RAIB output	Report ref.	Date of publication	Number of recommendations
Nil to date					

3. Status of RAIB recommendations to TfL's railways and the Croydon tramway

The RAIB has made 32 recommendations to TfL railways/tramway in the last five years. All duty holders have an obligation to consider the actions that they will take in response to the RAIB's recommendations, and to report the actions they have taken, or plan to take, to the Office of Rail and Road (ORR).

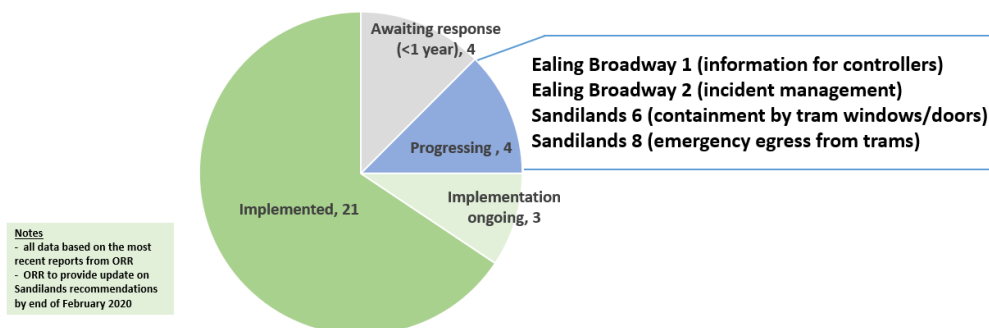
ORR regularly reports to RAIB any actions that it proposes to take to encourage or enforce implementation, along with its own assessment of the status of each recommendation against one of the following descriptors:

- Implemented
- Non-implementation
- Implementation ongoing
- In-progress
- Awaiting response

The current status of RAIB's recommendations to TfL's railways/tramway is shown below. These figures show steady progress is being made against the majority of RAIB's recommendations.

The ORR's update on the status of the 15 recommendations made by RAIB following its Sandilands investigation is due in February/March.

Status of the 32 RAIB recommendations made to TfL railways and tramway in the last 5 years (TOTAL = 32)



4. Key safety issues to be raised by RAIB in its Annual Report for 2019

RAIB's Annual Report for 2019 will highlight a number of areas of concern. These are listed below (those considered to be of most relevance to TfL railways and tramway are highlighted in bold):

1. Safety of track workers
2. **Management of operational incidents, stranded trains and passenger detrainment**
3. **Safety at the interface between platforms and trains/trams**
4. Safe design operation and maintenance of on-track plant
5. **The safety of high integrity software based systems**

The three issues considered to be of most relevance to TfL railways are summarised in Table 2.

Table 2 Summary of key issues identified in the RAIB's annual report for 2019

Issue	Areas of recommendation	Linked reports (+ RAIB reference number)
<p>Management of operational incidents, stranded trains and passenger detrainment</p>	<ul style="list-style-type: none"> • Improving the quality of team working, communications and decision making during incidents • Equipping drivers and controllers with the skills needed to manage the unexpected • Supporting train crew during incidents • Understanding and managing the risk to passengers trapped in a crowded and uncomfortable conditions • Getting people to stranded trains when needed to support train crew • Ensuring a flow of information from railway to those affected 	<ul style="list-style-type: none"> • Ealing Broadway derailment (24/2016) • Peckham Rye train evacuation (16/2018) • <i>Self-detrainment of passengers onto the line, and subsequent mass strandings of trains, near Lewisham (02/2019)</i> • Passengers self-evacuating from a train at North Pole Junction (SD 09/2019) • Train travelling with open doors near Finchley Road (06/2019)
<p>Safety at the interface between platforms and trains/trams</p>	<ul style="list-style-type: none"> • Working to prevent dispatcher's sole reliance on the door interlock – promoting the importance of the checking the PTI before departure • Better understanding of the ways in which passengers interact with train doors • RAIB is recommending further work in these areas: <ul style="list-style-type: none"> ○ <i>the automatic detection of trapped objects</i> ○ <i>train operator views of the PTI, particularly on curved platforms and during crowding</i> ○ <i>the ability of passengers to pull trapped objects out of doors</i> ○ <i>the use of 'smart' technology to spot dangerous situations and warn dispatchers</i> ○ <i>reducing gaps between trains and platforms</i> • Considering and implementing task related strategies to manage the risk of train operators losing attention and awareness while operating ATO trains 	<ul style="list-style-type: none"> • Passenger trapped and dragged at Clapham South (04/2016) • Dangerous train door incident at Bank (DLR) station (12/2017) • Passenger trapped and dragged at Notting Hill Gate (14/2018) • Dangerous train dispatch at Elstree and Borehamwood (03/2019) • <i>Passenger falling from a platform as tram departed, at Ashton-under-Lyne tram stop (15/2019)</i>
<p>The safety of high integrity software based systems</p>	<ul style="list-style-type: none"> • Development and implementation of a mandatory safety assurance procedure (and associated guidance) for clients of projects involving installation and modification of high integrity software-based systems • Improved supplier safety assurance process • Improved capture and dissemination of safety learning through the reporting and systematic investigation of complex software-based system failures 	<ul style="list-style-type: none"> • <i>Loss of safety critical signalling data on the Cambrian Coast line (17/2019)</i> • <i>Mass strandings of Class 700 trains, 9 August, following drop in National Grid frequency as unintended consequence of software modification</i> • <i>Collision of two subway trains during testing of a new signalling system in Hong Kong (18 March 2019)</i>

5. Managing the variability of human performance

A continuing theme of concern to RAIB is the ways in which transport systems manage the natural variability of human performance. This issue was highlighted by the investigation into the tragic accident at Sandilands, on the Croydon tramway (18/2017). RAIB recommended that the tram sector considers the ways in which technology can be harnessed to detect a lack of awareness in a driver and to intervene in case of excess speed on the approach to high risk locations, such as tight curves. It is good to learn that substantial progress is being made with addressing this issue on the Croydon tramway, and that the main line sector is now also showing an interest.

RAIB's investigation into the trap and drag incident at Notting Hill Gate identified that humans can find it difficult to effectively monitor repetitive automatic functions, such as the operation of train doors. RAIB has recommended that LUL reviews task related strategies to manage the risk of train operators losing attention and awareness while operating ATO trains.

The incident at Sandy (10/2019) during which a main line driver drove through a 20 mph temporary speed restriction at approximately 121 mph highlights the potential of a loss of focus on the driving task, for whatever reason. Although future technology will provide part of the solution, there is an ongoing need to manage those factors that are known to affect alertness, such as task design, ergonomics, and fatigue.

6. Conclusions

- a. In the last five years RAIB has carried out 10 investigations into events on the railways and tramway that fall under TfL's oversight.
- b. During this period RAIB has made a total of 32 recommendations to TfL railways/tramway, in the following areas:
 - safety at the platform train/tram interface
 - managing the variability of human performance
 - incident management (people and equipment)
- c. RAIB's engagement with all stakeholders in London remains positive, and those investigated are generally cooperative and professional in their dealings with RAIB.
- d. RAIB urges the panel to use its influence to promote the importance of independent accident investigation, and to encourage timely and appropriate actions in response to RAIB recommendations.

An overview of RAIB

Our legal basis

The Railways and Transport Safety Act 2003 (the 2003 Act) established the Rail Accident Investigation Branch (RAIB), and Section 8 of the Act provides the powers that our inspectors use during their investigations. We have published guidance to assist with using the act.

The Railways (Accident Investigation and Reporting) Regulations 2005 (SI1992)(the 2005 Regulations) set out the details of the RAIB's duties, the scope of our work and our dealings with other people and organisations involved in rail accidents. The regulations came into force on 17 October 2005 and the RAIB became operational on that date.

RAIB's scope

RAIB investigates accidents and incidents which occur on the UK main line networks (Network Rail and Northern Ireland Railways), London Underground, other metro systems, tramways, heritage railways and the UK part of the Channel Tunnel. Operators of these types of railway and tramway have a duty under the law to notify RAIB of some types of accidents and incidents.

We also monitor operations on the major networks through various industry reporting systems. We have the legal power and the discretion to decide to investigate any event that occurs on a system that is within our scope, not just those that have to be notified to us.

Some events that result in death or serious injury will not be investigated by RAIB (and in some cases, they do not have to be notified to us). There are two main reasons why this may happen. In many cases, from the information available at the time, it appears that the person concerned has deliberately trespassed or otherwise put themselves in harm's way. Sometimes we are satisfied, after making enquiries, that although an accidental sequence of events has resulted in tragic consequences, there are no new safety lessons to be learned, and so we will not investigate further.

RAIB's response to notifications

On being notified of an accident or incident, our normal approach is to obtain sufficient information to decide how to respond.

Rail Accident Investigation Branch (RAIB) has a duty coordinator and a team of inspectors on call 24 hours a day, 365 days a year.

When we are notified of an accident or incident, we contact the railway to obtain sufficient further detail to decide how to respond. Our response will be influenced by:

- whether the event is within the RAIB's scope
- whether the investigation is mandated by law

- whether there is important evidence at the scene
- whether it is part of a trend
- the safety issues at stake.

In the case of an accident or incident where there is perishable evidence or evidence that needs to be recorded or secured before releasing the site back to the industry, we will deploy inspectors to the site to conduct a preliminary examination.

Preliminary examination

When we have been notified of an accident or incident, we may decide to carry out a preliminary examination of the circumstances. This may mean that we deploy inspectors to the scene, or to another location (such as a depot), either immediately or by arrangement at a suitable later time. It can also involve further office-based enquiries, often involving review of electronic data.

Sometimes we require assistance with a rapid initial presence at more remote locations. For this purpose, we have arranged for the railway industry to assign selected people from its own staff, known as 'Accredited Agents', to carry out limited activities on our behalf until our inspectors arrive on site.

Accredited Agents have all been trained, assessed and approved by RAIB. Their role is to provide us with early information from the site, to ensure that important perishable evidence is recorded, and that other evidence that needs to be protected is identified.

The purpose of a preliminary examination is to gather sufficient information and evidence to enable us to make an informed decision on whether or not to conduct a full investigation of the accident or incident.

Powers of RAIB inspectors

All inspectors carry a RAIB warrant card, which identifies the powers which the law gives them to carry out their work.

Our inspectors have the power to:

- enter property, land or vehicles, on the railway or close to it
- seize anything relating to the accident and make records
- require access to and disclosure of records and information
- require people to answer questions and provide information about anything relevant to the investigation.

When they are acting on our behalf, RAIB's Accredited Agents also exercise some of these powers.

How RAIB selects accidents to investigate

The railway industry notifies us of many accidents, incidents and near misses each year. We do not investigate all of them. We use various criteria to help us decide which ones we will look into.

The law under which we operate requires us to investigate some types of accidents. These include train collisions and derailments which result in the death of a person, or serious injury to five or more people, or damage costing more than £2m to repair.

Since we could never hope to investigate every accident that is notified to us, the law gives us discretion about whether or not to investigate less serious accidents. When we decide whether to investigate these, we take into consideration various factors. These include:

- the severity of the outcome
- the potential for the consequences to have been more severe
- the potential for new safety learning, and how widely it could be applied
- safety trends
- areas of particular safety concern.

When it is clear that the safety learning from an event has been identified by a previous investigation or relates to compliance with existing rules, we may choose to publish a Safety Digest, rather than carry out a full investigation.

How we investigate

Every one of our investigations is different, but each follows our established processes. Gathering of evidence begins immediately. Having made the decision to investigate, we publish details of the investigation on this website. We prepare a remit for the investigation, which defines the scope of the investigation work. We tell the companies involved in the event about the investigation remit, and let them know what we will expect from them during the investigation.

Evidence about the cause of the accident may come from a number of different sources such as witnesses, CCTV, audio, data and written records, as well as the trains and the track itself.

The investigation process may involve interviews with witnesses, tests, analysis of data, reconstructions, computer simulations, and discussions with managers, trade unions, regulators and organisations who represent passengers and other rail users.

It is a thorough and painstaking process that takes time, but we aim to complete a full investigation and publish a report as soon as possible, usually between nine and twelve months after the event. When we have decided to publish a safety digest rather than carry out a full investigation, it should appear in two to three months.

During each investigation, we carry out regular reviews, to check that the investigation is following the remit and that the right evidence is being gathered and analysed. Later reviews cover the causal analysis, which determines the factors that contributed to the event and the severity of its consequences.

Recommendations for safety improvements arise from the results of the causal analysis, so we usually know what we are likely to recommend before the drafting of the investigation report begins.

The investigation report

We produce a report on every investigation we carry out. The draft report is reviewed internally at several levels, and is finally approved by the Chief Inspector. We then begin the process of consulting interested parties on the report and the recommendations.

We try to meet organisations who are likely to be affected by our recommendations, to explain why we have reached our conclusions and why we believe that a recommendation is needed. After this, we send copies of the draft report to the companies whose trains, equipment or staff were involved, to individuals whose reputations might be affected by the findings of the report, to regulatory bodies, to organisations representing staff and passengers, and to other parties affected by the accident. The law requires us to do this, and to give people fourteen days to comment on the draft report.

The consultation process adds to the time taken to publish our reports, but it is an important part of the process, and the time that it takes is included in the publication timescales that we aim to achieve, as described above. The purpose of consultation is to allow people to make comments on errors of fact or analysis, or recommendations that may affect them. After the end of the consultation period, we consider the comments and provide a written response to the consultees that explains how we have dealt with each one. If necessary we make changes to the report, and if these are significant or extensive, or if we have changed or added to the recommendations, we will re-consult with affected parties.

Once the whole process is complete, the report is submitted to the Secretary of State and published on this website. Before publication, we send advance copies of the report to the people and organisations who were consulted on it.

We also consult on our safety digests, although the process is simpler because a safety digest does not include recommendations.

Sharing evidence

While all of our investigations are conducted completely independently of any investigations by other parties, we can share with the railway industry, and will share with other statutory investigatory bodies, technical evidence and factual information arising from tests and examinations that we carry out. We have agreed a Memorandum of Understanding with enforcing authorities to clarify our respective roles.

We will not share the identity of witnesses, their statements, or medical records relating to people involved in the accident or incident.

During investigations we maintain contact with the various parties involved in the accident or incident. We aim to keep the industry and other people who are involved informed of emerging findings throughout the investigation. We may decide to update the public about progress and findings during the investigation by publishing an interim report or by updating our website.

If at any time during the investigation we become aware of any safety matter we believe requires urgent consideration, we will formally alert the industry and safety authority by issuing an Urgent Safety Advice notice.

The recommendation process

Almost always, our investigation reports will include recommendations to improve safety. We can direct recommendations to any organisation or person that we think is best placed to implement the changes required. This includes railway and non-railway, private and public sector bodies.

The recommendations are also addressed to the relevant safety authorities, or to other public bodies where appropriate, because the law requires them to ensure that recommendations are duly considered and where appropriate acted upon.

For most of our investigations in Great Britain the safety authority, which has the legal responsibility for supervising the safety of the railways, is the Office of Rail and Road (ORR).

The safety authorities will want to ensure that the recommendations have been considered in accordance with the Health and Safety at Work etc Act 1974 (HSWA), which requires duty holders to reduce the risk of their activities to as low as reasonably practicable (ALARP) taking into account levels of risk, costs of mitigation and good practice. They are also required to report back to us details of any implementation measures, or the reasons why no action is being taken.

We have no role or statutory power to follow up on the implementation of recommendations, unless it becomes relevant as part of a subsequent investigation. As such, feedback from the safety authority provides RAIB with important information on the safety improvements and changing environment that result from our investigations. We publish full details of the status of our recommendations in our index of RAIB recommendations which we update from time to time.

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Rail Accident Investigation Branch

The role of the RAIB

Presentation to the TfL Safety,
Sustainability and HR Panel

Simon French

Chief Inspector

The Rail Accident Investigation Branch

RAIB is the UK's independent body for the investigation of railway accidents.

Our purpose

“We independently investigate accidents to improve railway safety, and inform the industry and the public”

The origin of the RAIB

- The public inquiry into the 1999 Ladbroke Grove accident recommended that an independent organisation should be established to investigate rail accidents
 - This should be independent of government, safety regulators, police and all industry parties
- UK legislation:
 - Railways and Transport Safety Act 2003
 - Railways (Accident Investigation and Reporting) Regulations 2005
 - Guidance for the use of the Regulations is published by the RAIB (www.raib.gov.uk)



What we do

- Independent from all parts of the rail industry
 - we form a part of the Department for Transport, although entirely independent in the way we investigate
- Sole purpose to improve safety
 - we do not apportion blame or liability
- We act as the lead party in most investigations

What types of accidents are investigated?

Mandatory

Derailments or collisions leading to:

- § the death of at least one person
- § serious injury to five or more people
- § extensive damage to rolling stock, infrastructure or the environment
- § any other accident which could have had one of these consequences under slightly different circumstances

Accidents with the same consequences that have an obvious impact on railway safety regulation or the management of safety

Discretionary

Discretion to investigate other incidents based on:

- § how serious the incident is; and
- § extent of likely safety lessons to be learned

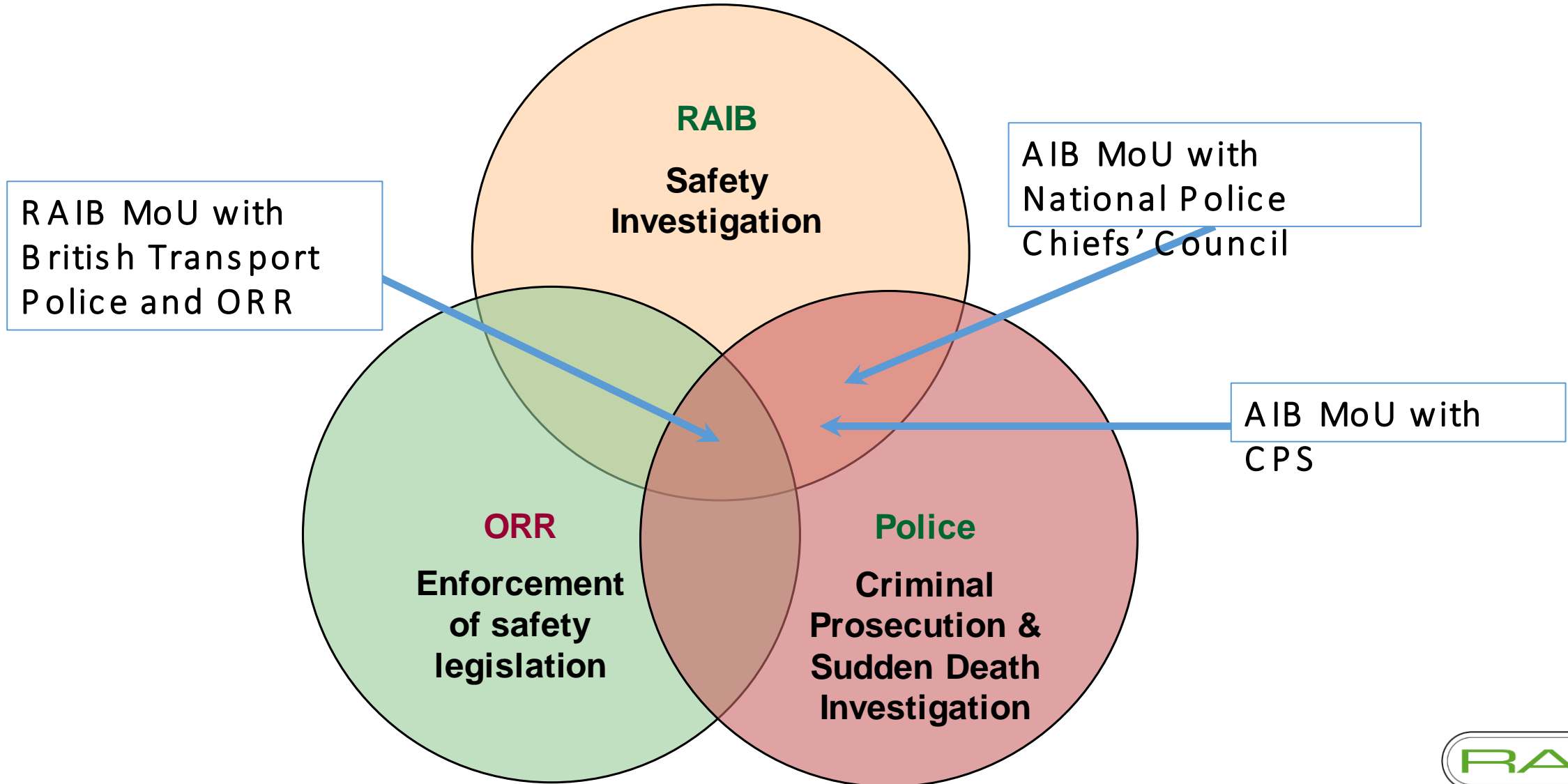
What type of accidents are not investigated?

Accidents that are not closely associated with the operation of a train; eg

- slips trips and falls on stations
- accidents involving escalators and travelators
- accidents in factories, depots (unless associated with the movement of a train)

Accidents /incidents involving trespassers or suicides

Working with other statutory bodies



RAIB's operation

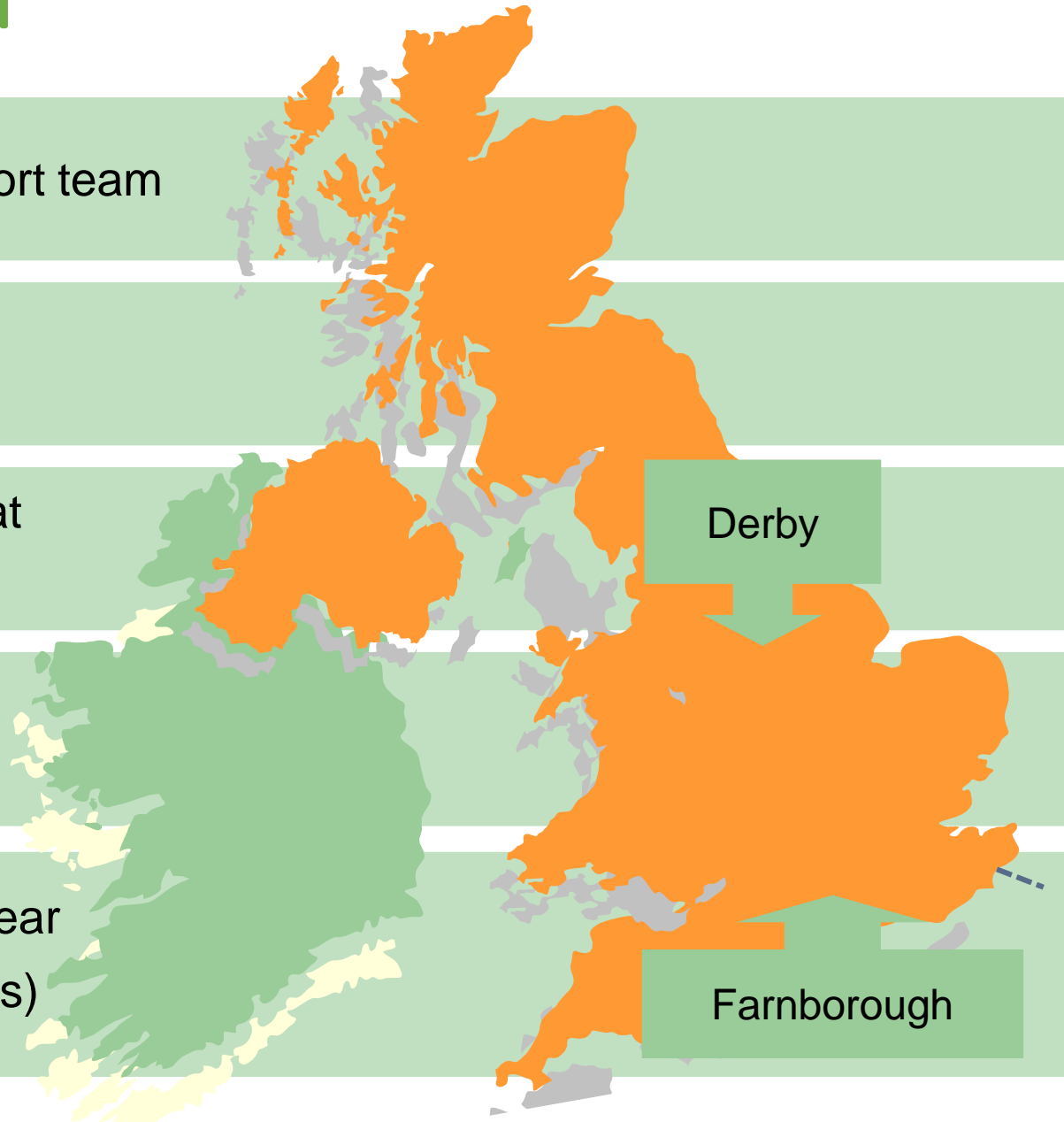
24 inspectors and a support team

Two operational centres

Vehicles and workshops at both centres

24/7 on-call roster

c.30-35 publications per year
(reports and safety digests)



RAIB's scope includes:





Key areas of safety learning

Key issues raised in the 2019 Annual Report

RAIB's Annual Report for 2019 will highlight a number of areas of concern. These are listed below (those considered to be of most relevance to TfL railways and tramway are highlighted in bold):

- Safety of track workers
- **Management of operational incidents, stranded trains and passenger detrainment**
- **Safety at the interface between platforms and trains/trams**
- Safe design operation and maintenance of on-track plant
- **The safety of high integrity software based systems**

Safety at the platform train/tram interface

- Passenger trapped and dragged at Holborn station (22/2014)
- Passenger trapped and dragged at Clapham South (04/2016)
- Dangerous train door incident at Bank (DLR) station (12/2017)
- Passenger trapped and dragged at Notting Hill Gate (14/2018)
- Dangerous train dispatch at Elstree and Borehamwood (03/2019)
- Passenger falling from a platform as tram departed, at Ashton-under-Lyne tram stop (15/2019)



Safety at the platform train/tram interface

Areas of recommendation

Working to prevent dispatcher's sole reliance on the door interlock – promoting the importance of the checking the PTI before departure

Better understanding of the ways in which passengers interact with train doors

Humans can find it difficult to effectively monitor repetitive automatic functions such as the operation of train doors. For this reason RAIB is recommending further work in these areas:

- the automatic detection of trapped objects
- train operator views of the PTI, particularly on curved platforms and during crowding
- the ability of passengers to pull trapped objects out of doors
- the use of 'smart' technology to spot dangerous situations and warn dispatchers
- reducing gaps between trains and platforms

Considering and implementing task related strategies to manage the risk of train operators losing attention and awareness while operating ATO trains

Managing the variability of human performance

The person

- Selection and training [Norwich report 09/2014]
- Establishing a culture that values professionalism and task focus
- Development of non-technical skills [Norwich report 09/2014]
- Fatigue management [Ruscombe and Reading 18/2016], [Sandilands 18/2017] and [Finchley Road 06/2019]
- The promotion of health and life style management [Sandilands 18/2017]



Managing the variability of human performance

The equipment

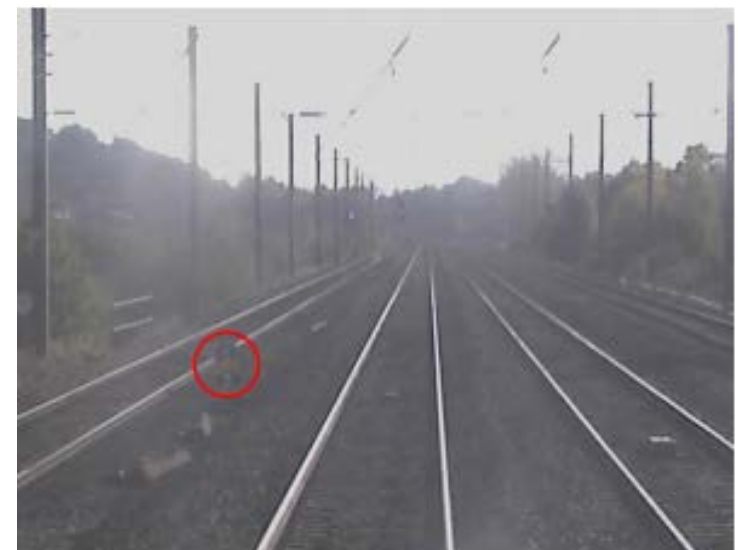
- Ergonomics of human machine interfaces [Notting Hill Gate 14/2018]
- Quality of visual images displayed on monitors [Clapham South 04/2016] and [Notting Hill Gate 14/2018]

Information

- Information provided to drivers (eg temporary speed restrictions) [Sandy 10/2019]

The task

- Designing tasks that are more compatible with human capabilities and limitations [Notting Hill Gate 14/2018]



Detecting loss of attention and intervening

- Traditional vigilance monitoring systems
 - driver's safety device ('deadman's handle')
 - driver's vigilance device
- Development of systems capable of reliably detecting driver attention state and initiating appropriate automatic responses if a low level of alertness is identified [Sandilands 18/2017]
- Can the real-time analysis of OTDR data detect a driver's fatigue state (eg AWS reaction time)? [Rec 3; Reading and Ruscombe Junction 18/2016]



Incident management

- Ealing Broadway derailment [24/2016]
- Peckham Rye train evacuation [16/2018]
- Self-detrainment of passengers onto the line, and subsequent mass strandings of trains, near Lewisham [02/2019]
- Passengers self-evacuating from a train at North Pole Junction [S D 09/2019]
- Train travelling with open doors near Finchley Road [06/2019]



Incident management

Areas of recommendation

Improving the quality of team working, communications and decision making during incidents

Equipping drivers and controllers with the skills needed to manage the unexpected

Supporting train crew during incidents

Understanding and managing the risk to passengers trapped in a crowded and uncomfortable conditions

Getting people to stranded trains when needed to support train crew

Ensuring a flow of information from railway to those affected

The safety of high integrity software based systems



The safety of high integrity software based systems

- Loss of safety critical signalling data on the Cambrian Coast line (17/2019)
 - undetected loss of safety related data following a system reboot ('rollover')
 - vulnerability of the system to a single point of failure was neither detected nor corrected during design, approval and testing phases of the Cambrian ERTMS project
- Mass strandings of Class 700 trains, 9 August, following drop in National Grid frequency
 - unintended consequence of software modification
- Collision of two subway trains during testing of a new signalling system in Hong Kong (18 March 2019)

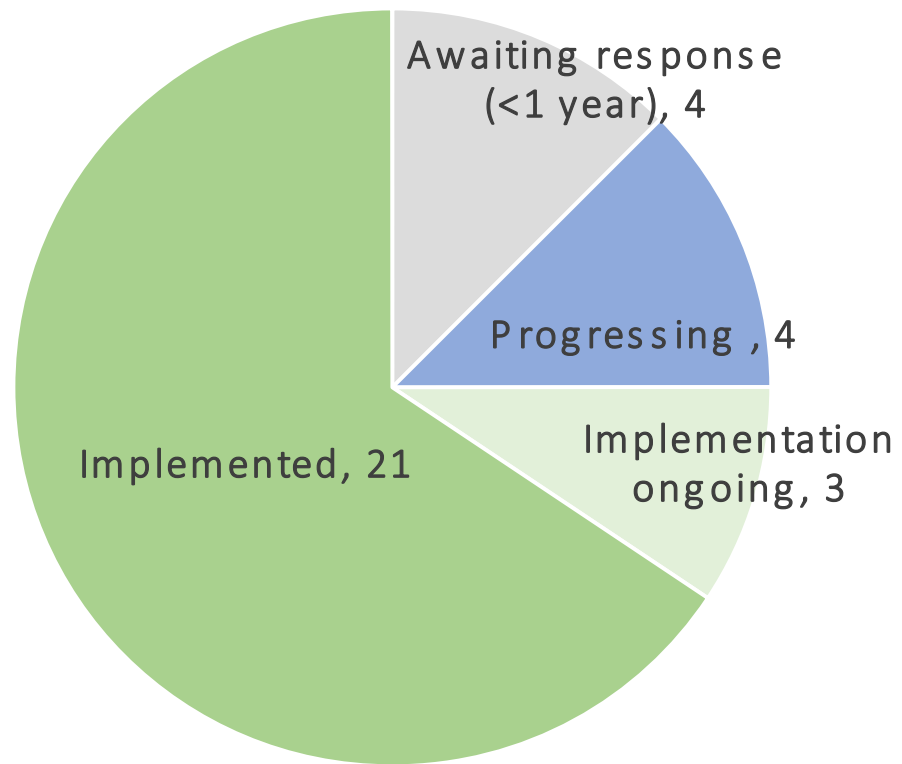
The safety of high integrity software based systems

Areas of recommendation

- Development and implementation of a mandatory safety assurance procedure (and associated guidance) for clients of projects involving installation and modification of high integrity software-based systems
- Improved supplier safety assurance process (translation of software safety requirements into the design and validation processes)
- Improved capture and dissemination of safety learning through the reporting and systematic investigation of complex software-based system failures

Current status of RAIB recommendations (as reported by ORR)

Status of the 32 RAIB recommendations made to TfL railways and tramway in the last 5 years (TOTAL = 32)



Notes

- all data based on the most recent reports from ORR
- ORR to provide update on Sandilands

Conclusions

- In the last five years R AIB has carried out 10 investigations into incidents and accidents on the railways and tramway that fall under TfL's oversight.
- R AIB has made a total of 32 recommendations in the following areas:
 - safety at the platform train/tram interface
 - managing the variability of human performance
 - incident management
- Our engagement with all stakeholders in London remains positive, and those we investigate are generally cooperative and professional in their dealings with R AIB.
- R AIB urges the panel to use its influence to promote the importance of independent accident investigation, and to encourage timely and appropriate actions in response to R AIB recommendations.



Thank you for your
attention

Date: 12 February 2020

Item: Quarterly Safety, Health and Environment Performance Report

This paper will be considered in public

1 Purpose

- 1.1 This report provides an overview of the safety, health and environment performance for London Underground (LU), TfL Rail, Surface Transport (including London Rail), Major Projects and Crossrail.
- 1.2 Generally, this report covers 15 September – 7 December 2019 inclusive, referred to as Quarter 3.

2 Recommendation

- 2.1 **The Panel is asked to note the report.**

List of appendices to this report:

Appendix 1: Safety, Health and Environmental Performance – Quarter 3 2019/20

List of Background Papers:

None

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Transport for London

Safety, Health and Environment report

Quarter 3 (15 September 2019 - 7 December 2019)



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 (LU), London Buses, the DLR, London Overground (LO), TfL Rail, London Trams, London River Services (LRS), London Dial-a-Ride, Victoria Coach Station (VCS), 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 who use them every day.

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

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Introduction

This report outlines our key performance results for Quarter three between 15 September 2019 and 7 December 2019, with summaries of key Safety, Health and Environmental improvements from across our network, and includes a look ahead to Quarter four.

During this Quarter, two notable and tragic accidents occurred resulting in the death of Christian Tuvi and Kenneth Matcham. On 18 September 2019, Christian Tuvi, working for one of our contractors at Waterloo station, suffered fatal injuries while undertaking maintenance activity. We are working closely with the British Transport Police and the Office of Rail and Road to understand why this terrible incident happened and to identify what steps we can take to minimise the possibility of a similar incident happening again. On 31 October 2019, Kenneth Matcham, working for one of our Bus Operators, died in a fatal collision involving two buses and a car. We are working closely with the ongoing police and bus operator investigations to understand the causes of the collision.

There has been a 7.8 per cent reduction in the number of people killed or seriously injured in road collisions compared to the same period in 2018. While the general trend is positive, fatal road collisions have actually increased compared to the period in 2018. Between 1 January and 7 December 2019, 125 people were killed, of which the majority were pedestrians (69) or motorcyclists (31). The number of cyclists killed (five) was half the number killed at the same point in 2018.

In addition, collisions involving London Buses resulted in two people being fatally injured, and 67 people being seriously injured, which is 15 per cent higher than Quarter three last year. The importance of our ongoing work on our Bus Safety Programme is made starkly clear by these outcomes.

Our challenge in making our public transport networks safer continues, with two fatalities on our London Underground network during the quarter. These arose from an unprovoked stabbing incident at Hillingdon Underground Station, where Tashan Daniel was fatally injured, and an incident where a customer fell on a staircase at Waterloo Underground Station.

Despite these significant fatalities, we have reported an overall decrease of 100 customer injuries across all our transport networks compared to the same quarter last year, showing a 4.1 per cent reduction.

Routine safety inspections on our London Underground train fleet identified a fault with some of our Jubilee line trains during the quarter. To ensure the safe operation of our railway for our customers and workforce, we removed these affected trains from service, so we could rectify the faults and return them safely back into service.

We are working to identify shared learning from the tragic incident on Network Rail infrastructure near Margam in Wales on 4 July 2019, where two track workers were struck by a train and fatally injured. We are incorporating this work with our ongoing improvements focused on the safety of our workers on the track.

We are also commissioning King's College London to undertake an epidemiological study to better understand the ongoing effects of Underground air quality and dust on the health of our workforce and customers. The outcomes from this work will be used to identify improvements in our current air quality improvement regimes on the Underground.

Across our network we have recorded a 9.9 per cent increase in working days lost to sickness compared with the same quarter last year. This reflects an increase in our four top causes of sickness absence, the largest of which relates to mental health illness. Cases of this type of illness causing absence from work has increased by 3,262 compared to the same quarter last year, an increase of 18.8 per cent. This is partly attributed to a more positive culture being developed towards mental health awareness amongst our teams.

Looking at our environmental improvement activities, by the end of the quarter, we had fitted more than half of our 33,900 street

lights across London with energy efficient LED lamps, delivering an effective energy saving of 40 per cent over the existing street lamps.

After the first six months of operation (April to November 2019), London's Ultra Low Emission Zone (ULEZ) had directly contributed to a significant reduction of nitrogen oxide pollution from vehicles by 31 per cent.

During the quarter, we installed 25 additional electric vehicle rapid charge points across London bringing the total to 225, of which 73 are dedicated for use by the growing fleet of zero-emission capable taxis in London. This is progressing towards the key milestones of the London Electric Vehicle Infrastructure Delivery Plan and the air quality elements of the Mayor's Transport Strategy.

This quarter in our major projects we have made a positive step change in our safety performance, both in terms of the amount of people being injured and when they have been hurt their injuries have been less severe.

Gareth Powell
Managing Director
Surface Transport

Andy Lord
Managing Director
London Underground

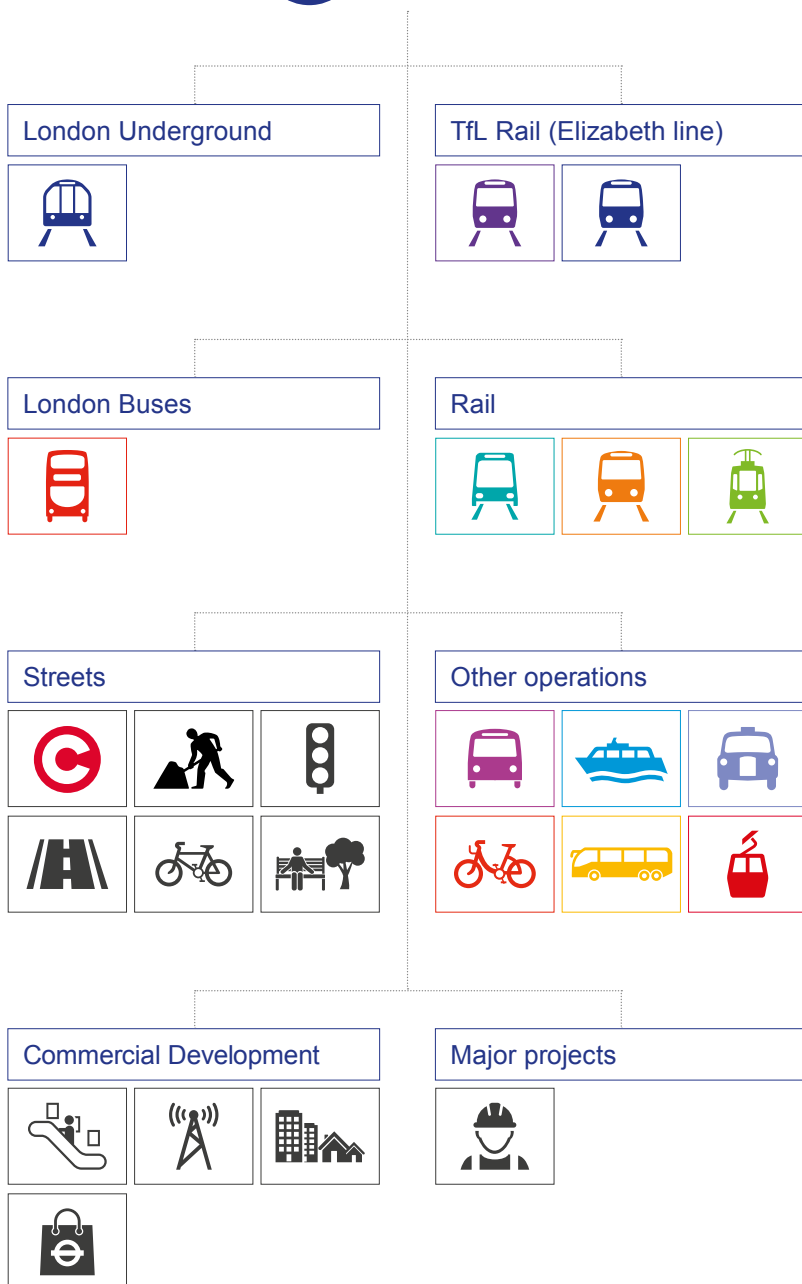
Stuart Harvey
Managing Director
Major Projects

Lilli Matson
Chief Safety, Health
and Environment Officer

Business at a glance

Keeping London moving, working and growing to make life in our city better

How we report on our business



Facts and figures *

945 Trains on the TfL network



580km

TfL-operated highways



720km

TfL-operated Rail and London Underground routes



9,330

Buses on the TfL network

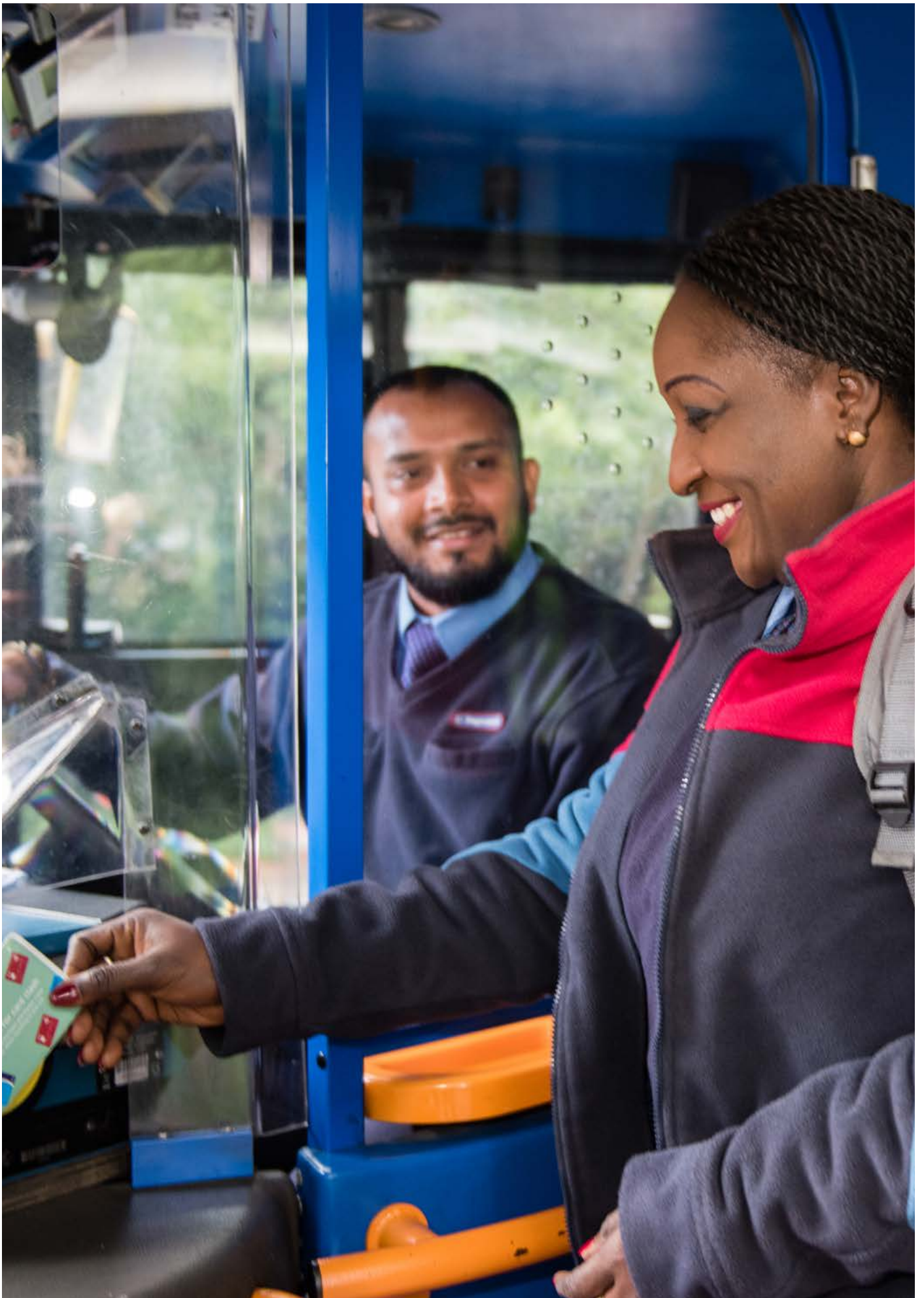


6,365

Traffic signals operated by TfL



* Based on full year 2018/19





Mayor's Transport Strategy themes in this report

Our role is to deliver the Mayor's Transport Strategy in partnership with London's boroughs, businesses, local communities, consumer organisations and many others. The ambitious plan will increase the attractiveness of public transport and make cycling and walking easier and more convenient options.

We are providing more trains on our busiest services, and investing in upgrades

and step-free access schemes. We are making local streets healthier and more pleasant places. Listening to, and acting on, the suggestions of our customers enables us to make walking, cycling and public transport the first choice for the vast majority of trips.

And we will continue to improve services to unlock the new jobs and housing our city needs.

This report looks at our performance in relation to the following themes from the Mayor's Transport Strategy

Healthy Streets and healthy people

Scorecard measures

We use a scorecard to measure our performance against the Mayor's Transport Strategy. In this report, the scorecard measures are marked like this.



Performance summary

Scorecard

Measures		Quarter 3	
Outcome	Measure	Actuals	Target
London's transport system will be safe and secure	Reduction in people killed or seriously injured on the roads from 2005-09 baseline*	39.7% (179 fewer people than year to date 2018, which was 3,743)	42.1% (324 fewer people than year to date 2018, which was 3,743)
	Reduction in people killed or seriously injured involving buses from 2005-09 baseline*	64.0% (25 fewer people than year to date 2018, which was 223)	60% (3 fewer people than year to date 2018, which was 223)
	Reduction in customer and workforce killed and seriously injured (compared to 2018/19)	87 more people killed or seriously injured than year to date 2018, which was 1,591	74 fewer people killed or seriously injured than year to date 2018, which was 1,591. (4.6% reduction)
London's streets will be clean and green	Number of London buses that are Euro VI compliant	Completed in Q3: 300 Year to date completed: 8,000	Target for Q3: 300 Year to date target: 8,000
London's streets will be used more efficiently and have less traffic	Traffic signal changes to support healthy streets (person hours per day)	13,433	11,500
More people will travel actively in London	Healthy streets check for designers (average % uplift)	13%	10%

Note on methodology

The methodology used to identify serious injuries related to our customers and workforce in this report has been identified as requiring a review to improve accuracy. Our existing definition includes all injuries resulting in a visit to hospital, which has meant that previously a high number of minor injuries have erroneously been included in our reporting on serious injuries.

We have completed an initial review using a new methodology that identifies types of injury defined as serious, and only includes injuries resulting in a visit to hospital where the injury is unknown.

For consistency we are showing the results of the existing methodology alongside the new proposed methodology throughout this report where relevant. This is labelled in each graph accordingly. The measure 'Reduction in customer and workforce killed and serious injuries' will therefore be greyed out in the scorecard while we undertake this review.

* This Scorecard data is based on the 2005-09 baseline, the other stats in the report are based on Quarter comparisons to the previous financial year.

This quarter 15 September - 07 December 2019

Our customers

Across the public transport network, there were two customer fatalities and 502 people were seriously injured during Q3, which is a decrease of 20 (3.8 per cent) when compared with the same quarter in 2018/19.

Our workforce

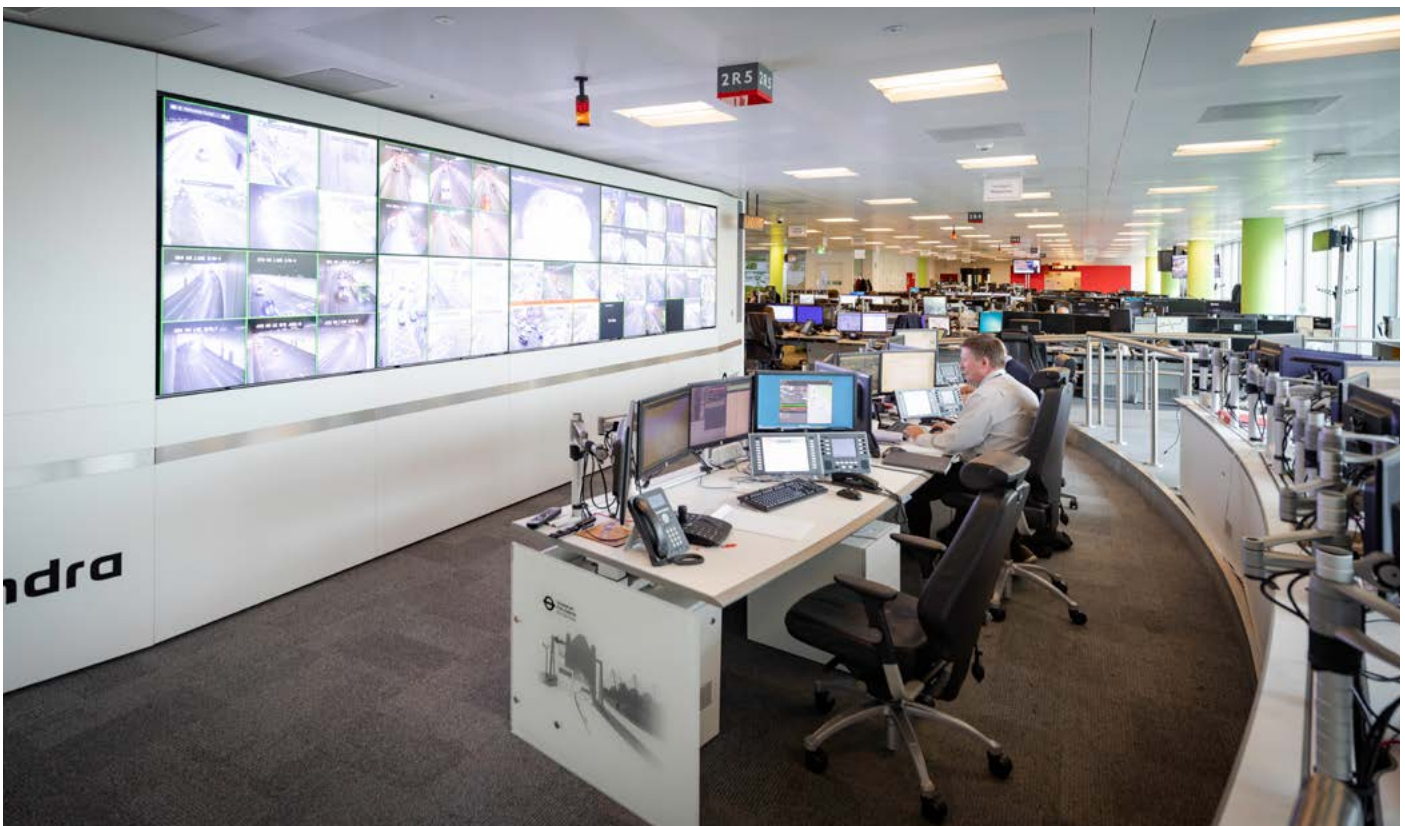
There were a total of 419 injuries to our workforce during Q3, and two tragic deaths of Christian Tuvi and Kenneth Matcham. The total number of injuries sustained by our workforce decreased by 25 (5.6 per cent) when compared to Q3 2018/19. Across our construction and projects activities, 34 workers were injured, the majority of which were employed by our suppliers (91.2 per cent).

On our streets

During Q3, 37 people were killed on London's roads, which is up 32 from the same period in 2018. However, overall the provisional figures for July - September show improvement in terms of the level of serious injuries, where we saw a reduction of eight per cent to 991 when compared to the same quarter last year.

Calendar and financial years

Most data used in this report covers the financial quarter (15 September - 07 December 2019). The exception to this are contained in the customer Buses and Streets chapters on pages 20 and 31. For some graphs in these chapters we rely on data captured by the Metropolitan Police Service in calendar months, and the most recent data available is reported one quarter in arrears. Where this is the case we will note it next to the relevant graph.



London's transport system will be safe for our customers



Safe for our customers

This section looks at overall performance against key safety measures across our network.

Customer injuries

During Q3 there were a total of 2,341 customer injuries across the public transport network, which is a decrease of 100 (4.1 per cent) compared with the same quarter last year.

This was largely due to a decrease of 94 customer injuries (8.0 per cent) on London Buses when compared with Q3 last year.

There was a reduction of 35 customer injuries on London Underground (3.1 per cent), which reduced from 1,132 in Q3 last year to 1,098 this year.

Other operations also saw a reduction in customer injuries of two (8.3 per cent).

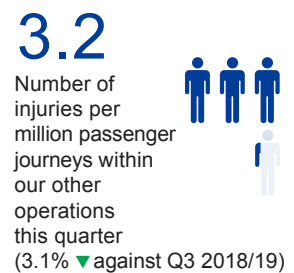
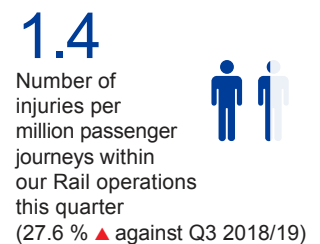
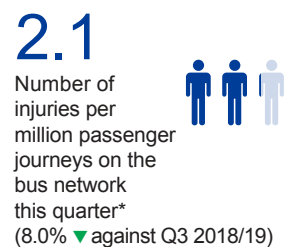
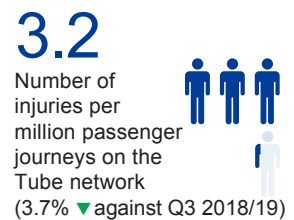
The only transport area across the network that saw an increase in the number of injuries was within Rail operations (31 injuries, a 28.7 per cent increase on the 2018/19 figure). This increase relates to slips, trips and falls arising from wet weather.

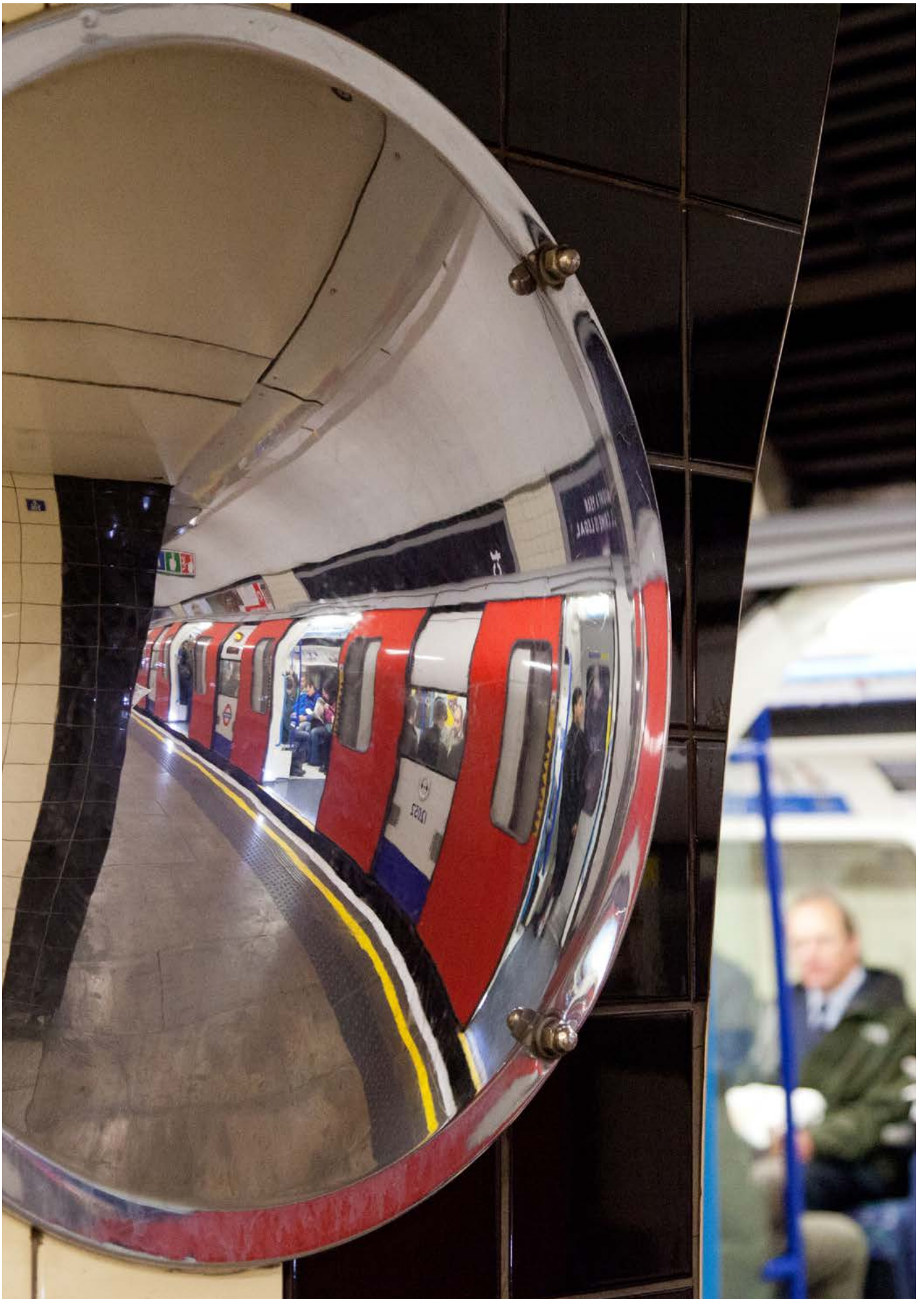
RIDDOR reportable incidents*

There were two RIDDOR reportable customer injuries during Q3, both of which were on London Underground, and were notified to our Regulator, the Office of Rail and Road.

Both were as a result of accidents due to customer falls, at Waterloo and Amersham stations respectively.

*RIDDOR reportable incidents are specified by the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013.



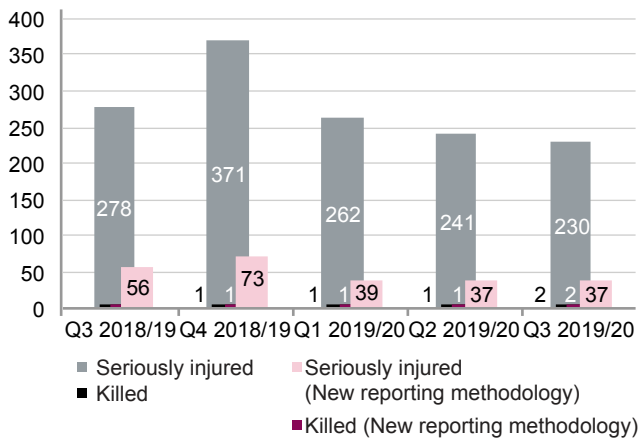


Underground

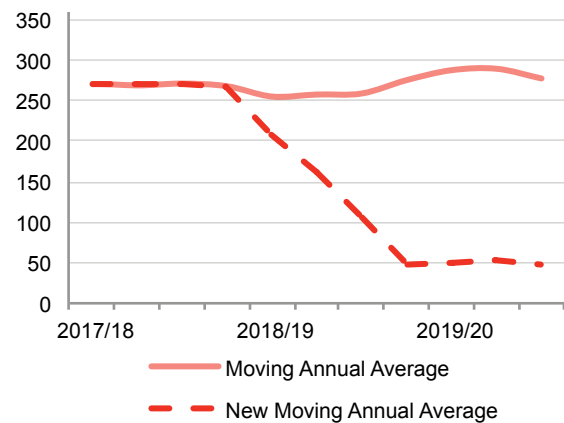
This section looks specifically at how London Underground operates the safest railway possible for its customers. This is measured through our scorecard 'Reduction in customer and workforce killed and seriously injured' and analyses all customer injuries on the Underground.

Customers killed or seriously injured

Past five quarters^{1, 2}



Moving annual average



¹ As explained in full on page 10 this graph uses existing and new methodologies for identifying serious injuries.

² Q4 is longer than other quarters.

During Q3 two of our customers died while using London Underground services. On 24 September, 20-year-old Tashan Daniel sadly died after a fatal stabbing incident at Hillingdon Underground station. The British Transport Police (BTP) launched a murder investigation and arrested two people.

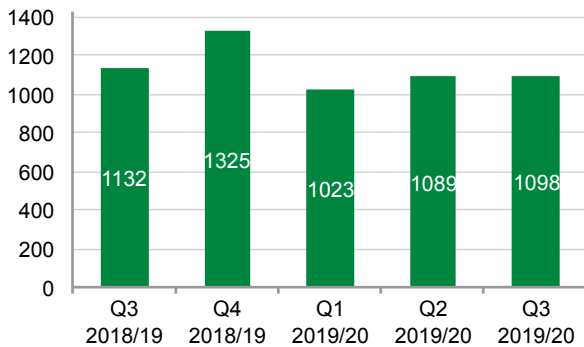
On 24 October 2019, a customer sadly died following a fall on the stairs to the Northern line platforms at Waterloo Underground station.

This quarter 230 customers were seriously injured. This is a reduction of 48 (17.3 per cent) when compared to Q3 2018/19. The biggest contributing cause of serious injury to customers remains slips, trips and falls, which accounted for 87.8 per cent of all serious injuries in Q3.

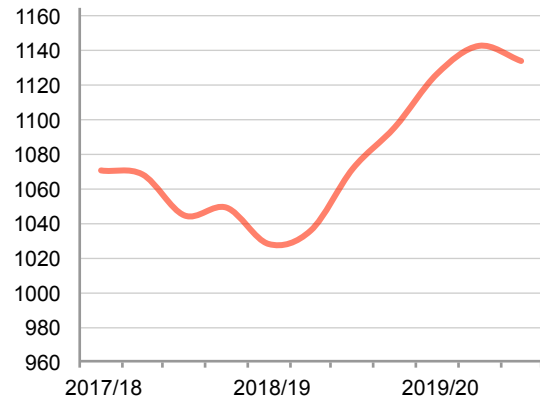
In Q3, 20.9 per cent of LU customer injuries were serious, which is down from 24.7 per cent in the corresponding quarter last year.

Customer injuries - all injuries

Past five quarters



Moving annual average

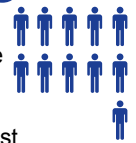


Top causes of injury (%)

Slips, trips and falls	76
Striking / struck by object	13
Assault	9
All other causes	2

1,098

Number of injuries on the LU network this quarter (3.1% ▼ against Q3 2018/19)



There were 3.2 customer injuries per million journeys in Q3 compared to 3.3 injuries in the same quarter last year, showing a reduction of 35 customer injuries. Passenger journeys have increased to 342.9m in Q3 from 340.7m in the same quarter last year.

Slips, trips and falls continue to be the biggest cause of all customer injuries with 829 reported during Q3. Of these, 203 (24.5 per cent) injuries resulted in the customer visiting hospital. Compared to Q3 2018/19, the number of injuries resulting from slips, trips and falls has decreased by 5.3 per cent.

The common themes in customer accidental injuries on the Underground continue to be:

- Intoxication
- Behaviour including rushing and horseplay
- Carrying heavy or large objects e.g. luggage, shopping bags, etc
- Incidents involving older customers

Did we deliver our planned improvements?

'Under the influence' - New customer safety campaign

Alcohol is a factor in many serious passenger accidents on the Underground. Our customer safety campaign reminded customers to stay safe when they are travelling after having consumed alcohol.

Supporting this campaign, we worked with the Soho Angels, a partnership with Westminster City Council and the LGBT Foundation. The Angels wear pink reflective vests, and support customers who are travelling late at night. They help people who need medical attention, those who have become separated from friends and provide directions and advice to help get people home safely.

To reduce injuries on escalators and stairs

A significant number of customer accidents on the Underground are on escalators and stairs. The LU Escalator Excellence campaign continues focusing on the 16 stations which account for over half of all customer injuries. We have launched new posters to help reduce customer injuries which can be tailored by station staff for individual station needs.

To reduce injuries during boarding and alighting

- **Platform train interface (PTI) excellence**
Twenty five per cent of customer accidents happen when people are boarding or alighting from our trains. Our PTI project ran several awareness days to involve our train and station staff

in managing safety, set up 'Managing my platform' groups to identify new approaches, and emphasised the importance of our collective role in managing safety during a Safety Focus Week in November

- **Platform camera improvement project**
Clear visibility of the full Platform Train Interface for the driver is key to safely closing the doors and to safely move the train. Work on the platform cameras to improve the in-cab view is progressing with the work on five more sites completed. The project will continue until 2021 and has 10 sites planned for Q4
- **Mind the gap**
To reduce the likelihood of a customer falling down the gap, we are developing a device called an active gap filler, which extends from the platform edge to reduce the gap between the train and the platform edge. This is a complex system intended to interact with the live railway, meaning high levels of assurance are required.

Managing fire risks on the Underground

We have instigated a new plan for managing the risk of fire on the Underground. In Q3, over 160 station staff attended a King's Cross station fire re-enactment and workshop close to the 32nd anniversary of the disaster on 18 November 1987 when 31 people lost their lives.

This emphasised the failings at the time and provoked thought and discussion about why fire compliance is so important.

During Q3, the London Fire Brigade completed its 2019 deep dive inspections on our busiest 15 stations. The feedback from the London Fire Brigade is that it considered our approach was driving improvements in how we manage fire safety.

Our plans for next quarter

The customer safety campaign focusing on alcohol will continue targeting key locations with posters and announcements

Continue to focus on the 16 stations with the most customer injuries

The active gap filler to reduce the gap at the platform and train interface will be further developed for a trial

The PTI camera replacement project will continue with 10 new sites due for completion

Continue fire safety improvements detailed in the LU Fire Safety Plan

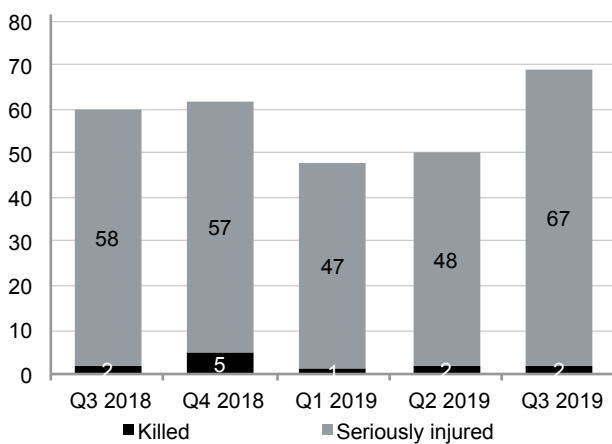


Buses

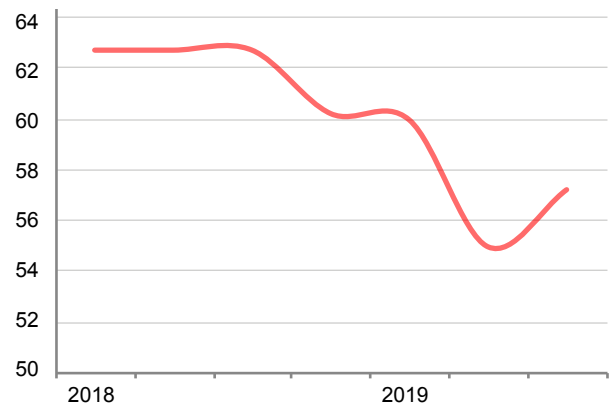
This section looks at how Buses customer safety contributes to our scorecard 'Reduction in people killed and seriously injured involving buses from 2005-09 baseline', and analyses all customer injuries on Buses.

People killed or seriously injured by a bus

Past five quarters^{1, 2}



Moving annual average



Incidents that cause a serious or fatal injury involving a London bus have increased by 15 per cent compared with last year.

Road casualty data is reported to us by the Metropolitan Police in arrears each calendar month³. For the most recent quarter available, July - September 2019, two people were killed in collisions involving a bus, compared to two during the same period last year.

Sixty nine people were seriously injured in collisions involving a bus. In the year to the end of September 2019 the number of people killed or seriously injured in collisions involving a bus has fallen by seven per cent compared to the same period last year to 167 people. The greatest reductions have been amongst car and bus occupants and people walking.

We have introduced a world leading Bus Safety Standard to be applied across the entire bus fleet, which will drive key improvement to bus design that is needed to make our roads safer.

69

Number of people killed or seriously injured involving a bus on streets this quarter (15% ▲ against Q3 2018/19)



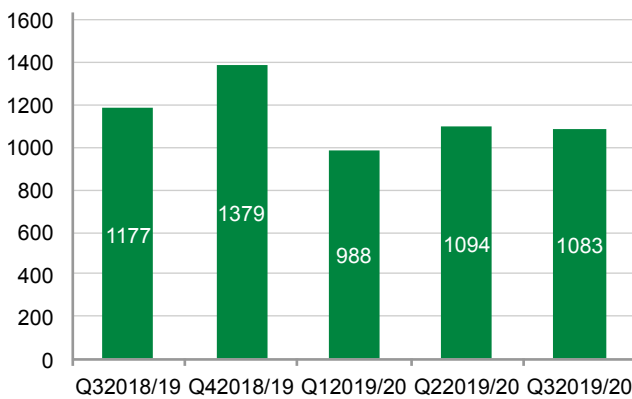
¹ As explained in full on page 10 this graph uses existing and new methodologies for identifying serious injuries.

² As explained in full on page 11 the quarters here are based on calendar months rather than the usual reporting periods.

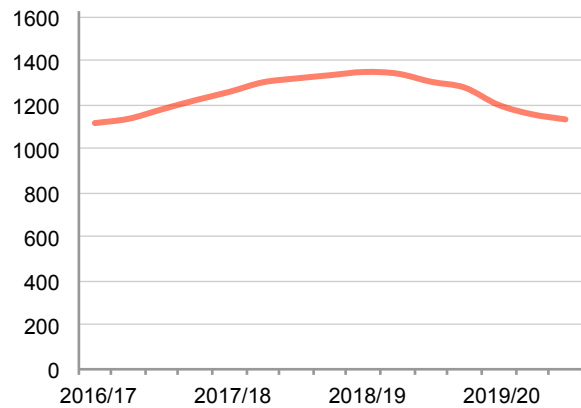
³ Note the Metropolitan Police do not report on customer injuries inside a bus, and therefore this data refers to incidents outside the bus.

Customer injuries on London Buses

Past five quarters



Moving annual average



There were 94 (eight per cent) fewer customers injured on London Buses this quarter compared to Q3 2018/19. Even though there have been a million fewer passenger journeys compared with the same quarter last year, injury rates have dropped, from 2.2 to 2.1 injuries per million passenger journeys over the same period.

To support the reduction in the top causes of injuries, all our Bus operators are taking positive action, including Metroline, whom operate 16 per cent of our bus network. They have recently launched a campaign to actively encourage drivers to give additional time for passengers to settle on board before moving off.

1,083

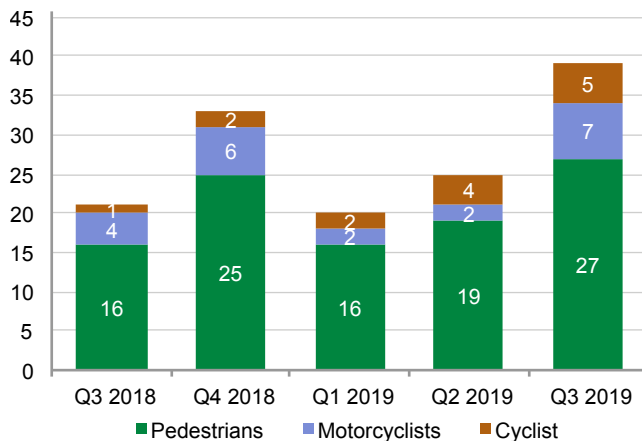
Number of injuries on the bus network this quarter (8% ▼ against Q3 2018/19)



Top causes of injury (%)

Slips, trips and falls	67
Struck by / against object	17
Collision	9
Cut or abrasion	5

People walking, cycling or motorcycling Past five quarters²



Between July and September 2019, more than half of these killed or seriously injured by a bus were walking, cycling or on a motorbike. Pedestrians made up the largest proportion (69 per cent) of these casualties.

However, good progress has been made if we consider performance across the year to the end of September 2019, the number of people killed or seriously injured whilst walking in collisions with a bus has fallen by seven per cent.

²As explained in full on page 11 the quarters here are based on calendar months rather than the usual reporting periods.

Did we deliver our planned improvements?

- **Multi operator prevention days**

We undertook two further incident prevention days with all operators in London during the quarter. The first was held in October at Walthamstow bus station, where we recently had an increase in pedestrian incidents. The day was a success in raising the dangers of street traffic and encouraging extra caution in and around the station, as well as an excellent opportunity to see drivers out on the routes performing well and receiving first hand feedback from their managers.

The second event was held in Hackney Wick in December. Hackney Central is a busy, congested area in peak periods and bus drivers have regular issues dealing with tight corners, high demand for green time at traffic lights and merging traffic. Again we achieved a good turnout of people from all affected bus operators and our Buses team, and were able to witness first-hand the problems affecting services

- **Speed compliance tool**

The implementation of our speed compliance tool has been largely successful in Q3 with Arriva in particular taking a proactive approach to testing the tool. This has led to it challenging all its depots and drivers where excessive speed occurs, specifically in out of hours situations. The improvement from Arriva is reported at a 47 per cent reduction in speeding events compared to Q2

- **Fatigue risk management**

We have continued to meet with the bus operators and trade union representatives to progress discussions on the management of fatigue risk. In particular, we have made a Fatigue Risk Management System a requirement for all operators by August 2020. If not instigated by August 2020 operators will not be eligible to bid for any further routes.

Our Bus Operations team has set up a £500,000 innovation fund for operators to find new and active ways of tackling fatigue. This funding challenge will run in Q1 2020/21.

Testing continues on new technologies which can detect and predict fatigue in drivers. Two of our operators, Go Ahead and RATP Dev, were involved in monitoring the Guardian device, which is already utilised in Croydon Tram. Abellio are also funded by the 2019 Safety Innovation Fund to test FitDrive, a Datik device which measures the driver's alertness before and during driving to help avoid a fatigue event occurring

- **Safety related complaints**

We have delivered improvements to ensure serious safety related complaints are escalated both internally and externally. We have reviewed all recorded complaints to observe the level of severity of the issues and close working with the bus operators to ensure that any potential risks are eliminated or reduced

- **Mobileye collision avoidance**
This system was being installed across the Abellio fleet during Q3 and will be complete for all Abellio buses in early 2020. This means that drivers will receive alarms and alerts when driving too fast, too close, drifting from their lane, or facing the potential risk of a pedestrian stepping out into their path. Tests undertaken by Abellio in 2018 on two routes yielded a 25 per cent reduction in collisions and 26 per cent reduction in customer injuries on board and we will be monitoring progress to see if this can be matched across a wider fleet.
- **Acoustic Vehicle Alerting System (AVAS)**
The trial of a new sound for quiet running buses was announced on 18 December 2019. The sound has been developed with input from Guide Dogs for the Blind, London Travelwatch and

other key accessibility, walking and cycling groups. The sound, which is played through special speakers inside the front of the bus, will ensure that all road users are aware of electric and hybrid buses when they are moving at slow speeds. Without this sound, these vehicles are almost silent which could pose a safety risk, particularly for people who are blind or are partially sighted. The trial on the 100 bus route comes ahead of an artificial sound becoming a regulatory requirement for all new 'quiet' running vehicles in 2021.

There are now over 50 buses in our fleet that meet all the requirements of the new Bus Safety Standard (BSS). BSS 2019 features include intelligent speed assistance, blind spot mirrors, pedal indicator lights to prevent pedal confusion and non slip flooring.

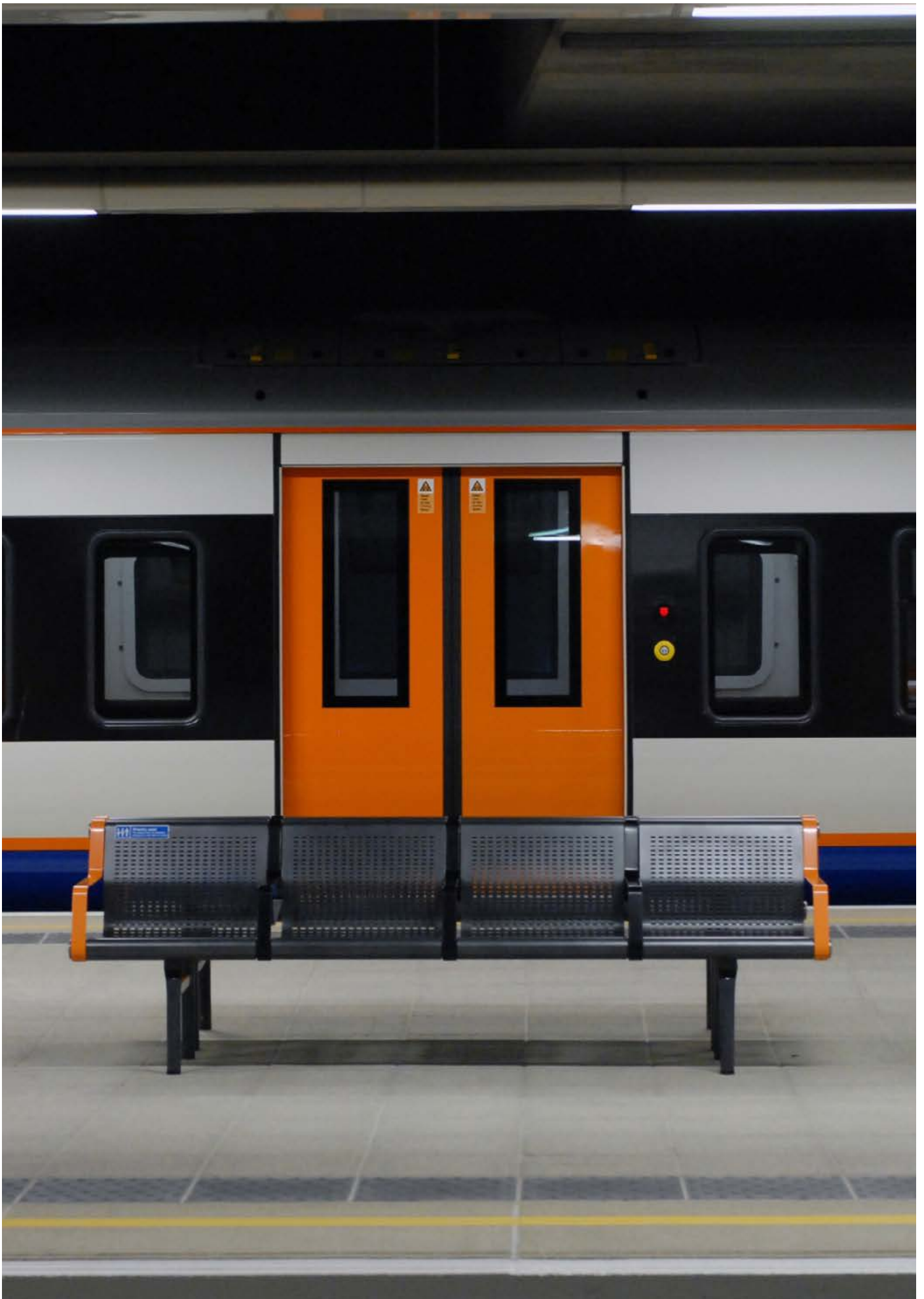
Our plans for next quarter

Further multi operator prevention days are planned for Q4 2019/20. The next exercise will be held in central London to incorporate as many operators as possible

Continue to work with bus operators and Unite to implement the fatigue risk management programme, including the Fatigue Innovation Fund

Work closely with operators to focus on reducing customer injuries, following an increase in slips trips and falls on board during Q3

Begin trial of acoustic vehicle alerting system on the 100 bus route, which operates between St. Paul's and Shadwell stations

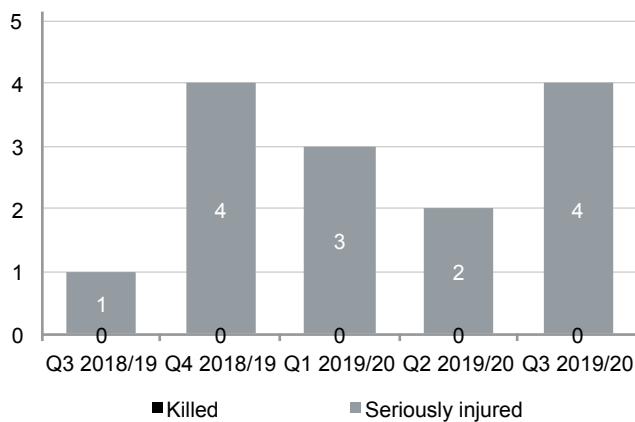


Rail

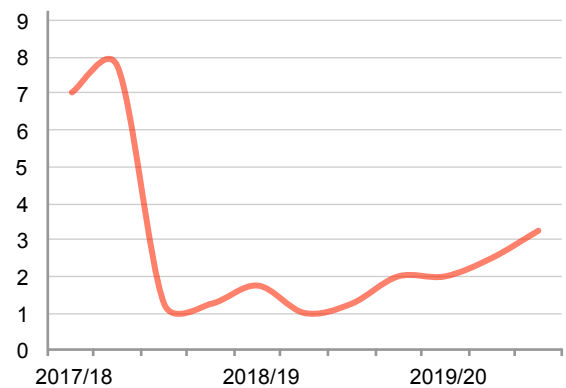
This section looks at how Rail customer safety contributes to our scorecard 'Reduction in customer and workforce killed and seriously injured', and analyses all customer injuries on our Rail network.

Customers killed or seriously injured on Rail

Past five quarters



Moving annual average



Injuries by mode (%)

London Overground	45
TfL Rail	39
DLR	16
Trams	0

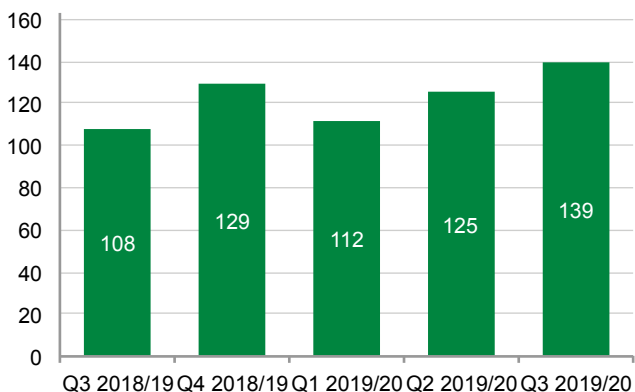
In Q3, there were four serious injuries sustained by our customers on TfL Rail (two) and DLR (two). This is an increase of three from the same quarter last year. Overall injuries increased by 31 over the same period last year.

The first TfL Rail serious injury was at Maryland Station, when a customer fell on the stairs and sustained a fractured ankle. The second was due to an intoxicated customer falling between a train and platform at Romford resulting in a head injury and loss of consciousness.

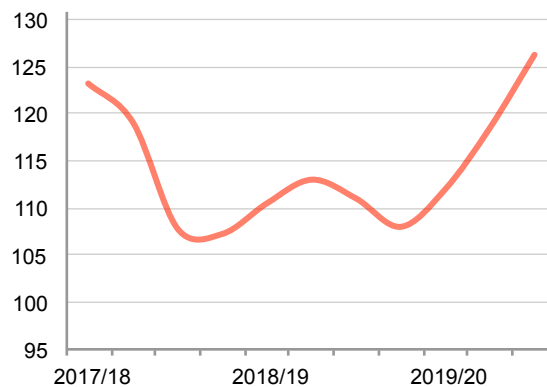
The first DLR serious injury involved a customer slipping on a very wet metal grid at the bottom of the steps going up to the platform at East India station and suffering a fractured wrist. The second involved a customer reporting that a child had fallen on an escalator at Woolwich Arsenal station resulting in a broken wrist.

Customer injuries on Rail

Past five quarters



Moving annual average



Overall customer injuries on our Rail networks have increased by 31 compared to Q3 last year, an increase of 28.7 per cent. This represents the continuation of an overall increasing trend in customer injuries. Forty five per cent of injuries occur on London Overground, 39 per cent on TfL Rail, and 16 per cent on DLR. We are working to improve the travel environment for all our customers by introducing new trains on London Overground and refurbishing Stations. General design improvements and improved lighting will help prevent injuries from slips, trips or falls and deliver overall safety improvements.

139

Number of injuries on the Rail network this quarter (28.7% ▲ against Q3 2018/19)



Did we deliver our planned improvements?

Trams

- **Customer injury reduction**

Following an exercise in raising customer awareness about tram braking during Q2, our Q3 results showed three consecutive periods with no on board customer injuries.

A further improvement was introduced in Q3 to install 'sharks teeth' signage on trams to educate the public about the hazards of getting trapped in the doors

- **Tram safety: testing new technology**

There has been testing of the Physical Prevention of Over-Speeding (PPOS) during Q3, a device designed to automatically slow a tram down if it accidentally or deliberately over-speeds in a given zone. The technology will be fully enabled in passenger service from the end of January 2020.

A fencing risk assessment began during Q3 with an aim to complete the entire risk assessment process for the tram perimeter in Q4 2019/20.

Alongside Tram Operations Limited (TOL) we continue to work closely with the Office of Rail and Road (ORR) to ensure that all recommendations relating to the Sandilands tragedy are being tracked appropriately and in good time. The ORR has no outstanding concerns with us or TOL in this regard.

We have awarded a contract for the design and provision of emergency lighting to the tram fleet. The system will provide additional lighting units within the tram equipped with autonomous batteries.

London Overground

- **Rail Zero Harm forum**

A Rail Zero Harm forum was introduced in Q3 which successfully incorporated contractors and our management reviewing safety processes and 'lessons learnt' from previous incidents. This forum also enabled the teams to share best practice and potential new technologies that will help to prevent future incidents and injuries on all networks. Further Zero Harm forums will be held in Q4 2019/20 and Q1 2020/21.

Docklands Light Railway (DLR)

- **Trespass incidents on DLR reduced in Q3**

Trespass incidents on the DLR dropped by 33 per cent in Q3 versus Q2. This follows efforts to encourage people not to enter the track to retrieve dropped personal items. This work remains a priority to avoid further injury to trespassers and disruption to the network for our customers

- **Measures to prevent train surfing**

Attention remains on deterring "surfers" using the DLR network. The numbers of such incidents decreased in Q3 although this is likely to be more weather related than necessarily a success of warning signs. Further education and signage will be considered in Q4.

Our plans for next quarter

Complete the fencing risk assessment process on trams

A second Zero Harm Forum for all Rail transport modes

Implement a strong train and tram surfing deterrent

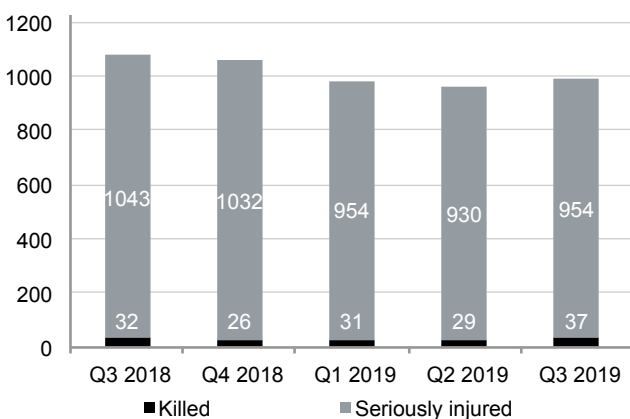
Tram emergency lighting will begin to be deployed early this year



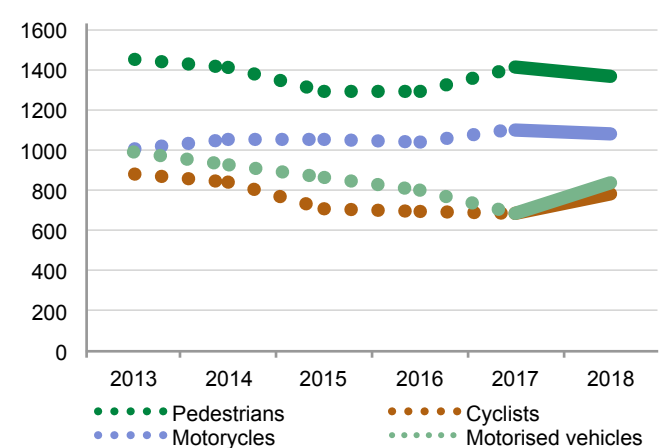
This section looks at how London's Streets perform in terms of customer safety measured against our scorecard measure 'Reduction in people killed and seriously injured on the roads from 2005-09 baseline', and analyses all customer injuries on London's roads.

 **People killed or seriously injured on London's streets**

Past five quarters*



Annual totals**




Over the year, good progress has been made in reducing serious injuries, although the number of fatalities on London's streets remains a concern. Road casualty data is reported in arrears by the Metropolitan Police. For the most recent quarter available, July - September 2019, a total of 37 people were killed on London's roads which is up from the 32 people killed during this period in 2018. One was a child and ten people were aged 60 years old or over. Of those people killed in road traffic collisions, 20 were walking, nine were motorcyclists, and two were cyclists. There was a concerning increase in the number of people killed whilst walking, in particular in collisions involving cars. Two deaths involved deliberate acts of violence, and there were certain instances where a vehicle was used as a weapon. Guidance provided by the Department for Transport requires these to nevertheless be recorded in road casualty data as deliberate acts of violence.

The provisional figures for July - September 2019 show that the number of people killed or seriously injured fell by eight per cent when compared to the same quarter last year, to 991 people. The greatest reduction was amongst people motorcycling and cycling, in particular men aged between 25-59 years old.

The Vision Zero action plan, published in July 2018, sets out a series of targeted interventions which are designed to deliver further reductions in road danger on London's roads.

991
 Number of people killed or seriously injured on streets this quarter (8% ▲ compared to Q3 2018/19)

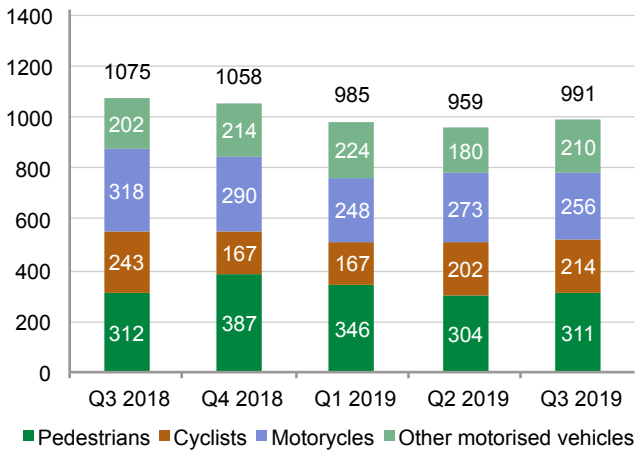


* As explained in full on page 11 the quarters here are based on calendar months rather than the usual reporting periods.

**Figures from the end of 2016 have been reported using a new system. The dotted lines in the graph for calendar years 2013-2016 denote back-estimated figures following analysis undertaken with the Transport Research Laboratory to indicate how many collisions would have been reported under this system in previous years.

People walking, cycling or motorcycling

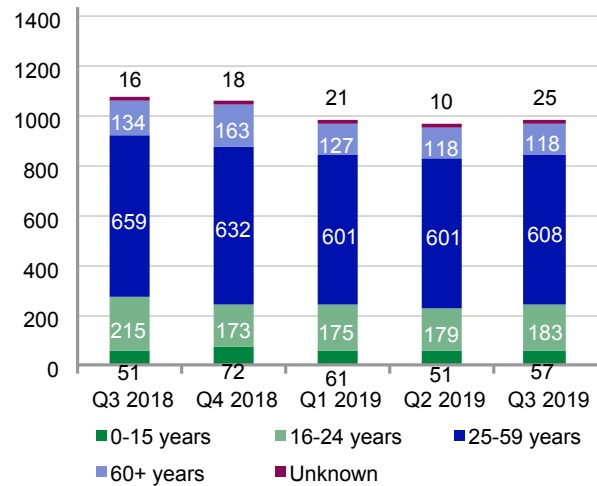
Past five quarters²



During the most recent quarter, provisional figures show that 79 per cent of people killed or seriously injured were walking, cycling or motorcycling. This is an 11 per cent reduction compared to the same period last year. In Q3, motorcyclists accounted for 26 per cent of casualties, despite being only around one per cent of journeys. This is down from 30 per cent in Q3 2018.

Age

Past five quarters²

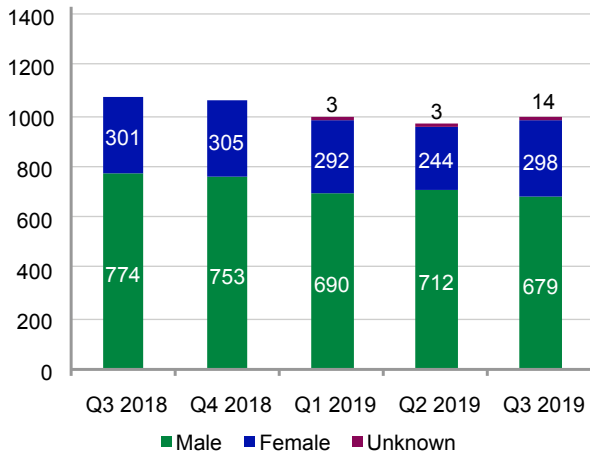


Provisional figures show that the number of people killed or seriously injured fell amongst all age groups, except for children aged less than 16 years. The number of children killed or seriously injured increased from 51 to 57 which is a concern. Two thirds (67 per cent) of children injured were walking, in particular in collisions involving cars (64 per cent). In total, almost two thirds (63 per cent) of people killed or seriously injured were aged 25 to 59 years old, with motorcyclists making up almost a third (28 per cent) of casualties in this age group despite making one per cent of journeys. Age was known for over 97 per cent of casualties.

²As explained in full on page 11 the quarters here are based on calendar months rather than the usual reporting periods.

Gender

Past five quarters²



Provisional figures show that the number of men killed or seriously injured fell by 12 per cent and the number of women killed or seriously injured fell by one per cent, when compared to the same period last year. However, men still made up over two thirds (69 per cent) of casualties and were at greater risk of injury per journey than women.

Men accounted for 94 per cent of motorcyclist casualties, making around 98 per cent of journeys by motorcycle. Men also made up 81 per cent of cyclist casualties and around 72 per cent of journeys by bicycle. Of people walking, men made up 49 per cent of casualties and around 48 per cent of journeys by foot. Gender was known for over 99 per cent of casualties.

²As explained in full on page 11 the quarters here are based on calendar months rather than the usual reporting periods.

Did we deliver our planned improvements?

- **Vision Zero Travel Safe Priority**

We are working with the Metropolitan Police Service to trial Travel Safe Priority Areas, a new initiative designed to tackle community road safety issues in local areas over short periods. Action includes high visibility and covert policing, Community and Junior Roadwatch sessions, where members of the public work with the police to educate drivers about the dangers of speeding, and locally targeted communications.

On Shoreditch Inner Road, measures are in place to tackle collisions involving motorcycle riders, as well as a higher than average number of people cycling injured at junctions. Working with the police, we are also targeting Camden High Road, where there has been an increase in collisions involving cyclists between 2017 and 2018

- **2019 European Day Without A Road Death (EDWARD)**

2019 European Day Without A Road Death (EDWARD) was held on Thursday 26 September, which was successful in there were no reported deaths within the London transport network on that day.

Project Edward was launched in 2016 by The European Traffic Police Network to spearhead a significant and sustained reduction in death and serious injury on roads across the world.

We want all road users to think about the risks they face, the risks they may pose to others and how they can go about reducing those risks. We believe that #ProjectEDWARD and raised awareness

of these risks can make a significant contribution towards further reducing road deaths and serious injury

- **Watch Your Speed campaign**

In October, we launched a campaign aimed at encouraging drivers to drive slower. Driving at an inappropriate speed or above the speed limit is deemed to be socially acceptable and the public do not view it as a risk. This campaign aims to change social attitudes towards driving at inappropriate speeds by sharing them through the perspective of their friends and family that they are driving too fast.

The Watch Your Speed campaign launched on Channel 4, ITV and London Live as well as Video on Demand services. We also launched posters and radio to support the key message. We also published ground breaking research that showed over 60 per cent of car passengers in London have felt uncomfortable with the speed a friend or relative has driven within the last month



- **Direct Vision Standard**

On 28 October 2019, we successfully launched the application process for permits under the Direct Vision Standard (DVS). From October 2020, all heavy goods vehicles entering London must hold a safety permit. Work has commenced on core system development and testing to prepare for launching enforcement element of the scheme on October 2020

- **Camberwell Town Centre**

In November 2019 we commenced works on the A202 corridor through Camberwell town centre, including the Camberwell Green junction to improve vulnerable road user safety and provision, and the urban realm. This also forms part of our wider Safer Junction programme. These works are funded via Local Implementation Plan funding for major schemes and are scheduled for completion in Spring 2020.

Our plans for next quarter

Vision Zero Travel Safe Priority Programme: High visibility and covert policing and Community and Junior Roadwatch sessions. Fore Street in Enfield and Romford Road will be targeted in January.

Public consultation reports have been published on the following accelerated Safer Junction projects, designed to improve the safety of some of London's most dangerous junctions:

- Kingsland Road/Balls Pond Road
- Kennington Park Road/Braganza Street
- East India Dock Road/Birchfield Street
- Edgware Road/Harrow Road
- Clapham Road/Union Road
- Holloway Road/Drayton Park/Palmer Place
- Camden Street/Camden Road.

The Traffic Regulation Orders for these changes are being advertised to the public, to ensure that proposed speed limit changes and prohibited movements are legally enforceable. The detailed design packages are being finalised and construction started in January 2020

Detailed design work is complete on the second phase of the Lowering Speed Limits project, to install seven raised traffic calming features on our Road Network

The new 20 mph speed limit on our roads across central London will be introduced in March 2020



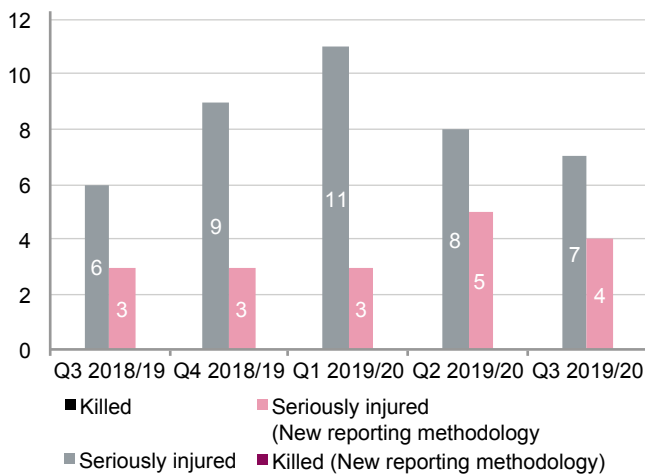
Other operations



This section looks at how our Other operations customer safety contributes to our scorecard measure 'Reduction in customer and workforce killed and seriously injured', and analyses all customer injuries on our Other operations. Other operations includes Victoria Coach Station, London River Services, Taxi and Private Hire, Cycle Hire and Dial-a-Ride.

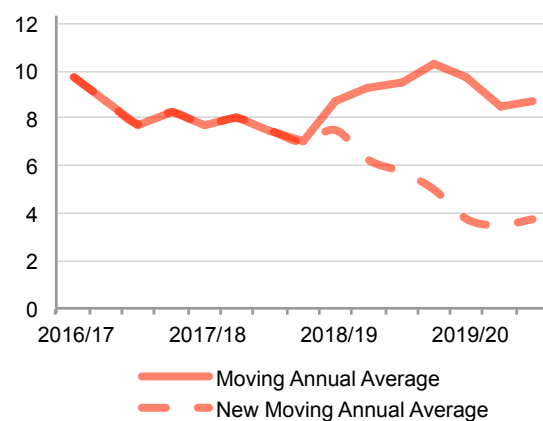
Customers killed or seriously injured

Past five quarters¹



¹As explained in full on page 10 this graph uses existing and new methodologies for identifying serious injuries.

Moving annual average



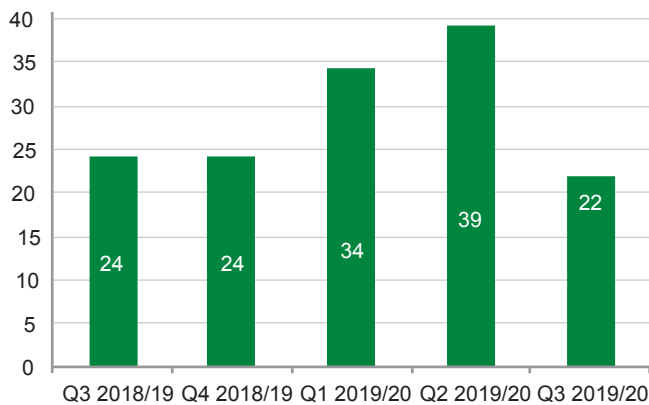
In Q3 there were no customer fatalities on our Other operations, however, seven customers were seriously injured:

- Dial-a-Ride (five), all of which were as a result of slips, trips and falls
- Cycle Hire (two), both caused by collisions

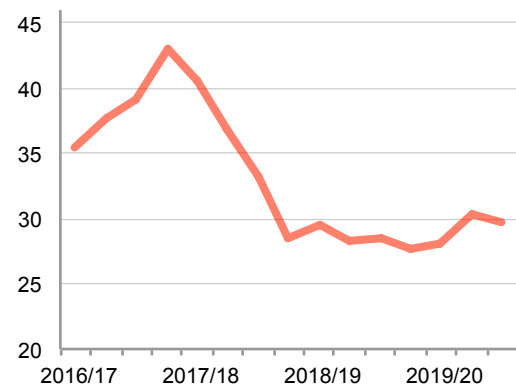
This was a decrease of one on the previous quarter. There were six customers seriously injured in the same quarter last year.

All customer injuries

Past five quarters



Moving annual average



Top cause of injury (%)

Slips, trips and falls	59
Struck by object / against object	18
Collision	18
Assault	5

22

Number of injuries within our other operations this quarter (8.3% ▼ on Q3 2018/19)



There were 22 customer injuries on our other operations during Q3, of which 15 were minor injuries. This is a reduction of two (eight per cent) when compared to the same quarter last year.

Injuries by mode (%)

Dial-a-Ride	68
Cycle Hire	14
London River Services	9
Victoria Coach Station	9

Dial-a-Ride saw an increase in minor customer injuries due to accidents whilst boarding and alighting vehicles. This is being mitigated by new vehicles having guard rails added to the ramp arrangement, enabling customers to hold onto a handlebar whilst boarding.

Did we deliver our planned improvements?

- **London River Services**

Following the launch of the Safety Improvement Plan for the Thames in Q1 2019/20, work continues to deliver the activities in the plan.

New boarding and alighting ramps have been installed at seven of our nine piers during the quarter. This has resulted in safer access to and exit from Thames Clipper vessels using our infrastructure.

We continue to engage with all Thames stakeholders to improve customer and workforce safety through active monitoring and operator licensing requirements. Monitoring of operators using our piers is now part of business as usual activity.

During Q3, we developed a safety improvement plan designed to enhance our performance in customer and workforce safety into 2020 and beyond, in the guise of a London River Services Safety Standard. Plans for this programme are being finalised for launch in 2020/21

- **Victoria Coach Station**

Victoria Coach Station undertook a successful 'exchanging places' programme to help staff understand the roles of their peers.

This interactive exercise widened the knowledge and awareness of safety risks around the station through management and front-line staff sharing their respective knowledge.

- **Dial-a-Ride**

Dial-a-Ride took delivery of 90 new vehicles in Q3 2019/20 which brought with it an opportunity for learning to handle new technologies, such as improved manual handling prevention techniques to avoid lifting issues and customer injuries.

These vehicles are more environmentally friendly with Euro VI engines meeting the new ULEZ standards, but also more economical.

Planning for further new vehicles will consider whether an electric mini-bus is an option for Dial-a-Ride in 2020.

Our plans for next quarter

Work on charter boat operator licenses continues, and any new requirements will be introduced in Q4

Review the methods of boarding customers within Dial-a-Ride to see if there are ways to avoid in-house customer injuries; i.e. prior to boarding

We are finalising our chains and ladders safety inspection programme

London's transport system will be safe for our workforce



Safe for our workforce

In this section we look at the overall safety of our workforce, and what we are doing to improve the safety, health, and wellbeing of everyone who works for us. This is measured through our key safety measures across all our work activity.

Workforce fatalities

On 18 September 2019 there was the tragic accident at Waterloo station which resulted in our colleague Christian Tuvi sustaining fatal injuries. On 31 October 2019 there was the tragic road incident in Orpington, where we sadly lost Kenneth Matcham, who was working for one of our bus operators.

This is significant as the last time an individual was fatally injured whilst working for us was in 2010.

Workforce injuries

479 of our workforce were injured in Q3 2019/20. This is a reduction of 41 (7.9 per cent) when compared to the same quarter last year.

Of these injuries, 55.5 per cent occurred within London Underground and 19.6 per cent in Buses. The rest was made up by workers from teams working on Major Projects (7.1 per cent) and all other business areas (17.7 per cent).

RIDDOR reportable incidents

During Q3, there were 59 reportable incidents affecting our workers. Ten of these were a result of our maintenance and construction activities.

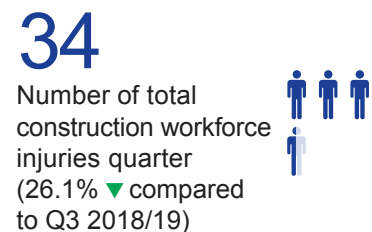
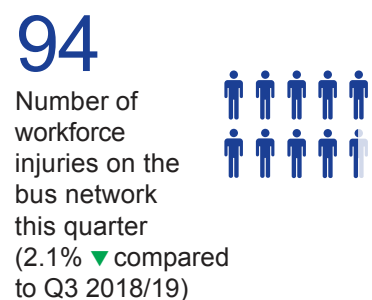
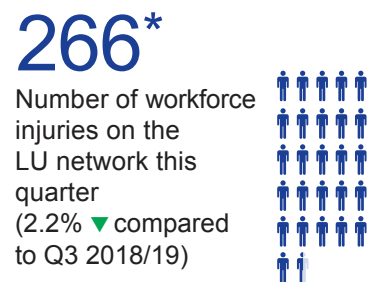
On LU there were 54 incidents in total, of which five were reportable specified injuries.

A track engineer sustained a broken wrist after a drill bit became stuck in a sleeper on the Bakerloo line. A train maintainer sustained a fractured ankle whilst operating equipment incorrectly at Cockfosters depot. A training manager sustained a fractured wrist after losing their footing near Ashfield House.

All other incidents were due to time absent from work for more than seven days following an injury.

In our Major Projects team, there was one specified RIDDOR reportable injury in Q3 where, one of our workers working on the Bank Station Capacity Upgrade fractured his foot with a hand breaker. Following investigation, opportunities to further mitigate this risk have been identified and changes implemented. Two minor injuries were reportable under RIDDOR as they resulted in an absence from work of over seven days.

On Crossrail, there were two reportable injuries during Q3. One resulted in a broken foot when a gas bottle dropped on it in Plumstead Yard. The other incident was a slip in a store room at Liverpool Street resulting in a broken ankle.

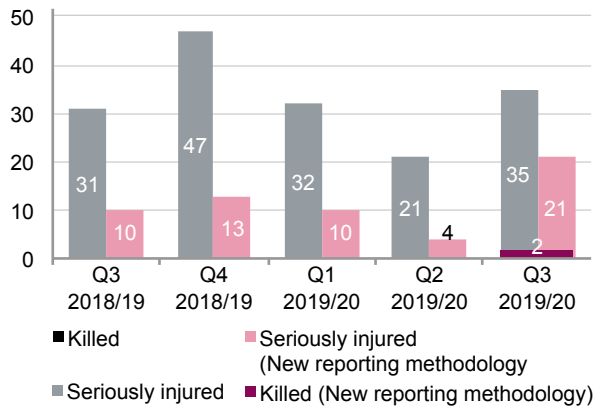


*The final number for Q3 2018/19 has increased since that report was published, following improvements in data quality

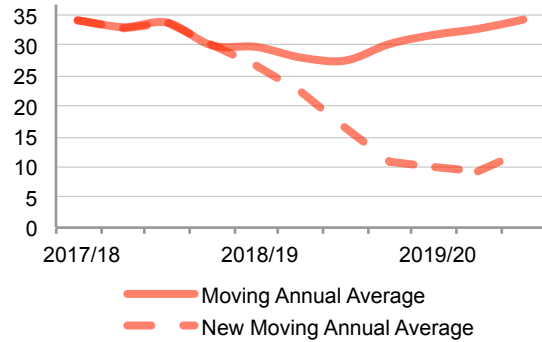


Workforce killed or seriously injured

Past five quarters



Moving annual average



Supplier workforce

There has been a four per cent reduction in supplier workforce injuries this quarter, compared with the same quarter last year.

We have approximately 25,000 people working for our bus operators in London. There were 87 injuries to those working for Buses in the Quarter, representing 40.8 per cent of our overall supplier injuries.

Every bus operator is working on safety initiatives locally to reduce harm; notably

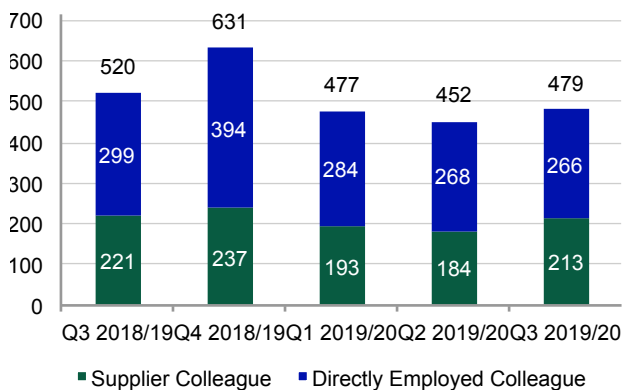
to avoid on-board manual handling issues with cab, blinds and doors. In addition, significant work is being done on operator premises to reduce slips, trips and falls.

Directly employed workforce

In Q3, 266 of our directly employed workers were injured, a reduction of 11 per cent on the same quarter last year. Of these, 234 (88.0 per cent) were within LU. This reflects that the majority of our directly employed front line staff in are in the LU team.

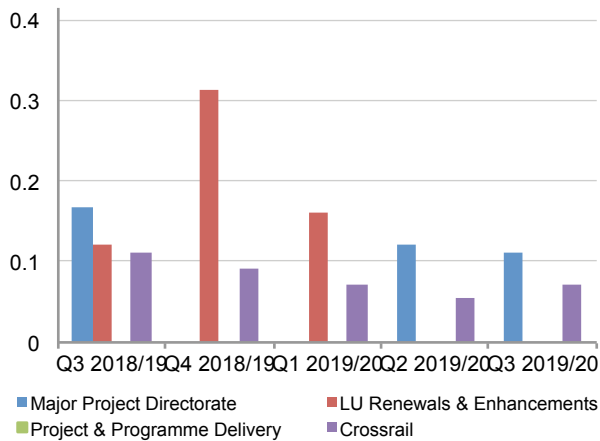
All workforce injuries

Past five quarters



Projects and construction accident frequency rate (AFR)

Past five quarters

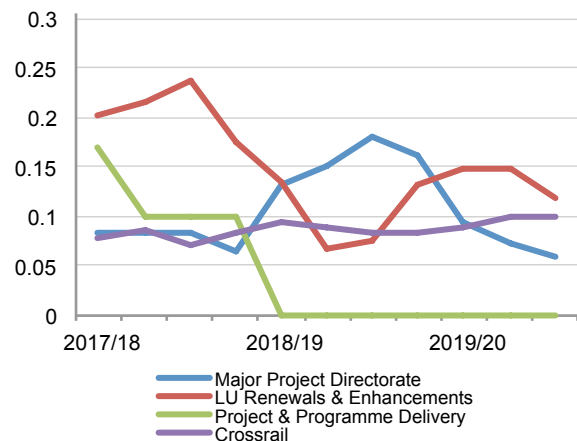


Manual Handling	23
Slips / trips / falls	11
Hand tools	9
Machinery / Equipment / Powered Tools	9

Fifty-two of our people working on major projects were injured in the quarter. This is a 25 per cent decrease on Q3 last year and a 27 per cent decrease on Q3 2017/18. There was one RIDDOR reportable injury in Q3 (fractured foot). Two minor injuries were reportable under RIDDOR as they resulted in an absence from work of over seven days, which compares with zero in Q3 2018/19, and two in Q3 2017/18.

Of the 35 injuries, four were directly employed (11 per cent compared with 23 per cent last year). These were mostly in LU, where the trend has been stable since the start of 2017/18.

Past three years



During Q3, Crossrail continued to show a disappointing negative trend. RIDDOR incident rates (0.09) and lost time injury rates (0.16) both remain comparatively high.

High potential near miss incidents (HPNMs) continue. During the quarter there were 11 compared to eight in Q2 and three in the same quarter last year. Three of the HPNMs during Q3 are the accountability of third parties such as Network Rail.

All incidents have been investigated. Where incidents are not owned by Crossrail or its contractors, Crossrail has provided support.

Crossrail contractors continue to perform well against the leading indicators that make up the Crossrail Health and Safety Performance Indicator.

To ensure the metrics in the indicator are correct, an audit has taken place. The results of this have been reviewed at Crossrail's Safety & Health Executive Leadership Team and the data checking before submission and the scoring criteria have been tightened to ensure the output score delivers the correct information.

Did we deliver our planned improvements?

- **Christian Tuvi's death at Waterloo**

On Wednesday 18 September 2019, Christian Tuvi, working for one of our suppliers, died as a result of an injury received while working for one of our contractors at Waterloo Underground station. We were deeply saddened by this tragic incident and are working closely with the British Transport Police and the Office of Rail and Road as part of their investigations to understand why this terrible incident happened

To honour Mr Tuvi's memory and to give our people a chance to talk about working safely, we held a "Time for Reflection" week in October

- **Kenneth Matcham's death in Orpington**

On Thursday 31 October 2019, Kenneth Matcham, driving for one of our bus operators, died as a result of a tragic road collision in Orpington.

The internal investigation being undertaken by the operator is ongoing with support from our Buses team, and will be completed at the end of January 2020. The Police investigation is ongoing

- **Operational communications**

The focus during Q3 was on embedding the new framework – ensuring that the right people get the right briefings and training.

We introduced the new approach to monitoring operational communications and we will start to report on this in Q4. Feedback from our teams is positive and we are sharing stories and information locally and on our intranet

- **Workplace violence**

In Q3, we launched a workplace violence and anti-social behaviour strategy to tackle anti-social and threatening behaviour towards our people.

This includes: strengthening our teams to prevent revenue fraud/avoidance, recruitment of a team to prevent work-related violence, aggression and anti-social behaviour, funding of more BTP officers, doubling the size of the Workplace Violence team and giving improved tools to our teams.

In Q4 we will start making body-worn cameras available to LU station staff with the aim to reduce the number of work-related violence incidents. This started in early December and we plan for every colleague to have one by mid 2020. We are also trialling body-worn cameras with our staff at Stratford Bus Station

- **Safer lifting operations**

In Q3 a review of all lifting plans and lifting operations at Stratford was undertaken following issues identified by the Office of Rail & Road. Improvements were made to the plans for lifting at this location and these will be shared network wide

- **Crossrail**

We continue to focus on our Target Zero aim which is that all harm is preventable. To this aim several initiatives have been rolled out. The new Crossrail Health & Safety, One Team, Film is being shown to all Crossrail and contractor workers. This Health & Safety film is designed to

welcome new employees to Crossrail and prepare them and existing workers to face new risks as we approach handover.

Crossrail's 13th 'Stepping Up' week took place, the theme was reinforcing Crossrail's Golden Rules and preparing for handover. All Crossrail offices and sites had opening presentations with the core messages delivered by Crossrail and contractor directors.

'Stepping Up' week is an opportunity for the entire Crossrail team to become

involved in Health and Safety initiatives and activities. These ranged from Neurodiversity workshops to talks delivered by Steve Williams (Olympic Rower) discussing the importance of the team and of following the exact requirements for a task/job.

Health and Safety improvements and actions are being monitored and tracked at the executive level through a newly developed dashboard and through Crossrail's Target Zero Improvement Plan.

Our plans for next quarter

Start reporting on operational communications monitoring

Roll out 250 more body worn cameras to LU station staff

Continue the roll out of the new risk management process in stations

Introduce a new lifting plan template and guidance document

Did we deliver our projects and construction planned improvements?

- **Our suppliers and Zero Harm**

Our Zero Harm Forum was reinforced in September by Four Lines Modernisation (4LM) with an immersive learning event that focussed on the lessons from the Clapham rail crash, a collision at Waterloo, and a near miss at Cardiff East. This is critical as our 4LM works are now in delivery, testing and go live phases, so drawing focus on following correct working methodologies is crucial.

A pan-TfL Zero Harm Forum sharing and learning event was held in November and attended by suppliers from across all business transport modes and culminated with key Safety, Health and Environment messages from Mike Brown (Commissioner).

The Beacon award scheme for our construction sites continues to help drive environment, safety and health standards across our suppliers' sites. The most notable example is with 4LM Signal Equipment Room projects where over 30 of these sites have now achieved the Beacon award.

- **Reducing fatigue and fatigue management**

A trial has taken place with some of our night workers with the use of "blue light" filtering glasses. These are designed to reduce the active blue light from computer screens, and tablets, which can promote wakefulness and hinder sleep quality

- **Compliance with safe systems of work**

There has been a focus on ensuring work on site takes place safely, in the way that it was planned. Following a near miss in 4LM, the relevance and size of safety documents was considered. Wherever practicable it is preferred that safety documents are kept as brief as possible, in a short site specific 'task briefing'. At Neasden depot, where 4LM acts as the principal contractor, a safety stand down was conducted to specifically highlight to workers the importance of following their declared safe system of work

- **Safety film goes viral**

A campaign focusing on making safety personal has gone viral across TfL following a pilot within the Major Projects Directorate (MPD) at Ealing Common depot, and the initiative has been taken up by our suppliers.

Titled "Who are you safe for?" the campaign aims to improve and foster meaningful two-way conversations about health and safety with our employees and suppliers

- **Workplace violence and aggression**

To help improve the safety & wellbeing of our workforce, MPD (in consultation with our Learning and Development team) have developed an awareness package called 'urban safety training', which focuses on mitigations to potential risks our employees face when working, travelling and accessing worksites across London. Following trials, this training will be rolled out across all TfL capital programmes

- **Buried services**

We have been strengthening processes to reduce risk when working near buried services; utilising lessons learnt from projects such as Barking Riverside, Tottenham Court Road, Victoria Station Upgrade and Bank Station Capacity Upgrade. These processes have been jointly developed with our contractors and are now being integrated within our internal management systems. Focus is now on developing buried service training

- **Get to site campaign**

Following on from the success of the “Get to Site” Campaign in July 2019 as part of the MPD Leadership Group, our staff in MPD took the time to get out of the office to gain visibility of the vast array of works that MPD are delivering and engage with workers on site

- **Construction Design Management regulations (CDM) awareness**

A video about the importance of factoring health and safety at design stages is being created by MPD. This will be shared with all our Capital Delivery Directorates as well as our wider delivery areas. The video will be ready in Q4.

As part of our strategy to improve the knowledge and skill set of our people, we have continued to deliver a suite of four separate Construction Design Management Regulations (CDM) 2015 awareness sessions. So far, over 480 members of staff have attended the sessions. Feedback has been positive and more courses have been commissioned due to the high demand

- **Safe track access programme**

The Network Rail tragedy at Margam in Wales on 4 July 2019 has given greater impetus to our improvement activities to make it safer for our own workers accessing the track. In Q3 we identified mitigations to ensure that track safety is improved in complex areas of our railway.

Projects and construction

Improving our understanding of our role as a Principal Designer

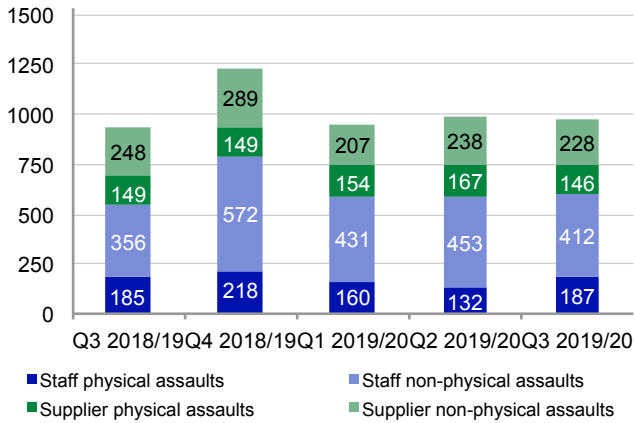
MPD will commence a campaign to support our Destination Green agenda

Deliver the pan-TfL Zero Harm forum in Spring 2020

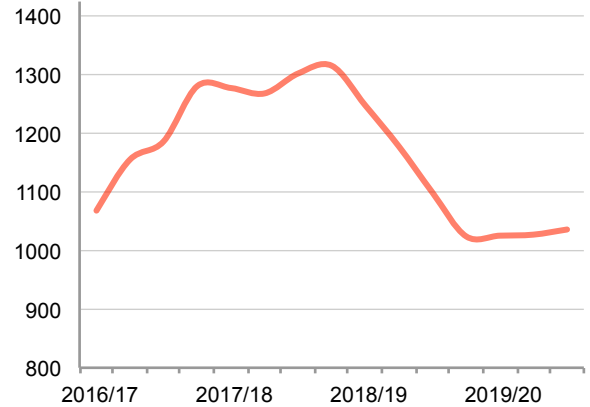
Workplace violence

Violence against our workforce

Past five quarters



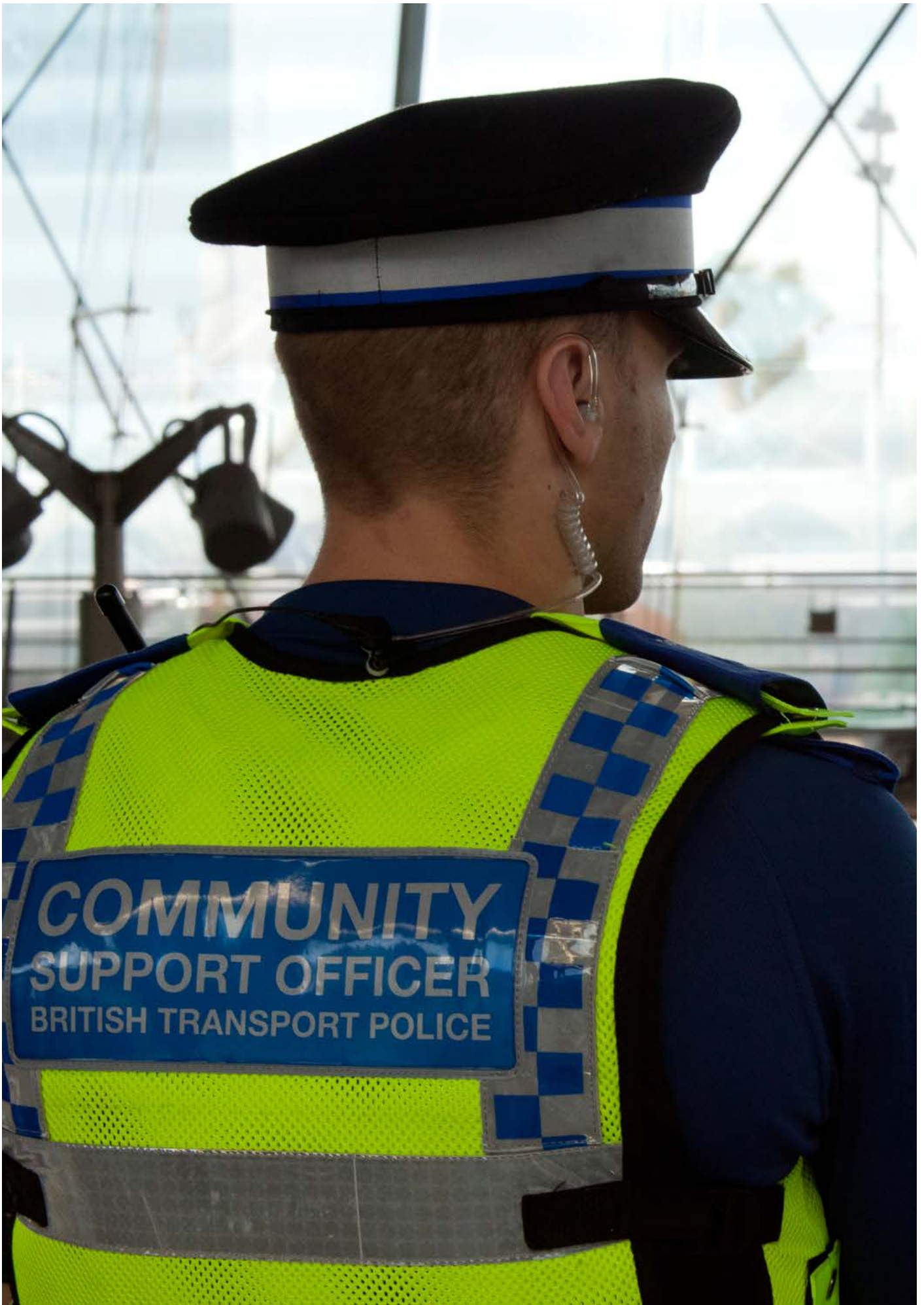
Moving annual average



Types

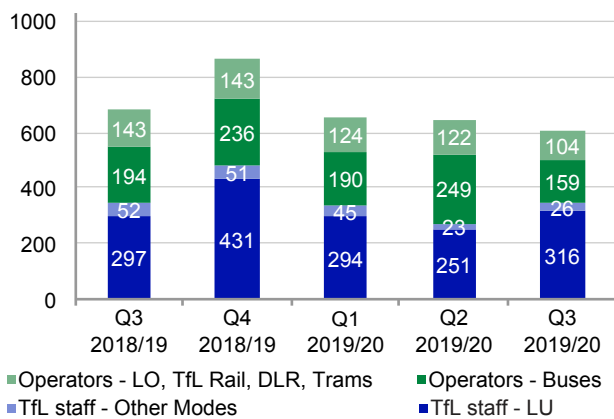
Physical assaults	333
Non-physical assaults	640
Total assaults	973

In Q3, there were 973 incidents of reported violence against our people. Of these, 333 were physical assaults and 640 were threats or verbal abuse (non physical assault). This compares with 938 in Q3 last year, which represents an increase of 3.7 per cent.



Police recorded violence

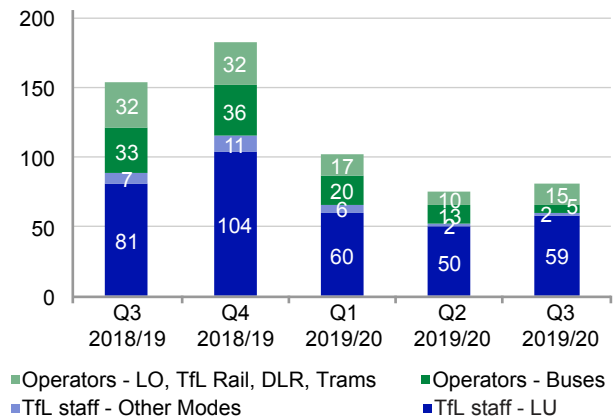
Police recorded violence / public order offences against our staff (volume)



It is imperative that our people, and the workforce of our suppliers and contractors, feel safe and supported and we are determined to do more to tackle workplace violence and aggression against our people. Part of our improvement activity includes improving the quality of our reporting, data and analysis to gain a deeper understanding of trends and issues to better target actions. Future SHE quarterly reports will include more insight as this work progresses.

The roll-out of Body Worn Video to our directly employed staff later this year should provide valuable evidence for police investigations and should help to improve the positive outcomes and completions for cases of work-related violence and aggression.

Overall successful prosecutions recorded from violent / public order offences against our staff (volume)



In Q3 2019/20 overall the police recorded 605 violence/serious public order offences against our staff:

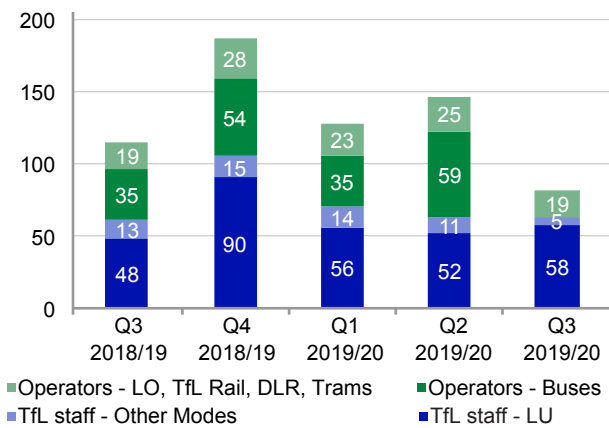
LU	316
Bus / VCS non TfL staff	159
LO / DLR / TfL Rail / Trams	104
Bus / VCS TfL staff	26

This is almost 12 per cent lower than the same quarter last year (81 fewer offences), over six per cent lower than the previous quarter (40 fewer offences). Year to date, offences are down almost four per cent (71 fewer offences compared with last year).

In Q3 2019/20 the overall positive outcome rate was 15 per cent compared with 22 per cent in Q3 2018/19. This figure is reflective of the live nature of ongoing investigations with many Q3 cases open at time of reporting.

Hate crime against staff

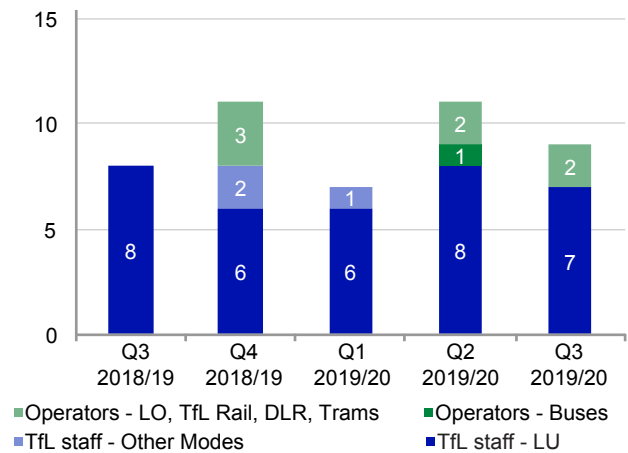
Police recorded violence / public order offences against our staff which are deemed a hate crime



The police flag an offence as a hate crime if it is motivated by one of more of the factors of race, religion/faith, sexual orientation, disability or transgender identify. Hate crime is abhorrent and tackling it is a priority for us and our policing partners. We lead a range of activities to deal with hate crime on our transport network to reassure those who feel more vulnerable to victimisation, encourage reporting and support those who are victims.

In Q3 2019/20, the proportion of offences against staff considered as a hate crime was 19 per cent, broadly similar to previous quarters and year to date. The majority of hate-related staff assaults were racially motivated (in excess of 80 per cent) and this was consistent across our network.

Sexual offences against our staff



The volume of reported sexual offences against our staff remains low and at a similar level to previous quarters. The offences included sexual assault (inappropriate sexual touching) and indecent exposure

We know that these offences often go under-reported. As part of our commitments to improving the safety and security of our workforce, we will support our workers to report these offences so action can be taken.

We continue to work with the police to stamp out unwanted sexual behaviour on the transport network and where it does happen, to identify and bring offenders to justice.

Significant positive prosecution outcomes

The positive outcome rate for this quarter was eight per cent on the Bus network and 18 per cent on the LU and Rail networks policed by the British Transport Police (BTP).

Examples of positive outcomes are outlined below to illustrate the success of our partnership with the Metropolitan Police Service (MPS) and BTP in bringing perpetrators to justice:

- A male was found guilty and sentenced on 3 December 2019 for assault (punches and kicks) on a member of our staff and three members of the MPS at Turnpike Lane Station on 21 March 2019. The court handed down a sentence of 12 weeks imprisonment suspended for six months
- A male was found guilty and sentenced on 5 December 2019 for assault (strike to the face) on a member of our staff at Camden Town Station on 19 May 2019 and sentenced to three months imprisonment
- A male was found guilty and sentenced on 8 October 2019 for affray and assault (punch to the face) on a member of our staff at Westminster Station on 27 August 2019 and was sentenced to 12 weeks imprisonment suspended for 18 months and also given a curfew requirement with electronic monitoring
- A female was found guilty and sentenced on 24 October 2019 for assault (spitting) on a bus driver on 24 January 2019 and sentenced to four weeks imprisonment
- A male was found guilty and sentenced on 7 October 2019 for assault against a bus driver on 1 May 2019 and sentenced to two months imprisonment, suspended for 18 months and also given electronic monitoring.



Did we deliver our planned improvements?

- **Create a single dedicated work-related violence team and commence recruitment to new roles in the team**
On 6 January we brought the Surface and London Underground teams together to create a single pan-TfL team in our Directorate of Compliance, Policing and On-street Services (CPOS) to lead on the implementation of our Work-related Violence and Aggression (WVA) strategy. Over the next few months we will reviewing the processes and activities of the team and recruiting to the vacant positions

- **Improve the analysis and reporting of work-related violence and aggression incidents**
Work is underway with police partners to improve data collection, analysis and reporting for work-related violence and aggression and making this more accessible.

This work is ongoing and is essential to our prevention, crime reduction, and tasking and deployment activities. CPOS is recruiting analysts who will lead on the WVA analysis and reporting.

A new performance framework has been agreed as part of the Work-related Violence and Aggression Strategy

- **Enhance communications around work-related violence and aggression**
Communications is a key strand of our WVA strategy including both external and internal communications.

In late 2019, we launched an external communications campaign to warn

people of the consequences of drinking too much and being abusive to our staff. This complemented a suite of WVA messages that can be used locally by staff to deal with specific issues.

A dedicated communications lead is in place and is working with the operational businesses to improve our internal communications to support our prevention and post-incident responses, and to reassure our people how seriously we take this issue

- **Progress business case for body worn cameras for TfL employed staff, in line with operational requirements**
We have agreed to invest in body worn video for our directly employed staff in line with operational requirements. The technology, which has been proved to reduce colleague assaults, is being rolled out at pace. Cameras are already being used on London Underground and by many of our Rail operators.

A technology test is currently underway involving London Underground and bus station staff and CPOS operational officers. Phase 1 of the roll-out of body worn video is due to be complete by the end of Summer 2020

- **Provide Operational and Police Support**
As part of the WVA strategy we have committed to strengthening policing and our own operational capability to provide greater security across our network and support our people and customers. We are investing in approximately 150 new directly

employed transport support and enforcement officers. This new team will deal with the common triggers of work-related violence, and support our frontline people by providing greater visibility and reassurance across our entire public transport network.

We are investing in 50 additional British Transport Police (BTP) Officers to create a dedicated task force focused

on work-related violence, providing visibility, reassurance and enforcement at priority locations. They will work jointly with our new team of transport support and enforcement officers. The Metropolitan Police Roads and Transport Policing Command will continue to work with us to support our staff working on the road and bus network.

Our plans for next quarter

Following final SSHRP approval of the WVA strategy, it will be publicly launched in April

Work will continue to embed the WVA team, integrate existing LU and Surface Transport processes and activities and recruit to the vacancies

Technology test for body worn video concludes and learning informs future roll-out programme

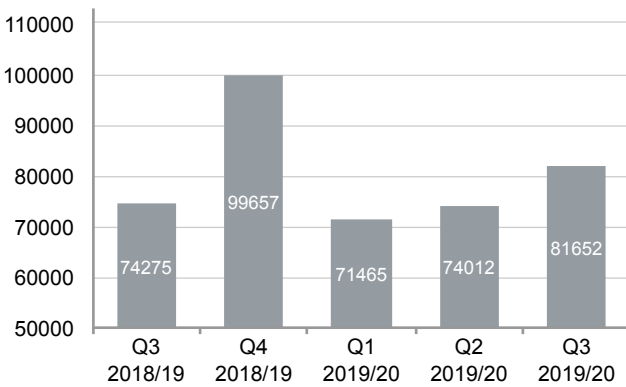


Sickness, absence and wellbeing

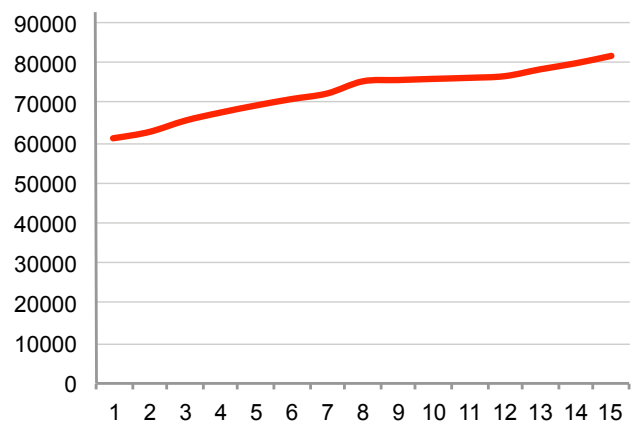
This section looks at key measures relating to our colleague's wellbeing together with progress against planned improvements.

Days lost to sickness

Past five quarters



Moving annual average



In Q3 2019/20 sickness absence was 5.4 per cent. This is an increase from 4.84 per cent when compared to Q3 2018/19.

The top four causes of sickness absence for Q3 2019/20 remain as Mental Health (Psycho Social), Musculoskeletal, Coughs/colds and Accidents/Assaults.

The year-on-year increase is:

- Mental Health - 0.2 per cent
- Musculoskeletal - 0.1 per cent
- Accidents/Assaults - 0.1 per cent
- Coughs and colds - 0.1 per cent.

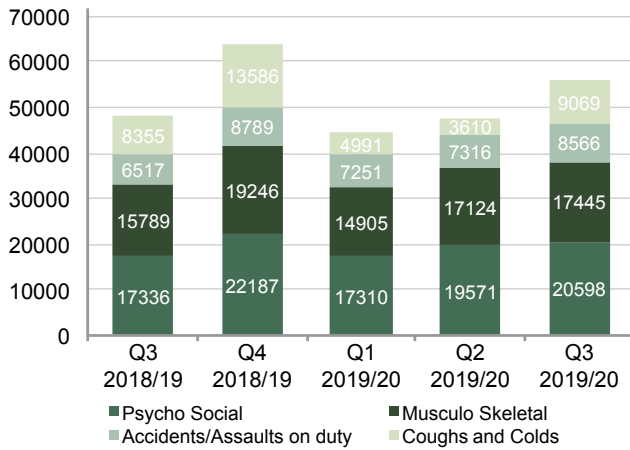
81,652

Working days lost to sickness (9.9% ▲ compared to Q3 2018/19)

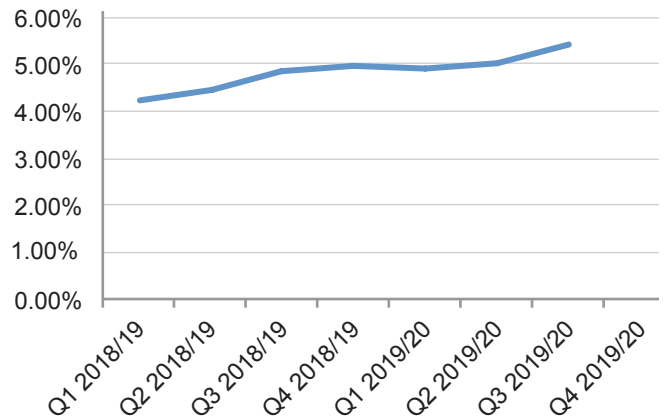


Days lost to sickness (Top four causes)

Past five quarters



Quarterly sickness absence rate



We provide rehabilitation services in the physiotherapy department to return our people fit to work. We also advise on ergonomics to prevent work caused injury. For accidents and assaults we have peer support via the trauma support groups, and intervention by our counselling team for those suffering from post trauma stress. There is also the new Employee Assistance Programme (EAP) available to all our staff for telephone and face-to-face counselling. The EAP also offers support to managers dealing with distressed workers and support those with mental health conditions.

5.5

Percentage working days lost to sickness (0.6% ▲ compared to Q3 2018/19)



Did we deliver our planned improvements?

- **Raising awareness of the menopause**

The menopause is often thought of as a taboo subject, so our Occupational Health team have been raising awareness, especially for line managers. Eight out of ten menopausal women are still at work, with three out of four having menopausal symptoms. One in four may have serious symptoms such as hot flushes, fatigue, irregular periods, mood swings and poor memory which can affect an employee's self-confidence and their ability to work as productively as they would like.

A user-friendly video supporting the campaign is available online and the Health and Wellbeing team has been doing presentations for our staff, which have been well received

- **Health and work management training**
Since we launched the new Work and Health training in June 2019, 86 managers have attended the one-day course, with 93 per cent rating it as good or excellent. The course improves managers' understanding of workplace health and how to work effectively with our Health and Wellbeing team
- **Employee assistant programme**
Activity is already underway to promote the relaunched Employee Assistance Programme (EAP) via the intranet, digital signage, posters

and wallet cards. Senior manager briefings have taken place in LU and Surface, and the messages are also being communicated by our volunteer peer supporters from the Trauma Support Group and the Supporting Colleagues Network, as well as Health and Wellbeing Champions and Time to Change agents.

There has been an increase in take up of the EAP service from the previous provider where utilisation figures were 2.9 per cent.

Month	%
August	3.5
September	3.7
October	4.6
November	3.0

The service gives employees free, confidential, 24/7 telephone access to a range of emotional and practical support for problems that might adversely impact their work, health and wellbeing. The main work-related reasons that employees have been seeking emotional support from the EAP include stress, mental health, dealing with organisational change and the effects of work-related trauma. Our staff have also been accessing help and support for personal issues relating to families, relationships and bereavement.

Our plans for next quarter

The EAP includes a dedicated support line for advice and support for managers. There is a communication plan in place to promote the service and improve take up. The manager support line will also be positioned as part of the ongoing support available to managers who have attended the 'Creating a mentally healthy workplace' training which empowers and encourages managers to have conversations about mental health in the workplace.

Transforming London's environment



Improving London's air quality

The Mayor, working with government, TfL, the London boroughs and industry aims for London's entire transport system to be zero emission by 2050, with work towards this including using regulatory and pricing incentives to support the transition to the usage of Ultra Low Emission Vehicles.

Acting on air quality is about protecting our health: London's toxic air now amounts to a public health crisis. Over two million Londoners live in areas that exceed legal limits for NO₂, of which over 400,000 are children under 18.

We are taking action

We have made very significant improvements such as cleaning up London's bus fleet, and taxis. We are also conducting air-quality audits around

London's schools; and introduced the world's first 24/7 Ultra Low Emission Zone (ULEZ) in Central London on 8 April 2019. King's College estimates that without action, it would take 193 years to bring London's air pollution down to legal levels.

The ULEZ and other measures including cleaning up buses and not licensing new diesel taxis are enabling Londoners to breathe cleaner air.



Air quality on the Tube

We're taking action to ensure the air on the Tube is as clean as possible. We spend around £60 million every year cleaning our trains, stations and tunnels, are trialling innovative new approaches to reducing dust levels. We will continue to do everything we can to keep the air as clean as possible for our workforce and customers. The particulates found there are very different to those found above ground and are not known to have the same adverse health effects. We know that further research is needed, which is why we are funding academics to conduct studies and gain a better understanding of the health risks associated with air on the Tube.

Commissioned research

We commissioned the Government's Committee on the Medical Effects of Air Pollutants to look at air quality on the Underground, and they advised there was currently insufficient evidence and further research was needed. Therefore, we've been working with King's College and Imperial College London to investigate the impact and effect of Tube dust on our workforce, and with Queen Mary University London and Leicester University to understand the toxicology and inflammatory effect of the dust.

Additionally, we've commissioned two studies to assess possible health impacts associated with Tube dust on our workforce:

- A study that will examine whether our staff exposed to tunnel dust may have higher levels of sickness absence due to respiratory conditions and cardiovascular conditions (three to six months)
- An epidemiological study on mortality / morbidity / cancer in staff exposed to tunnel dust (two years).

Innovation to improve air quality

We're trialling a number of innovative solutions including encapsulation of dust with suppressants, combined with deep cleaning of the dustiest station platforms and the tunnels, and track trolley and vacuum cleaning.

We are also in the process of purchasing equipment to capture welding fumes, which have been identified as a primary source of Tube dust, at source. We aim to have these in use by the end of January 2020.

We will be carrying out trials of air purification / filtration systems and tunnel wall washing, as well as assessing the feasibility of using electrically charged plates to collect dust, investigating whether rail grinding dust can be captured at source, and assessing the impact of capturing dirt at Tube station entrances.

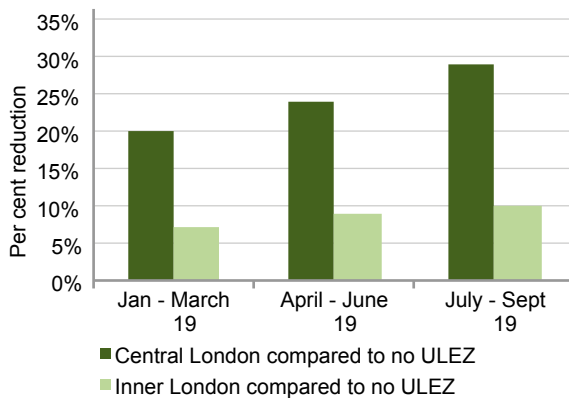
Ultra low emission zone (ULEZ)

In its first six months, the ULEZ slashed exhaust nitrogen oxide emissions by 31 per cent in central London.

The ULEZ has been in place for six months and the latest figures show that there are now 13,500 fewer polluting cars driven into central London every day and there has been a significant drop in harmful air pollution.

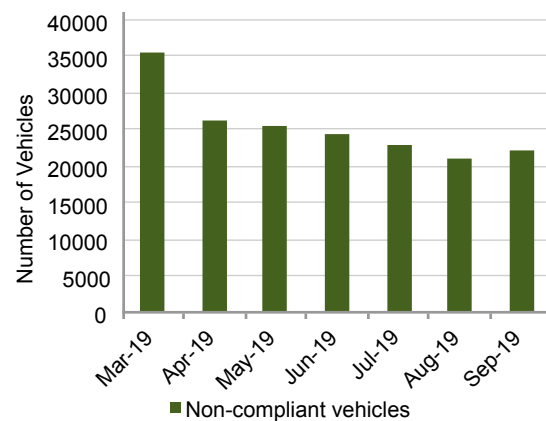
* Central London is where ULEZ has currently been implemented. Inner London is the area that ULEZ is intended to be expanded to in October 2021.

NO₂ emissions - Compared to no ULEZ*



The £25m ULEZ car and motorcycle scrappage scheme was launched at the World Air Quality Conference on 23 October 2019. It is now available to help eligible low income and disabled Londoners scrap older, more polluting vehicles.

Non-compliant vehicles in charging zone Per day in congestion charge hours



In October 2020, we are tightening the Low Emission Zone standard for HGVs, buses and coaches to Euro VI (it is currently Euro IV for particulate matter). We are now working to expand the ULEZ to the North and South Circular Roads in October 2021.

77

Percentage compliance with ULEZ standards in first six months (average)

33

Percentage reduction in number of non-compliant vehicles in zone on an average day (a 13,500 decrease)

31

Percentage reduction in NO₂ emissions from road transport in ULEZ in first six months

Air quality - Bus emissions

We aim that all our buses will be zero emission by 2037. We will clean up the bus fleet by phasing out fossil fuels, prioritising action on diesel, and switching to zero emission technologies.

London has one of the largest and greenest bus fleets in the world. Of the capital's 9,000 buses, more than 85 per cent meet or exceed the ultra-clean Euro VI standard, including more than 2,800 that enter the central London ULEZ each day. We completed 12 Low Emission Bus Zones outside central London in 2019, one year earlier than planned, and will finish upgrading the fleet by autumn 2020 to make all London's bus routes at least ultra-low Euro VI.

We will continue working to make all our buses zero emission at tailpipe by 2037 at the latest. London currently has more than 200 electric buses, being Europe's largest electric fleet and over the period of the current business plan, this will grow to more than 2,000.

Routes 43 and 134 became the UK's first routes to have double-deck electric buses, which are progressively entering service, and we have awarded contracts to operators for a further 200 electric buses, expected to enter service at the end of 2020.



85

Percentage of buses that are Euro VI compliant



250

Electric buses – Europe's largest fleet



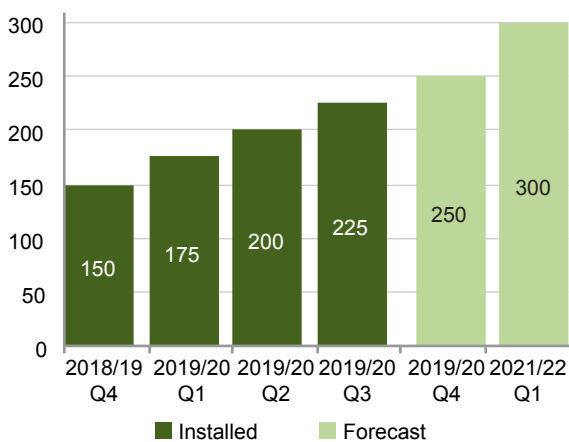
2,000

Electric buses by 2025

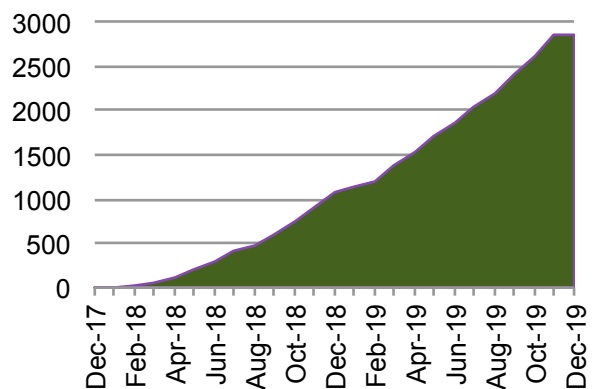
Air quality - Electric vehicle charging points

To succeed in making the transition to low emission vehicles, we will support the expansion in electric charging infrastructure. This includes supporting the need for rapid charging to support zero emission capable taxis, private hire vehicles and commercial vehicles, and working with boroughs and private operators to provide on-street residential charging. We will work with City Hall and the boroughs and industry to understand the long-term need for charging.

Rapid Charging Points delivered



Zero emission capable taxis



To support the growing number of zero emission capable (ZEC) taxis and the wider take-up of electric vehicles, we're spending £18m and working with the London boroughs and other organisations to build a network of rapid charge points across London.

The total number of charging points installed under this scheme reached 200 in September 2019 and 225 in December 2019.

This is a major step towards our target of 300 rapid charge points by December 2020.



19,280
Taxis

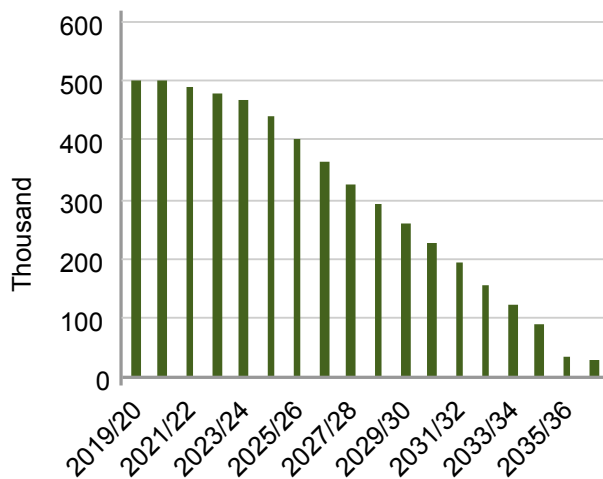


2,872
Zero emission capable taxis

Reducing our carbon emissions

London's buses represent roughly 60 per cent of our direct carbon emissions and 8 per cent of all transport emissions in the capital. Bus Electrification can radically reduce these carbon emissions. Euro VI bus conversions have dealt with the vast majority of the local air quality issues from buses, with battery technology able to finish that agenda and deliver true zero emission buses.

Bus fleet annual carbon emissions - tonnes CO₂



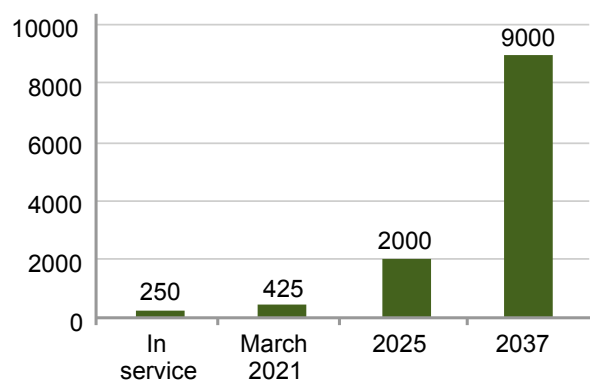
There are 250 electric buses in the fleet already, which makes London the largest electric fleet in Europe:

- Funding was confirmed in the 2019 Business Plan to achieve a 100 per cent zero emission fleet by 2037
- A bus charging standard has been agreed to provide market certainty and create operational flexibility
- Modifications have been made to tender documentation to signal for and facilitate zero emission bids.

There are another 200 electric buses on order:

- We are working to secure funding for garage power infrastructure upgrades
- We are designing further changes to the bus tendering and contracting system eg. to maximise the number of

Electric bus rollout - Cumulative



electric operation bids for each electric garage

- We are confirming whether biofuels, particularly Hydro-treated Vegetable Oils (HVO) can complement electrification and reduce carbon emissions earlier than would otherwise be possible, and if so at what volume, price and carbon reduction level.

Rail contribution to zero carbon

We will de-carbonise our rail services, with the aim of achieving a zero carbon network by 2030. This will include pursuing options to power services through local renewable generation in London and using procurement options to increase the provision of renewable energy.

Mitigating climate change

The majority of CO₂ emissions from transport in London are emitted by private road vehicles. We are supporting the shift from private car journeys to lower carbon options such as walking, cycling, public transport and the transition to zero emission road transport.

Our own energy and carbon strategy focuses on our direct operational emissions, including transport, buildings and infrastructure.

As well as making our bus fleet zero emission, we are working to reduce carbon emissions from our entire operations, including making our buildings, stations and infrastructure more energy efficient to cut emissions and save money.


We are also progressively increasing the amount of zero-carbon energy supplied to our infrastructure and aim to be 100 per cent carbon free by 2030.

As part of our energy and carbon strategy we're carrying out a wide range of feasibility studies into potential interventions to support reductions in our CO₂ emissions.


In Q3, we began a study to assess the suitability of 40 of our largest rooftops to accommodate solar panels. This study will assess the condition and structural suitability of each roof in detail and is scheduled to complete in spring 2020.

We have also assessed the potential of London Underground's ventilation shafts to export heat for local homes, on the model of our Bunhill / City Road scheme. This study has identified a number of promising locations which we will assess further in Q4.

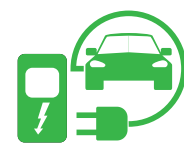
We are also looking to change the way we purchase electricity, to purchase renewable energy through the National Grid. We will most likely achieve this through entering into power purchase agreements (PPAs) for renewable supplies. We're working to develop a procurement strategy by spring 2020; setting out a phased approach to the sourcing of zero carbon energy.



40
Rooftops to undergo detailed assessment



56
LU vent shafts assessed for waste heat export



225
Electric vehicle charging points

We have a range of activities to adapt to climate change and increase resilience to severe weather events. These events include flooding and higher temperatures.

We have assessed the impact of current severe weather events on our transport system to help us understand the scale and frequency of future impacts. This will inform our planning to make the network more resilient.

We're mitigating the impacts of climate change by making public spaces greener, to provide shade and reduce surface water run-off. We're installing water fountains across London to provide free water to help people cope with increasing temperatures.

We've started a research programme to develop a baseline of how current severe weather events (flooding and heatwaves) affects operations.

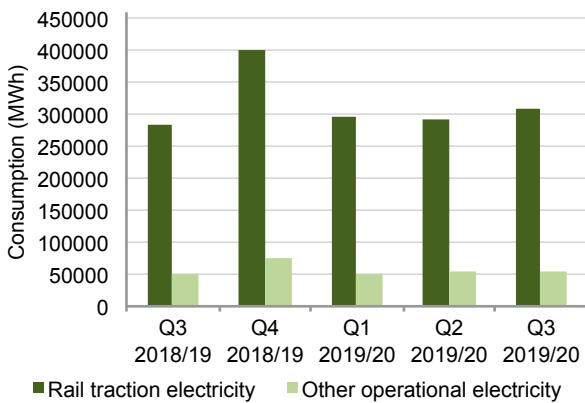
We will be progressing designs on a series of rain gardens to be built in the disused ramps and stairs of a subway on Edgware Road as well as a roadside rain garden on a build out as part of a safety scheme on Morden Road.

Moving to renewable energy

Electricity

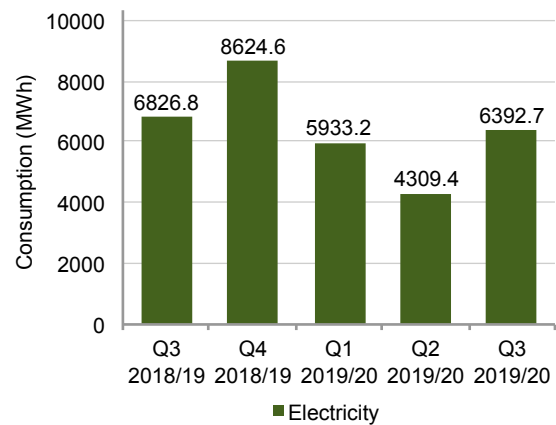
As part of our commitment to achieving a zero carbon public transport network by 2030, we are acting on our commitment to pursue local renewable generation in our head offices, as well as in rail and all other operational electricity.

Past five quarters – operational



At the end of Q3 our rail electricity consumption was 310804 MWh compared to 283689 MWh last year. Other operational electricity usage is 54816 MWh compared to 52072 MWh.

Past five quarters - head office



Progress has been made over the last five quarters for head office electricity consumption with a reduction of 434.1 MWh when compared with the previous year.

Solar energy

We will increase the amount of solar generation in London, including through community energy projects and on GLA group buildings.

We will lead by example by maximising solar energy technologies on GLA group buildings and land. We will work with the GLA functional bodies to maximise installations across the GLA group, including estimating the potential and providing technical assistance. We have a funded project through the GLA's RE:FIT framework to install solar generation across a number of buildings.

We're installing 1.1 MW of solar generation capacity at three depots, starting with our tram depot in Croydon. We're also assessing other sites across our estate for suitability of solar either on rooftops, including at our depots, or on land.

LED lighting

On our road network, more than half of our lights are now LEDs, which deliver 40 per cent of energy savings. Of our 33,900 street lighting columns, 18,000 are installed with LED luminaires.

We're installing LED lighting at 21 Underground stations. These are due to be complete by the end of March. We're converting more street-lights on the our Road Network to LED, with a further 5,000 LED luminaires to be installed by March 2020.

Energy efficient buildings

Our ambition is for our commitment to net zero carbon buildings to cover our head office and property development portfolios, and to expand to operational sites. We are one of 24 members of the Better Buildings Partnership who signed up to a Climate Change Commitment on 20 September. By the end of 2020, we will publish our own net zero carbon pathway, which will outline our trajectory towards meeting this target for all new and existing buildings. This will address:

- Operational carbon, critically covering whole building performance including our tenants' activities; and
- Embodied carbon of development, refurbishment and fit-out works.

Managing our natural resources

Waste

Q3 work has been undertaken to proceed through the procurement process for a new waste management contractor. The evaluation has been completed and the decision is due in Q4.



1,146
Trips removed
as a result



1,025
Trips re-timed on
London's roads

Water fountains

We've been working through initial challenges to install water refill points at stations and are now making good progress. We have three refill fountains operational and a further nine are close to completion pending planning and approvals.

We've identified more locations if additional funding is available. In Q4 we will be installing eight additional water fountains. We're developing standards and specifications for refill fountains in all future station upgrade works.

Healthy streets



Healthy streets check for designers

The Healthy Streets Check for Designers (the Check) reviews whether proposed changes to a street are likely to result in improvements against the 10 Healthy Streets indicators:

- Pedestrians from all walks of life
- People choose to walk, cycle and use public transport
- Easy to cross
- Shade and shelter
- Places to stop
- Not too noisy
- People feel safe
- Things to see and do
- People feel relaxed
- Clean air.

We introduced the Check in 2018/19 as an interim active travel performance metric on our scorecard.

We have now expanded the scope of the Check in 2019/20 to include all Transport for London Road Network (TLRN) and Liveable Neighbourhood projects within the Healthy Streets portfolio.

At the end of Q3 2019/20, 36 eligible schemes completed the Check at Detailed Design. The average uplift across the 13 projects in Q3 was five percentage points - this lower percentage uplift is attributed to an increase in small scale and cost effective schemes being developed over the last quarter, which have targeted specific interventions rather than wholesale holistic changes to the street environment.

We will continue to work to ensure schemes in subsequent quarters achieve the highest uplift scores possible to facilitate the largest improvements to London's streets.

The Healthy Streets Approach helps to reduce the negative health impacts of noise and air pollution, and enables people to be physically active. Our analysis suggests that three quarters of car journeys currently made by London residents could be made by a healthier mode. Improving streets and public transport networks will enable a higher proportion of car journeys to be replaced by more active, healthier forms of travel.

We also review the number of trees we've planted on the Transport for London Road Network (TLRN), at bee roofs in Baker Street and Lewisham, and our work on biodiversity net gain.

We're working on the Mayor's commitment to increase tree cover on our roads and deliver biodiversity net gain. Our Business Plan commits us to maximising opportunities to enhance green infrastructure across our estate, connecting and enhancing designated nature conservation sites and integrating more planting within Healthy Streets initiatives to improve air quality and create more attractive and resilient public spaces.



700

Trees planted



36

Healthy Streets checks so far this year



5

New bee roofs we're creating in Lewisham in March

Number of Healthy Streets Checks undertaken on our Road Network

Summary of eligible Healthy Streets Checks undertaken and results in 2019/20 at Detailed Design.

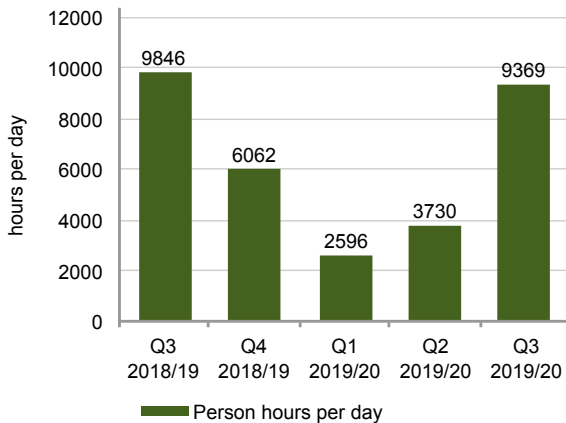
	Q1 2019/20	Q2 2019/20	Q3 2019/20	Year to date (Q1, Q2, Q3 2019/20)	Year end target
Number of schemes with a completed Healthy Streets Check for Designers at Detailed Design	10	13	13	36	N/A
Average percentage point uplift across schemes	15	13	5	13	10

We will continue to work to ensure schemes in subsequent quarters achieve the highest uplift scores possible to facilitate the largest improvements to London's streets.



Traffic signal changes to support Healthy Streets

Past five quarters



At the end of Q3 we completed a further 107 signal timing reviews across London taking our YTD total to 808 reviews, saving hours of delay to bus passengers, pedestrians and cyclists.

We continued to report cycle benefits, delivering an additional four hours of savings to cyclists through 35 timings reviews to total 31 hours YTD across 87 timing reviews.

We've measured the difference in performance before and after at 656 of these reviews for bus passengers, pedestrians and cyclists and can report that these reviews have saved 13,433 person hours per day. This exceeded the YTD target of 11,500 hours (11,875 stretch target).

We achieved exceptional benefits at these locations:

- 102 hours saved for pedestrians at Marble Arch - also delivering 469 hours of savings for bus passengers
- 68 hours saved for pedestrians at Borough High Street North, also delivering 223 hours of savings for bus passengers
- 113 hours were saved for bus passengers at Kennington Oval with no impact on pedestrians.

We're committed to deliver 1,200 traffic signal timing changes, which will include 400 to improve bus performance, 100 nominated by bus operators and boroughs, and nearly 500 to support our investment programme.

We are on course to meet our stretch target of 17,500 hours saved this financial year.

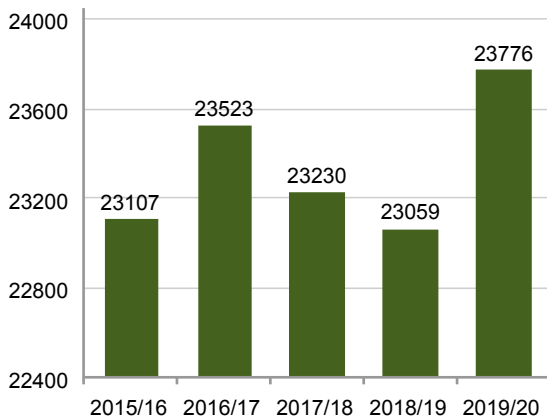
Green infrastructure

Trees on the Transport for London Road Network

Assessments by the London Assembly in 2007 and 2011 found there are around 500,000 street trees in London. Every year we replace between 300 and 700 trees on the Transport for London Road Network (TLRN).

Total number of TLRN trees

Past five years

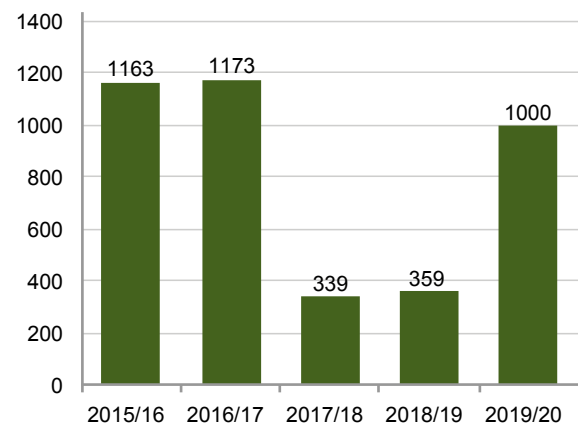


Our programme to plant 1,000 trees this year on London's road network is under way.

We started planting the first 700 trees before Christmas, mainly in urban locations to help offset pollution.

Tree planted

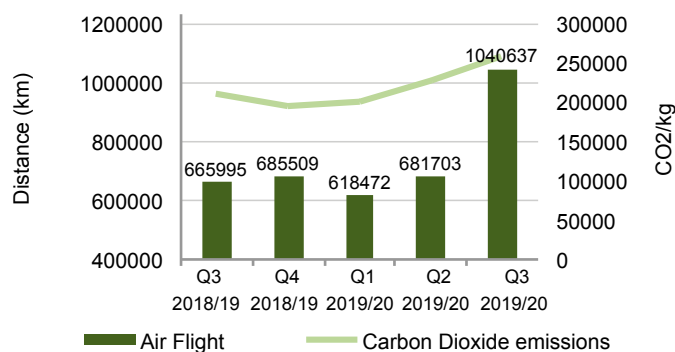
Past five years



We begin the second phase of planting in the spring 2020.

TfL business travel

Air travel



We undertake work abroad for a number of reasons, such as consultancy, researching suppliers and assets in use in other transport organisations or speaking at industry forums. We have a clear process for approving such travel and monitoring it, to reduce our environmental footprint. Our air travel kilometres travelled this quarter have increased across all our reporting flight categories. Despite only accounting for 2.2 per cent of kilometres travelled, the

proportion of European domestic flights have increased; while the largest among all flight categories. Conversely, international flights have seen a proportional reduction, but still accounted for nearly 75,000 kilometres (72.0 per cent) in Q3 2019/20. UK domestic flights have increased but the proportion of travel (1.4 per cent) remains in line with the ratio recorded in Q3 2018/19.

Kilometres travelled by flight category

	Q3 2018/19	Q3 2019/20
International	80.1%	72.0%
Europe	18.4%	22.0%
International Domestic	0.0%	2.5%
European Domestic	0.2%	2.2%
UK Domestic	1.47%	1.4%

CO₂ emissions by flight category

	Q3 2018/19	Q3 2019/20
International	89.5%	81.0%
Europe	9.2%	13.9%
International Domestic	0.0%	2.4%
European Domestic	0.1%	1.3%
UK Domestic	1.3%	1.4%

Appendix - Audit conclusions

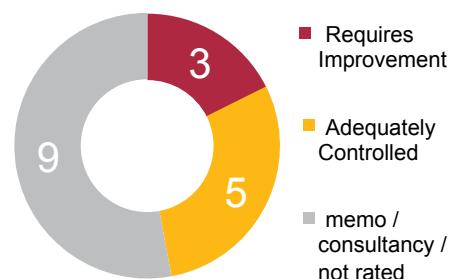
Q	Strategic Risk	Audit No.	Audit Title	Conclusion
Q3	Achieving safety outcomes	19 721	LU Use of Track Plant	Requires Improvement
Q3	Achieving safety outcomes	19 723	London Buses SHE compliance review	Requires Improvement
Q3	Achieving safety outcomes	19 772	Surface Transport Legionella Management	Requires Improvement
Q3	Operational reliability	19 725	LU Signals Control & Information Maintenance Regime	Adequately Controlled
Q3		19 745	LU Embankment Area Manager Integrated Systems Audit	Not rated
Q3	Financial sustainability	19 812	PCI DSS Compliance Audit: Section 50 (Road Space Management - RSM)	Not rated
Q3	Achieving safety outcomes	19 738	VCS Operational Safety	Adequately Controlled
Q3	Operational reliability	19 735	REW Quality Management	Adequately Controlled
Q3	Financial sustainability	19 714	Hayley Rail - Supplier Audit	Not rated
Q3	Achieving safety outcomes	19 726	Surface Network Management Risk Maturity Model level 4 Verification	Not rated
Q3		19 731	LU Kings Cross Area Manager Integrated Systems Audit	Not rated
Q3		19 729	LU Acton Town Train crew Depot Integrated Systems Audit	Not rated
Q3		19 730	LU Piccadilly Line Service Control Integrated Systems Audit	Not rated
Q3	Operational reliability	19 713	Alstom Materials Supply - Supplier Audit	Not rated
Q3	Operational reliability	19 736	Signals Maintenance Quality Checks	Adequately Controlled
Q3	Achieving safety outcomes	19 718	Management of Safety Critical Workers	Adequately Controlled
Q3	Operational reliability	18 746	Transplant Vehicle Maintenance	Not rated

We completed a total of 17 safety and quality audits during Q3.

Five were concluded as 'adequately controlled', three as 'requires improvement' and none were concluded as 'poorly controlled'. Nine reports were not given a conclusion as these were audits of external suppliers or 'integrated systems audits' that assess compliance against a wide range of subjects.

1. LU use of Track Plant was concluded as 'requires improvement': several planning and control measures had not been implemented in accordance with the Standards although, generally plant on site was seen to be used safely.
2. London Buses SHE compliance was concluded as 'requires improvement': the restructuring of operational management roles and responsibilities had contributed to issues in the understanding and implementation of health and safety management processes.
3. Surface Transport Legionella Management was concluded as 'requires improvement': the arrangements and information management systems in place were not fully compliant. The risk profile and range of assets managed by the team has increased significantly since transformation. However, even with this challenging environment, there has been significant progress in most of the high-risk areas.

4. Following the successful pilot in the previous quarter, a programme of Integrated Systems Audits has been implemented in LU Network Operations. The Integrated Systems Audits review compliance with key management system requirements that apply to operational managers, covering health and safety, finance, competence and the LU rule books. Initial feedback following four audits has been positive and a similar audit tool is being developed for maintenance teams. Due to the wide range of subjects covered at a relatively small location, these audits have not been assigned a strategic risk or conclusion.



Appendix: Sandilands investigation recommendations applicable to TfL

Recommendation	Progress to date
<p>UK tram operators, owners and infrastructure managers should conduct a systematic review of operational risks and control measures associated with the design, maintenance and operation of tramways.</p> <p>[RAIB recommendation 2. Links with RAIB Recommendation 1, 10, and TfL Recommendation 5]</p>	<p>Complete: Together with Tram Operations Ltd (TOL) we are represented on the UK Tram Industry Sandilands Sub Committee, established to consider the RAIB findings and take action on behalf of the UK tram industry.</p> <p>Our (together with TOL) review of route risk assessments and our network risk model has been shared with the wider UK tram industry. The industry has reviewed all risk assessments within the industry to agree a standard approach, a standard model has been developed and verified. It is now being rolled out. In support of the model we have also agreed the arrangements to collect industry incident and injury data.</p> <p>National roll out for the risk model and data model In Q1 there were 19 vulnerable road users were killed or seriously injured in collisions involving buses, a 21 per cent improvement from last year.</p> <p>We presented an overview and findings of Risk Model work to Rail Safety and Standards Board Risk Management Forum in June 2018. The model was revised again in March 2019.</p>
<p>UK tram operators, owners and infrastructure managers should work together to review, develop, and install suitable measures to automatically reduce tram speeds if they approach higher risk locations at speeds which could result in derailment or overturning.</p> <p>[RAIB recommendation 3. Links with TfL recommendation 2]</p>	<p>In Progress: A contract was awarded to Engineering Support Group in December 2018. The new system; Physical Prevention of Over-Speeding (PPOS) will automatically bring a moving tram to a controlled stop if it were to exceed the speed limit (by a safe margin) at a designated location. It will also alert the operations control centre.</p> <p>The system will initially be configured to priority locations as suggested by the RAIB recommendation. It also has the flexibility to be introduced elsewhere on the tram network.</p> <p>Physical Prevention of Over-Speeding (PPOS) CR4000 1st In Class: Complete November 19 SVT 1st in Class: Complete November 19 Installation complete: December 2019 On track for PPOS commissioning, with Trams into revenue service scheduled for January 2020.</p> <p>Outstanding actions: Design Authority to Stadler trams now sits with TfL Engineering; drafted statement issued by Engineering on “no objection” to PPOS installation on Stadlers.</p>

Recommendation	Progress to date
<p>UK tram operators, owners and infrastructure managers should work together to research and evaluate systems capable of reliably detecting driver attention state and initiating appropriate automatic responses if a low level of alertness is identified.</p> <p>[RAIB recommendation 4]</p>	<p>In progress: Working closely with TOL, LT has procured and commissioned the 'Seeing Machine Guardian' driver protection system fleet wide. This system uses proven facial movement technology to monitor driver fatigue and distraction. The system was fully installed across the LT fleet in October 2017.</p> <p>An additional feature of the Guardian system is that it is programmed to alert drivers if the maximum speed goes above 70kph.</p> <p>TOL were closely involved in the selection and implementation of this system and played the major role in securing driver support.</p> <p>LT and TOL have already hosted several delegations, including UKTram and others, to demonstrate the technology in operation. While the systems does not apply the brakes automatically, the Office of Rail and Road (ORR) recognises the safety benefits the system has brought to London Trams.</p> <p>This system is designed to detect driver inattentiveness and provide an alert, but does not, itself, apply the brakes, as suggested as an option in the recommendation. As detailed in recommendation three, an automatic braking system has been procured and will be installed by the end of 2019 as a separate measure. Research work being undertaken by UK Trams is exploring what an appropriate automatic response would be if a low level of driver attentiveness is detected, such as the application of brakes. We will review this research to ensure the system in use is compatible with the outcomes</p>
<p>UK tram operators, owners and infrastructure managers, in consultation with the DfT, should work together to review signage, lighting and other visual information cues available on segregated and off-track areas required by drivers on the approach to high risk locations.</p>	<p>Complete: We undertook a comprehensive review of tram speeds and speed signage across its network.</p> <p>As a result the following measures were put in place by September 2017. TOL are an active and engaged stakeholder on this initiative</p> <ol style="list-style-type: none"> 1. The maximum tram speed on the network was reduced by 10kph, from 80kph to 70kph. The effect is that the potential for coasting in high speed areas has been removed, and that continual speed management is required in these low workload areas so increasing driver alertness. 2. Additional step down speed signage was implemented in all locations where speeds reduced by more than 20kph, enhancing driver visual cueing and orientation. 3. Where speed signs are located immediately in advance of higher risk locations, e.g. a tram stop or a curve with low approach visibility, the sign has been enhanced with the addition high visibility outer border as an additional visual cue to drivers of an approaching hazard.

Recommendation	Progress to date
<p>[RAIB recommendation 5. Links to TfL Recommendation 1]</p>	<p>iTram</p> <p>We will also implement iTram to provide audible in-cab over speed alerts. iTram is a performance monitoring tool that as well as driving safety improvements by trend analysis of tram speeds, also utilises GPS technology to provide over speed warnings to drivers at all points across the network. It is therefore an enhancement on the Guardian system which can only alert drivers if they exceed the maximum speed limit.</p> <p>Fitment across the fleet will be completed by December 2019</p> <ul style="list-style-type: none"> - Complete iTram over-speed alert on-network testing; on track for the roll-out of iTram over-speed alert by the end of 2019. - CSDE installation completed. - Instruction given for updated CSDE software to provide event reporting requested by TOL and to address bi-directional platform detection. - HF assessment on cumulative impacts from Guardian device, PPOS, iTram and CSDE to driving tasks completed; report issued. - Operator training underway. <p>Review of Visual Cueing</p> <p>Together with TOL we have completed a comprehensive Route Hazard Analysis. The conclusion is that the already completed installation of additional speed signage work improves driver visual cueing on the network. Conceptual designs for enhanced visual cueing in Sandilands tunnel are under TOL driver consultation.</p> <p>Tunnel Lighting</p> <p>Post the Sandilands incident we installed additional temporary lighting on the approach to the Sandilands tunnel, while our road tunnel lighting experts developed a permanent solution.</p> <p>The new design will adopt best practice from the automotive industry to reduce the impact of glare on driver's eyes both when entering and exiting the tunnel. Work is expected to be complete on the improved tunnel lighting by December 2019.</p> <p>Installation of highways type road studs ("cats eyes") as a sleeper mounted orientation aid within the Sandilands tunnel was completed in May 2019. The studs are deployed on the 'Up' road only to provide differentiation between directions of travel. They are also configured to provide visual orientation between the individual tunnel sections</p> <p>We are also trialling illuminated warning signs, similar to those used on roads to warn drivers their speed is above the limit. The effectiveness of these signs will be evaluated in summer 2019 and the feedback will be shared with the UK tram industry.</p>

Recommendation	Progress to date
<p>UK tram operators and owners should, in consultation with appropriate tram manufacturers and other European tramways, review existing research and, if necessary, undertake further research to identify means of improving the customer containment provided by tram windows and doors.</p> <p>[RAIB recommendation 6. Links to TfL Recommendation 8]</p>	<p>Complete: We commissioned the manufacture and testing of several prototype windows that could provide an appropriate level of additional containment. These prototypes were assessed against the conditions likely to have been encountered during the Sandilands incident, and taking into account any affect they may have on ease of access for the emergency services.</p> <p>We concluded that mainline rail crash worthiness standard GM/RT2100 is more likely to offer protection against the conditions experienced during the Sandilands event. Strengthening film on top of the existing tempered glass was selected as the immediate solution to strengthen glazing on trams.</p> <p>Following the extensive testing with safety experts and a new higher specification film that is 75 per cent thicker (from 100microns to 175microns) has been fitted to all doors and windows to improve containment.</p> <p>We are investigating the practicalities of modifying tram doors and we will consider the recommendations made by the RAIB when designing new vehicles in the future.</p>
<p>UK tram operators and owners should install (or modify existing) emergency lighting so that the lighting cannot be unintentionally switched off or disconnected during an emergency.</p> <p>[RAIB recommendation 7]</p>	<p>In progress: In conjunction with industry experts, we have formulated a Technical Specification for the retrofitting emergency lighting to it's fleet. The system will be fully autonomous, and will operate independently of the trams battery system in the event of an emergency.</p> <p>Roll out system is planned for March 2020.</p> <p>TOL are an active and engaged stakeholder on this initiative.</p>
<p>UK tram operators and owners should review options for enabling the rapid evacuation of a tram which is lying on its side after an accident.</p> <p>[RAIB recommendation 8]</p>	<p>In progress: We continue to work with tram operators and tram manufacturers to identify and evaluate options to achieve this objective.</p>
<p>TOL and LT should commission an independent review of its process for assessing risk associated with the operation of trams.</p> <p>[RAIB recommendation 10. Links with RAIB recommendation 2]</p>	<p>Complete: The network risk model and route risk assessments have been reviewed and updated. They have been shared with the wider UK tram industry and we also presented an overview and findings of Risk Model work to Rail Safety and Standards Board Risk Management Forum in June 2018. Work has also been completed on our tram crossing risk assessments for Croydon town centre.</p> <p>A joint management process for the embedment of the models has been developed. They remain under regular review. The most recent review of the LT Risk Model was completed in March 2019.</p> <p>The industry is reviewing all risk assessments within the industry to agree a standard approach. The LT/TOL risk assessments will be further reviewed and revised in line with this approach.</p>
<p>TOL should review and, where necessary, improve the management of fatigue risk affecting its tram drivers with reference to the ORR's good practice guidance.</p> <p>[RAIB recommendation 11]</p>	<p>In progress: TOL are implementing a safety improvement plan designed to address the intent of this recommendation through their own internal safety governance arrangements.</p>

Recommendation	Progress to date
<p>TOL should commission an external organisation to review, the way that it learns from operational experience.</p> <p>[RAIB recommendation 12]</p>	<p>Complete: TOL have implemented a 'Just Culture' Programme designed to address the intent of this recommendation through their own internal safety governance arrangements.</p>
<p>TOL and LT should review and improve the process for managing public and employee comments that indicate a possible safety risk.</p> <p>[RAIB recommendation 13]</p>	<p>Complete: We have reviewed our customer complaints procedure and how employees report issues to us and implemented improvements to ensure that any safety issue raised is dealt with efficiently and thoroughly across the our network.</p>
<p>TOL and LT should review and improve their processes for inspecting and maintaining on-tram CCTV equipment to greatly reduce the likelihood of recorded images being unavailable for accident and incident investigation. This recommendation may apply to other UK tram operators.</p> <p>[RAIB recommendation 14]</p>	<p>Complete: All LT Bombardier fleet has been fitted with new CCTV image recorders. CCTV health checkers which actively monitor the status of recording units and identify faults.</p> <p>The CCTV recording equipment on all Bombardier trams (type involved in Sandilands) was replaced and upgraded to digital shortly after the overturning. The equipment on Stadler trams, which make up the remainder of the fleet, had adequate functionality. Further work to upgrade CCTV on the wider fleet will be completed by May 2019.</p>
<p>TOL and LT should review and revise where required existing tram maintenance and testing documentation to take account of experienced gained, and modifications made, since the trams were brought into operational service.</p> <p>[RAIB recommendation 15]</p>	<p>In progress: LT has undertaken a comprehensive review of its written standards, maintenance processes and identified quality deficiencies. LT has appointed an independent entity to author new written standards, maintenance processes and forms addressing all quality gaps. This process will be in two phases. Sixteen critically prioritised standards and associated documents have been delivered in the first phase. The remaining standards and processes will be addressed through our routine arrangements for the maintenance of the management system.</p>
<p>Review available driver cues in relation to braking points on approaching a curved section of the tramway.</p> <p>[TfL recommendation 1. Links to RAIB recommendation 5]</p>	<p>Complete: Overall network top speed has been reduced from 80kph to 70kph. Additional 70kph signs have been provided to aid driver awareness of the permitted maximum speed.</p> <p>A design and signal sighting exercise has been concluded and the provision of additional step down speed signage to aid driver speed awareness and visual cueing is complete.</p> <p>Additional visibility signs have also been provided, which will heighten driver speed awareness in high risk areas.</p>

Recommendation	Progress to date
<p data-bbox="164 253 542 365">Review available driver cues in relation to braking points on approaching a curved section of the tramway.</p> <p data-bbox="164 461 542 517">[TfL recommendation 1. Links to RAIB recommendation 5]</p> <p data-bbox="164 613 542 696">Review of arrangements for the monitoring and management of speeding.</p> <p data-bbox="164 734 542 790">[TfL recommendation 2. Links to RAIB recommendation 3]</p>	<p data-bbox="564 253 1444 421">Complete: Overall network top speed has been reduced from 80kph to 70kph. Additional 70kph signs have been provided to aid driver awareness of the permitted maximum speed. A design and signal sighting exercise has been concluded and the provision of additional step down speed signage to aid driver speed awareness and visual cueing is complete.</p> <p data-bbox="564 461 1390 517">Additional visibility signs have also been provided, which will heighten driver speed awareness in high risk areas.</p> <p data-bbox="564 557 1444 692">LT has commissioned the installation and commissioning of the 'iTram' system, which will provide driver over-speed alerts network wide. iTram will also provide oncoming hazard awareness to drivers of high risk areas. The system has been installed on all 22 Bombardier trams and the roll-out on Stadler trams began in April 2019.</p>
<p data-bbox="153 824 517 907">Review of traction brake controller (TBC) driver's safety device design.</p> <p data-bbox="260 954 542 987">[TfL recommendation 3]</p>	<p data-bbox="564 824 1444 981">Complete: LT has procured and commissioned the 'Seeing Machine Guardian' driver protection system fleet wide. This system provides proven driver fatigue and distraction management via facial recognition technology. It was fully installed across the London Trams fleet in October 2017. ORR recognises the safety benefits that the system has brought to London Trams.</p>

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January 2020

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Date: 12 February 2020

Item: Bus Safety Programme

This paper will be considered in public

1 Summary

1.1 This paper provides an update on the progress of the Bus Safety Programme and key future deliverables.

2 Recommendation

2.1 **The Panel is asked to note the paper.**

3 Bus Safety Programme Delivery Update

3.1 The Mayor and TfL have now adopted Vision Zero for London, with a target of zero deaths or serious injuries from road collisions by 2041.

3.2 Within Bus Operations we have even more ambitious targets:

(a) 70 per cent reduction in the number of people killed or seriously injured in, or by, buses by 2022 (against 2005-09 baseline); and

(b) No one killed in, or by, a bus by 2030.

3.3 The Bus Safety Programme was launched in February 2016, with the aim of reducing the number of people killed or seriously injured (KSI) on the bus network.

3.4 In 2018/19 the number of KSIs was down by 58.9 per cent from the 2005-09 baseline, meaning we are making good progress, but it will still be challenging to achieve a 70 per cent reduction by 2022.

3.5 The Bus Safety Programme is aligned with the Vision Zero 'Safe Systems' approach which aims to ensure safe speeds, safe streets, safe behaviours and safe vehicles. Progress against each area is detailed below.

4 Safe Speeds

4.1 Intelligent Speed Assistance (ISA) technology, which ensures compliance with speed limits, is a key part of the Bus Safety Standard. ISA uses GPS-linked speed limit data to advise the driver of the current speed limit and automatically limits the speed of the vehicle as necessary. There are currently just over 1100 ISA enabled buses in London.

4.2 Exploratory work for the ISA retrofit programme is underway. We are working with bus manufacturers to adapt software to enable ISA on existing bus models. Where this is

not possible we are identifying existing models suitable for retrofit and developing solutions. This retrofit programme is planned to begin in the next financial year and will run until 2024.

5 Safe Streets

- 5.1 TfL's and bus operators' routine investigations into major collisions (including some fatalities) have shown that a number of the most serious collisions involve a pedestrian looking the wrong way as they cross the road, giving the bus driver insufficient time to react and avoid an impact, even at low speeds. As a result, we appointed Integrated Transport Planning Limited (ITP) to conduct research into pedestrian behaviour and risk management.
- 5.2 With input from behavioural psychology and transport planning specialists, ITP completed a literature review of existing research in the transport and cognitive behavioural fields. The literature review covered the impact of electronic device usage on pedestrian distraction and behaviour, as well as pedestrian risk management measures which have been trialled elsewhere.
- 5.3 Insights from the literature review were then used to help design on-street observational surveys at a range of locations in London, including bus stops and bus lanes (both regular and contraflow). Data from the on-street observations is currently being analysed and will increase understanding of the nature and circumstances of risky pedestrian behaviours, and the correlation of variables involved.
- 5.4 The identification of environmental and behavioural risk factors will then inform potential solutions including those that are physical (engineering responses that alter the physical layout of the street), technical (changes or additions to street technology, including ground surfaces and signals equipment), or technological (interventions that take advantage of changes in technology, particularly the connectivity of smartphones and other smart devices, but also considering potential technologies on the horizon). From this list of options, preferred solutions will be identified via an evaluation of the timescale for implementation, effectiveness in terms of casualty reduction, scalability, impact on inclusivity, alignment with Healthy Streets Indicators, as well as cost (capital, operational and maintenance). The final report is due by the end of February.

6 Safe Behaviour: Bus Driver Training

- 6.1 Delivery of 'Destination Zero', the safety training programme for London bus drivers, commenced in May 2019. The training course uses innovative virtual reality technology, which is designed to make the course engaging and impactful. Extensive filming took place in London so that participants in the training can experience, through this technology, a wide range of scenarios that drivers in London may encounter. The training covers hazard perception, hazard prediction, judgement and driver wellbeing.
- 6.2 The second trainer Continuous Professional Development (CPD) day was held on 10 January 2020 to provide trainers with the latest information on Vision Zero and make updates to the course where they have been identified. This was also attended by Professor David Crundall from Nottingham Trent University, a Transport Safety Psychologist who was involved in course development. He provided trainers with further information and insight into the training content.

- 6.3 Several operators have set up local working groups to collate and act upon safety-related feedback and issues raised during the delivery of the driver training course.
- 6.4 As of 3 February 2020, 6,864 drivers had been trained, from a total of just over 24,000. Of this number, 95 per cent of delegates have rated the course as good or excellent, with 98 per cent of drivers rating it as between 'useful' and 'extremely useful' in their day to day job. In addition, 98 per cent per cent would recommend Destination Zero to a colleague.
- 6.5 The number of drivers being trained dropped significantly between October and December 2019 due to driver availability within the operators. We are currently gathering information from operators on completion rates to establish they will meet the target end date of December 2020 and we will work with them to establish contingency plans for those where delivery is impacted by operational requirements.
- 6.6 We have appointed TRL Limited to independently evaluate the longer-term impacts of the driver training. The first of the TRL surveys will now be incorporated into the start of the course to provide delegates with an insight into their own behaviours and actions and to increase evaluation response rates.

7 Safe Behaviour: Fatigue Research and Management

- 7.1 In July 2018, we commissioned experts from Loughborough University and the Swedish Road and Transport Institute (VTI) to carry out independent research into the extent, nature and causes of fatigue amongst London bus drivers. The researchers were also asked to propose evidence-based solutions to reduce fatigue and risk of associated incidents.
- 7.4 The world-leading research involved a driver survey, focus groups, interviews and an on-road study. The researchers also undertook wide-ranging consultation and discussions with directors of the bus operating companies and with Unite the Union representatives. The report was published on our website on 28 August 2019 and is available at: <https://tfl.gov.uk/corporate/publications-and-reports/bus-safety-data/>
- 7.5 The research found bus drivers are exposed to a wide range of occupational and personal factors which increases their vulnerability to fatigue and concluded that bus driver fatigue in London is a risk that requires better management. The report proposes a range of solutions covering education, working conditions, schedules and rosters, open culture and health.

Progress to date

- 7.6 Further to the solutions identified in the report (mentioned in section 7.5) we have identified priority actions to better manage bus driver fatigue risk.

Fatigue Risk Management Systems (FRMS)

- 7.7 We require all bus operators to have a robust fatigue risk management system in place before any new route contract is let, by August 2020.
- 7.8 We are working with the bus operators and Unite the Union to establish what 'good' looks like and have adapted a guidance originally produced for London Underground.

At the end of December 2019, all operators submitted a full draft of their FRMS for us to review.

- 7.9 Two key elements require further discussion. Firstly, the potential use of a biomathematical fatigue assessment tool to assess rosters. Some operators currently use the Health and Safety Executive's (HSE) fatigue risk assessment tool, but this is generic for shift workers and lacks sufficient granularity for the bus industry. We are working with bus operators and Unite the Union to scope the development of a bus industry specific tool by a third party.
- 7.10 The second part of the FRMS still being discussed are Key Performance Indicators (KPIs). Each operator should identify their own local KPIs as part of their FRMS, but we, bus operators and Unite the Union must agree some universal KPIs so that we can monitor progress towards reducing fatigue, across London.

Fatigue Innovation Fund

- 7.11 We have created a £0.5m Fatigue Innovation Fund which will be launched in March 2020. Bus operators are able to make bid for funding from the Fund to support the trial of new technology and innovative solutions that change the safety culture within bus garages and increase focus on driver health and well-being. We will work with Bus Operations and Unite the Union to assess all bus operator bids.

Fatigue Management Training for Managers

- 7.12 We are currently exploring whether appropriate training courses exist in fatigue management training for managers of bus operators, for example from the HSE, or whether bespoke training needs to be developed for our bus operators. If a suitable course already exists, we will look to begin rolling out by the summer 2020, and if not, we will seek to develop bespoke training with bus operators and Unite the Union. Driver representatives will also have the opportunity to receive this training.

8 Safe Vehicles: Bus Safety Standard

- 8.1 The first buses which meet the 2019 requirements of the Bus Safety Standard (BSS) were delivered in August 2019. The safety features include ISA; blind spot mirrors to increase visibility of cyclists and other road users; pedal indicator lights to reduce the occurrence of pedal confusion; and non-slip flooring to reduce passenger injuries as a result of slips, trips and falls.
- 8.2 In April 2019, we contracted Aecom, Anderson Acoustics and Zelig Sound to design and develop an 'urban bus sound' to be emitted via an Acoustic Vehicle Alerting System (AVAS) on quiet-running buses. The brief required a sound that was compliant with UN ECE Regulation 138 which required by law a sound on all new vehicle models from July 2019 and will apply to all new vehicles from July 2021. It should also make a positive contribution to the London soundscape in the context of the Mayor of London's 'Healthy Streets' approach. Working together with the consultants, we engaged extensively with internal and external stakeholders, including accessibility and road user groups, to ensure these objectives were met.
- 8.3 Following a number of field trials with our key stakeholders, including those who are blind or partially sighted and bus drivers, a preferred sound was identified from those created through the stakeholder-led sound development process. A live trial started on

11 new electric buses on the Route 100 on 18 January 2020. This trial will run for six months and will be used to establish the optimum AVAS sound operational level in a range of different urban environments, as well as monitoring public and driver acceptance. Additional routes will be added to the trial during this six-month period to enable more data collection, with routes 94, C10, P5 confirmed so far as new zero emission vehicles are introduced. Routes 100, C10 and P5 are required by law to have AVAS upon entering service as they are classed as new vehicle models.

- 8.4 Blind spot mirrors are another of the key deliverables in the 2019 BSS specification. These will replace existing wing mirrors to improve drivers' indirect vision, particularly of areas where vulnerable road users are likely to be present and where they cannot currently be seen by the driver. We have retrofitted over 70 per cent of the compatible bus fleet and aim to reach 100 per cent of the compatible bus fleet by the end of this financial year.
- 8.5 Some of the new buses rolling into the fleet are also starting to include 2021 safety measure requirements, which are being voluntarily introduced early by bus manufacturers and operators to bring greater safety benefits sooner. These include camera monitor systems (CMS) to replace external bus mirrors which aim to improve indirect visibility for the driver and eliminate pedestrian strikes and vehicle/road furniture damage, and brake toggling which aims to reduce instances of pedal confusion.
- 8.6 Further on in the BSS roadmap, Advanced Emergency Braking (AEB) will be required on all new-build buses from 2024. In advance of this date, we are working with bus manufacturers and operators from this year to develop and test AEB solutions to ensure technology performs correctly and is beneficial in terms of reducing road casualties in London.

List of appendices:

None

List of Background Papers:

Bus Safety Programme, Safety, Sustainability and Human Resource Panel, 4 September 2019

Bus Safety Programme, Safety, Sustainability and Human Resource Panel, 27 September 2018

Bus Safety Programme, Safety, Sustainability and Human Resource Panel, 23 January 2017

Bus Safety Programme, Safety, Accessibility and Sustainability Panel, 30 June 2016

Bus Safety Programme, Safety, Accessibility and Sustainability Panel, 10 March 2016

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Date: 12 February 2020

Item: Bus Driver Facility Improvements

This paper will be considered in public

1 Summary

- 1.1 This paper provides an update on the Bus Driver Facilities programme (toilets) and ongoing plans for renewals of bus driver relief facilities (mess rooms).
- 1.2 Providing good bus driver facilities aligns with the Mayor's Transport Strategy by ensuring that the bus network is operationally efficient and reliable and therefore meets customer expectations (A Good Public Transport Experience: R2, Public transport reliability and performance). Fundamentally though it is a basic human right that drivers should have access to a toilet to carry out their crucial role. We are committed to ensuring this is addressed.
- 1.3 Well located toilets mean that drivers can access facilities within the time constraints of their breaks and stand time, allowing them to resume their bus service as timetabled and avoid unscheduled breaks mid route. This ensures the welfare and wellbeing of the drivers is maintained whilst minimising the impact on a reliable service for our customers.

2 Recommendation

- 2.1 **The Panel is asked to note the paper.**

3 Background

Bus driver toilets

- 3.1 Bus driver toilets are an integral part of running an efficient and safe bus network. Providing these facilities is as important as other bus infrastructure such as bus stops, shelters and stations. If we are unable to provide toilets we may, in some circumstances need to consider making small changes to the bus network.
- 3.2 Routes are classified as either Priority 1, 2 or 3 depending on their current level of toilet provision, and the below table outlines the route prioritisation as agreed with all key stakeholders including Unite, the major bus drivers' union.

Table 1: Priority Classification

Priority	Description
1	Routes without any staff facilities at either terminus
2	Routes that have limited access and run beyond the opening hours of the available facilities
3	Routes with a round trip greater than 150 minutes with a toilet provision only at one end
New	Sites where a route is being extended or introduced that do not have existing facilities

3.3 On 13 February 2018, the Mayor, announced £6m of funding to help deliver the toilets on the highest priority routes on the network.

3.4 We are also progressing work to ensure that facilities are provided to support planned bus service changes. We will not make changes to the bus network that result in reduced toilet provision.

Bus driver mess room relief facilities

3.5 Bus driver relief facilities are typically mess rooms, or quiet areas, where drivers can take a scheduled break. Relief facilities are provided in several different ways, predominantly though (a) and (b) below:

(a) by bus operating companies normally at bus garages;

(b) by bus operating companies through local informal agreements with businesses; and

(c) by TfL at key locations normally at bus stations, or large bus stands, where a significant number of routes terminate and land is available.

3.6 There are 58 relief facilities that TfL provide for bus drivers across the network. We ensure that these facilities are well maintained and renewed on a regular basis. There is no plan, or budget, to increase the level of TfL provision of these facilities, although this may be considered where opportunities arise, for example through third party development planning obligations.

3.7 Following discussion with Unite and bus operators we have updated our tender documents for bus contracts to be clearer on the minimum level of driver facilities to be provided.

4 Progress and Forward Programme

Bus driver toilets

- 4.1 We set an ambitious target of providing facilities on 42 priority routes by the end of July 2019. We have exceeded this target and have now delivered facilities for 45 routes. This is an unprecedented improvement in provision – at the previous delivery rate it would have taken nine years to achieve.
- 4.2 Of the new facilities provided, 24 are permanent and 21 are temporary. The temporary facilities are the permanent driver toilet with final utility connections remaining to be completed. We are arranging the conversion (utility connections etc) of the temporary facilities to permanent by the end of this financial year. A list of the sites and routes is included in **Appendix 1**.
- 4.3 Table 2 summarises the distribution of routes in scope and the number that now have a facility. We had agreed with Unite the Union and bus operating companies in April 2019 to include additional routes in the project scope. This has been possible because of savings made in delivering facilities.
- 4.4 We will continue to progress the remaining routes and aim to have resolved all the routes in the updated scope by autumn 2020. A number of these routes are challenging to resolve, for example they may require changes to the bus network to be made which will take time to plan. In the event that changes to the bus network are required we will carry out a public consultation. **Appendix 2** details the routes in the original scope that require a facility and our plans to address them.
- 4.5 There is currently one remaining priority one route – route 124 in Eltham. Following extensive discussions with the Borough, we have now agreed a site for the toilet and work commenced in January 2020. We expect the toilet to be in use by March 2020.

Table 2: Priority routes resolved to date

Priority	Scope agreed with Unite at start of project (March 2018)	Updated scope agreed with Unite (April 2019)	Number of routes that now have access to a facility
1	2	2	1
2	36	40	35
3	4	10	9

- 4.6 In addition to addressing the priority routes, we have installed eight facilities since January 2019 to enable bus service changes. A list of these sites and routes is provided in **Appendix 3**.

Bus driver mess room relief facilities

- 4.7 We have identified eight driver relief mess room facilities in need of refurbishment, including some potential capacity improvements.
- 4.8 These projects have been allocated budget and added to our capital programme, and we will continue to refine the scope and delivery plan over the coming months. A list of the projects is included in **Appendix 4**.

5 Ongoing Work

- 5.1 We will continue to engage with bus drivers, operators and Unite the Union to ensure that as bus routes change, they are all assigned the correct priority within the programme and that new toilet facilities are delivered on the highest priority routes.
- 5.2 We will continue to identify opportunities for developers to provide facilities for bus drivers as part of Section 106 contributions and other negotiated agreements.
- 5.3 We will continue to identify driver relief facilities in need of renewal and progress projects to ensure facilities meet the needs of drivers.

List of appendices to this report:

Appendix 1: List of priority routes with a toilet installed since February 2018

Appendix 2: Routes in original scope with toilet to be installed

Appendix 3: Toilets provided to support bus service changes

Appendix 4: Driver mess room/relief facilities – current projects

Appendix 5: Photo of bus driver toilet

Appendix 6: Photo of mess room, Lewisham

List of Background Papers:

None

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Appendix 1: Priority routes that now have a toilet (since 2018)

Count	Bus route	Bus Stand	Temporary Installation	Permanent Installation
1	370	Lakeside		Yes
2	271	Moorgate, Finsbury Square.		Yes
3	214	Moorgate, Finsbury Square		Yes
4	274	Lancaster Gate		Yes
5	H13	Ruislip Lido		Yes
6	393	Clapton Pond		Yes
7	345	Natural History Museum		Yes
8	263	Highbury and Islington Station		Yes
9	W8	Chase Farm Hospital		Yes
10	455	Wallington Station		Yes
11	U7	Uxbridge LUL Station		Yes
12	N8	Hainault the Lowe		Yes
13	H20	Hounslow Civic Centre		Yes
14	287	Barking Station		Yes
15	196	Norwood Junction		Yes
16	291	Queen Elizabeth Hospital		Yes
17	281	Tolworth Ewell Road		Yes
18	163	Morden LUL Station		Yes
19	273	Petts Wood Station		Yes
20	W14	Woodford Bridge		Yes
21	K5	Ham, Dukes Avenue		Yes
22	415	Tulse Hill Stn	Yes	
23	174	Harold Hill	Yes	

24	368	Barking Hart Estate	Yes	
25	E5	Toplocks Estate	Yes	
26	130	New Addington, Vulcan Way	Yes	
27	G1	Hermitage Lane, Norbury		Yes
28	R68	Kew Retail Park		Yes
29	78	Nunhead, St Mary's Road		Yes
30	W15	Cogan Avenue Estate, Folly Lane	Yes	
31	121	Enfield Lock, Island Village	Yes	
32	K3	Roehampton Asda	Yes	
33	292	Colindale Asda	Yes	
34	234	Barnet The Spires	Yes	
35	321	Foots Cray Tesco	Yes	
36	499	Gallows Corner Tesco	Yes	
37	H28	Syon Lane Tesco, Osterley	Yes	
38	88	Clapham Common, Old Town	Yes	
39	232	St Raphael's Estate	Yes	
40	R1	St Paul's Cray	Yes	
41	288	Queensbury Morrison's	Yes	
42	430	Roehampton, Danbury Avenue	Yes	
43	290	Staines Bus Station	Yes	
44	42	Liverpool St / Worship St	Yes	
45	414	Maida Hill Chippenham Gardens	Yes	

Appendix 2: Routes in original scope with toilet to be installed

Count	Bus route	Bus stand	Priority	Date toilet planned to be in place
1	124	Southend Crescent, Eltham	1	March 2020
2	126	Eltham High Street	2	March 2020
3	R2	Gravel Pit Way, Bromley	2	Autumn 2020
4	434		2	Autumn 2020
5	R7	Chelsfield Cricket Club	2	Autumn 2020
6	427	Uxbridge York Road	2	Autumn 2020
7	468	Swan and Sugar Loaf, South Croydon	3	Autumn 2020

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Appendix 3: Toilets provided to facilitate bus service changes (since January 2019)

1. Route 27 - Glenthorne Road, Hammersmith
2. Route 100 – St Paul’s Station
3. Route 224 - Pitfield Way, St Raphael’s Estate (covered by route 232 facility above)
4. Route 341, Waterloo Road, Lambeth
5. Route 386, Woolwich Arsenal DLR
6. Route S1, Banstead High Street
7. Route 306, Acton Vale Bromyard Avenue
8. Route 483, Windmill Lane, Greenford

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Appendix 4: Driver mess room/relief Facilities – current projects

The following projects are budgeted and planned for delivery by September 2020:

Project	Scope
1. Becontree Heath	Refurbishment of mess room including installation of new zip taps
2. East Beckton	Refurbishment of mess room and toilets including new seating, heaters, lighting and redecoration.
3. Kensal Rise	Full refurbishment of mess room including plumbing, drainage, flooring, lighting and heating
4. Queens Hospital, Romford	Refurbishment of mess room and toilets including redecoration, new doors, new kitchenette, new zip taps, and new air extract
5. Romford Brewery	Refurbishment of mess room and building including redecoration, new kitchenette, new zip tap

The below projects have been recently added to our capital programme and budgets have been allocated. We will carry out feasibility work to determine the scope of works required and the planned delivery dates.

1. Aldgate bus station
2. Harrow bus station
3. Brent Cross bus station

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Appendix 5 – Bus driver toilet, Harold Hill



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Appendix 6 – Mess Room, Lewisham



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Date: 12 February 2020

Item: Work-related Violence and Aggression Strategy update

This paper will be considered in public

1 Summary

- 1.1 This paper includes the final draft of the TfL-wide Work-related Violence and Aggression (WVA) Strategy for consideration by the Panel.

2 Recommendation

- 2.1 **That the Panel endorses the Work-related Violence and Aggression (WVA) Strategy.**

3 Background

- 3.1 On 19 March 2019, we held our first pan-TfL Tackling Work-related Violence and Aggression Summit. It was attended by over 120 people including operational and customer-facing staff and managers from Surface, London Underground, our operators, and contractors; trade unions; policing partners; voluntary organisations; TfL Board Members; and the Health and Safety Executive.
- 3.2 The Summit is part of the on-going pan-TfL strategic review of our approach to work-related violence and aggression, which was initiated in response to the concerns being raised by our unions and staff about Safety and the level of violence and aggression they face at work.
- 3.3 Following the summit, we held four subsequent meetings with our unions. Senior leaders from TfL, Metropolitan Police Service (MPS) and British Transport Police (BTP) and representatives from trade unions across TfL (ASLEF, RMT, TSSA Unite the Union and UNISON) came together to discuss how best to achieve their common aim of eradicating work-related violence.
- 3.4 These meetings provided a forum for discussion about the experiences of our people and how we can best work together to support our colleagues and sustain a working environment where everyone feels safe and supported. The content of our WVA strategy has been shaped and informed by the valuable discussions at these meetings. Examples of how the unions have influenced the strategy and actions include:

- (a) Increased levels of investment; Funding 50 additional British Transport Police dedicated to tackling work related violence and aggression and providing enhanced support to victims across London Underground and TfL's other rail networks;
- (b) Increased levels of investment in personal protection; body worn cameras are being offered and provided to TfL employed customer facing and operational officers at an accelerated pace. Cameras will be made available to every front line member of staff in LU, and to front line members of staff in Surface in line with operational need, with the intention of putting them in place as part of a phased roll out from spring 2020;
- (c) Increased investment and greater direct support for frontline colleagues on stations; 150 new uniformed operational officers will provide direct support to frontline staff across every mode, to deter anti-social behaviour, solve persistent problems and enforce transport bylaws;
- (d) Expanded the scope of the strategy and overarching principles to include all transport operators, contractors and suppliers to TfL;
- (e) Summarised the agreed principles and approach into a clear pledge for senior leaders in TfL and our operators and contractors to sign and make a public commitment to support;
- (f) Included a commitment to analyse the risk faced by lone workers;
- (g) Recognition that non-operational staff in customer facing roles can also be affected by WVA and commitments to providing additional support and training for staff in our Customer Contact Centre, visitor information offices, social media teams and engagement teams;
- (h) Strengthened measures and action plan, accountabilities and governance framework; and
- (i) Commitment to use different communications channels to emphasise our zero-tolerance approach to violence and aggression against our people making it clearer as part of our external customer communications that TfL does not tolerate violence and aggression against our staff and that we will take the strongest action possible against offenders.

3.5 We are grateful for the support and input from our unions. Their ongoing support and feedback will be integral to the success of the strategy.

3.6 An update on the strategy was provided to the Panel on 13 November 2019. The Panel gave its broad support for the strategy. Following that meeting, we proposed a package of measures, which accelerated the first phase of the strategy and demonstrated our commitment to tackling this issue.

4 Governance

- 4.1 We will be accountable to the Panel for the delivery of this strategy. This will include publishing an annual action plan with key deliverables and milestones and reporting quarterly on activity and progress to prevent violence and aggression and to support our people when incidents do occur.

5 Next Steps

- 5.1 Work is well underway to deliver the actions that were announced in November 2019, which include increasing the number of police and enforcement officers to tackle triggers of work-related violence and aggression, rollout of body worn video and doubling the size of the TfL work-related violence and aggression team. We will continue to engage with unions, staff, operators and contractors, regulated transport providers, police and other stakeholders on the delivery of the strategy.
- 5.2 Our second annual Summit is being planned for April 2020 where we intend to formally seek the signing of the pledge by leaders from across London transport and policing organisations.

List of appendices to this report:

Appendix 1 – TfL's Work-related Violence and Aggression Strategy

List of Background Papers:

None

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DRAFT

TfL Work-Related Violence and Aggression Strategy

Our vision is that we eradicate violence and aggression against our people through strong leadership; preventing incidents; supporting our people; learning and improving.

DRAFT

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1 Introduction

We have heard from our people and trade unions regarding their concerns about violence and aggression at work. We have also heard about inconsistency in support experienced by staff who are victims. We understand that violence and aggression risks making our people feel unsafe and affects their wellbeing, confidence, job satisfaction and motivation to provide excellent customer service and deliver a world class transport network.

We are committed to preventing violence and aggression against our people, tackling the causes and providing the best support to our people who experience it. We want to continually learn and improve our approach to keeping our people safe. We will continue working with our Policing partners to catch and prosecute offenders and ensure there are consequences for their actions.

- 1.1 As an organisation we view any level of work-related violence and aggression against our people as too high. Our people have the right to work without fear of being assaulted, abused or threatened. They should never accept this as part of their jobs. Despite significant efforts to improve safety, our people continue to be at risk of work-related violence and aggression. We commit to doing more to ensure that our people are safe and feel safe and supported.
- 1.2 We have actively engaged with our operational and customer-facing colleagues, including the workforces of our operators and contractors and with trade unions to better understand the experiences of work-related violence and aggression and how being a victim affects them and their colleagues, and our customers. This has helped to shape this new organisational wide approach to work-related violence and aggression, with a strong emphasis on preventing incidents from occurring in the first place; and improving the support we give to our people when they are a victim.
- 1.3 We are united with the Mayor, our operators and contractors, our police partners and the trade unions in wanting to do more to keep our people safe. This has led to the development of this first pan-TfL strategy with a vision to eradicate work-related violence and aggression. This vision is in line with our commitments to Vision Zero and eliminating harm to all those that work or travel on our network.

Defining work-related violence and aggression

- 1.4 The Health and Safety Executive defines work-related violence and aggression as any incident in which a person is abused, threatened or assaulted in circumstances relating to their work. Incidents where the person is targeted outside of work because they are seen to work on the transport network are also included. Work-related violence and aggression can take many forms including physical assault,

spitting, verbal abuse, threatening behaviour, hate crime and sexual offences. It can occur in person, over the phone, in writing and through social media.

- 1.5 We recognise that bullying, harassment and discrimination within the workplace whether that between colleagues or between managers and staff can have a similar detrimental impact on the wellbeing of our people. We remain committed to eradicating from work all forms of bullying, harassment and discrimination. This behaviour, and the policies and actions to deal with bullying and harassment between colleagues are outside the scope of this strategy. Separate policies are in place for TfL. Similarly, our operators and contractors have their own HR policies on bullying and harassment at work.

Current work-related violence and aggression activities

- 1.6 This strategy builds on the significant work already underway to tackle work-related violence and aggression by TfL, our operators and contractors and our police partners.
- 1.7 TfL invests over £150m per annum in dedicated policing for our transport system. Our rail operators also contribute directly to the costs of policing their networks. This provides for around 3,000 police and police community support officers in the British Transport Police (BTP), City of London Police and the Metropolitan Police Roads and Transport Policing Command who are working alongside our own crime reduction, revenue, compliance and enforcement staff, to keep our people and passengers safe. Our investment in transport policing and the work we do with the police to keep our staff and customers safe is contributing to the wider efforts to reduce crime in London.
- 1.8 There are already a range of measures in place to reduce the risk of assault and improve the safety of our people. These include risk assessments, staff safety and conflict avoidance training, dedicated workplace violence support teams, spit kits, and local targeted problem-solving plans to tackle the triggers of work-related violence and aggression such as work with schools or colleges.
- 1.9 A review of our approach to tackling work-related violence and aggression carried out in 2019 identified pockets of best practice but overall found our approach was inconsistent across our organisation. Efforts were un-coordinated and the level of resources and effort often did not match the extent of the risk. More needs to be done to focus on preventing work-related violence and aggression in the first place and on feeding organisational learning back into improving the support we provide our people.

- 1.10 This strategy will clearly identify what works and embed that across the organisation. The improvements will be incorporated in future updates to our safety management system.

Purpose of this strategy

- 1.11 This strategy takes an organisation-wide approach across TfL to eradicating **work-related** violence and aggression. Through strong leadership and working in partnership with our trade unions, our people, our operators and contractors and the police, we will prevent violence and aggression, better support our people and continually learn and improve how we do this.

Scope of this strategy

- 1.12 The strategy covers all our people, including those who work directly for TfL, those who work for our operators under the TfL roundel, those who work for our contractors and those we regulate to provide transport services. We will work closely with our operators and contractors to ensure that we put the safety of our people and our customers first.

	TfL directly employed staff	Staff of our operators (under the roundel)	Staff of our contractors	Regulated transport providers
Number	C13,000	C29,000	C10,000	C107,000
Example roles	LU customer service assistants, Train operators, revenue inspectors, bus station controllers, operational officers, major projects teams, Visitor Centre staff, Dial-a-Ride staff, call centre assistants, consultation and engagement teams	Bus drivers, staff working for our train, tram and river operators /concessions, Emirates Airline	Cleaners, security, cycle hire, construction and highways contractors	Taxi drivers and private hire drivers
TfL's responsibility	<p>We will meet our obligations as an employer under Health and Safety at Work Act (HSWA) 1974.</p> <p>We will work with the police and our partners to prevent incidents.</p> <p>We will provide our people with the training, guidance, personal safety equipment to do this and make it easier to report incidents if they do happen.</p> <p>Following an incident, we will support our people and enable their managers to support physical and mental recovery.</p> <p>We will support police investigations, bring offenders to justice, including accompanying them to court.</p>	<p>We will work with our concessions/operators, the police and our partners to prevent incidents.</p> <p>We will encourage our operators to provide their staff with training, personal safety equipment and make it easier for them to report incidents if they do happen.</p> <p>Following an incident, we will help our operators to support their staff through their recovery and police investigation and the judicial process.</p> <p>We will share learning and best practice on prevention and support activities to drive forward our ambition of eradicating violence and aggression.</p>	<p>We will work with our contractors, the police and our partners to prevent incidents.</p> <p>We will encourage our contractors to provide their staff with training, personal safety equipment and make it easier for them to report incidents if they do happen.</p> <p>Following an incident, we will work with our contractors to support their staff through their recovery, police investigation and the judicial process.</p> <p>We will share learning and good practice on prevention and support activities.</p>	<p>We will provide licensees with guidance on strategies for reducing the risk of violence and aggression; how to report incidents to the police; and information on the judicial process.</p> <p>We will use our regulatory powers to support drivers to work in a safe environment.</p>

2 Context

- 2.1 Despite year to date police crime data for 2019/20 showing a slight reduction in violence and public order against staff, our operational and customer-facing colleagues and trade unions tell us that concerns over work-related violence and aggression are rising. This should be read in the context of rising violent crime in London and across the UK and what has been perceived as an increased normalisation of intolerance in society. The issue therefore is not new, and is not specific to the transport sector.
- 2.2 For example, the NHS has recently announced its strategy to better protect the NHS workforce against deliberate violence and aggression from patients, their families and the public. The National Police Chiefs' Council, on behalf of all chief constables, has commissioned an urgent review of officer safety after recent serious attacks on police officers and a recorded national increase in officer assaults. The Rail Delivery Group and the BTP have established a national work-related Violence Strategic Group with representation from TfL and train operating companies to reverse the upward trend in work-related violence and aggression against rail staff. We will work with and learn from these organisations about how to best protect and support our people.
- 2.3 The safety of our workforce and our customers is our highest priority. The [Mayor's Transport Strategy](#) recognises that being safe and feeling safe when travelling around London should be a right for everyone and sets out investment in new infrastructure, service enhancements and staff training to develop a safer and more secure public transport system. [Vision Zero](#), a key Transport Strategy ambition, seeks to eliminate deaths and serious injuries on the transport network with a shared responsibility to reduce danger and the fear it creates. The Vision Zero approach applies both to users of the transport network and to people working on the network.
- 2.4 Across our organisation we are working to improve the safety and security and wellbeing of our people. This strategy aligns with our 'Everyone home safe and healthy every day' health and safety strategy, our wellbeing strategy and our customer strategy. These strategies all have a shared aim of looking after our people and making the transport system a safer and more pleasant place to work and travel.
- 2.5 We have a legal duty under Health and Safety at Work Act (HSWA) 1974¹ to protect our employees from stress at work by assessing risks, including the risk of violence, and acting on this assessment. Experience of violence and aggression at work is a

¹ <http://www.hse.gov.uk/violence/toolkit/legislation.htm>

key contributor to stress. We also have a legal duty under section 17 of the Crime and Disorder Act to prevent crime and disorder as we exercise our functions. Threats to our staff, and the antisocial behaviour that is the common trigger for work-related violence, cast a shadow over our transport system and deter more people from using our networks.

3 Challenge – what do we know about violence and aggression against our people?

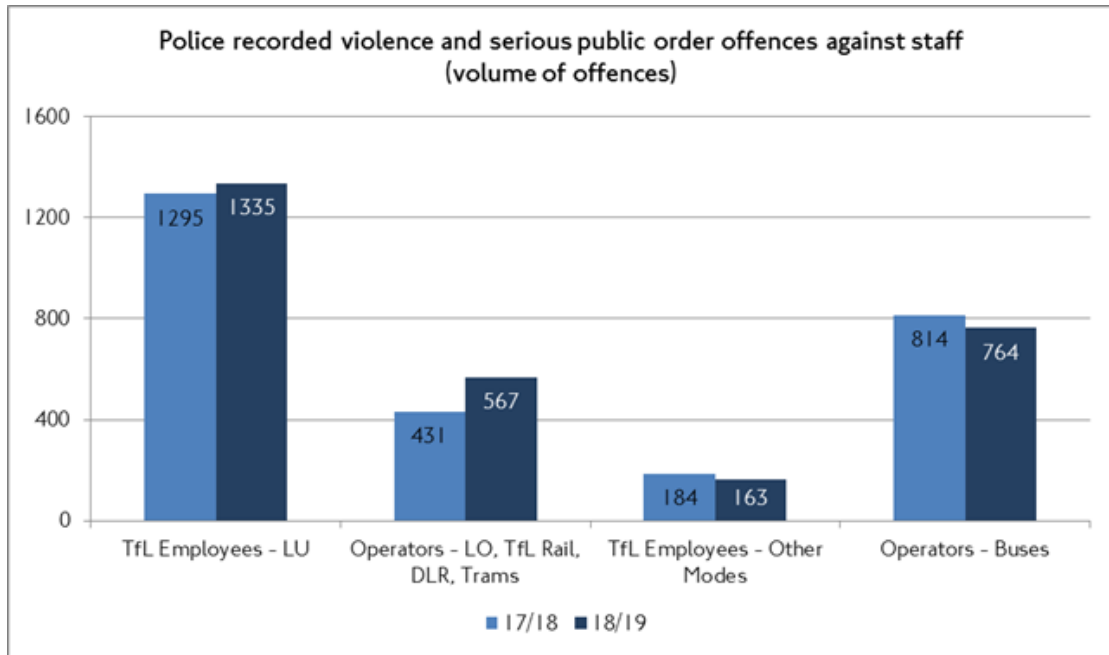
- 3.1 Our transport network remains a safe, low-crime environment. In 2018/19 there were 8.7 crimes per million passenger journeys on the TfL public transport network, the majority of these being theft offences. However, despite serious violence remaining rare on our network, we have seen an increase in reports of low-level violence, aggression, hate crime and threatening behaviour over recent years. While measures to tackle this are having a positive impact, we know that our people are still too often bearing the brunt of people’s violent and aggressive behaviour.
- 3.2 Incidents of work-related violence and aggression and fear of assault can have a significant and debilitating impact on our people. Our people have also told us that at times they don’t feel safe and a fear of being assaulted means that they don’t feel confident doing aspects of their jobs. Our trade unions have told us that this fear is heightened when our people are working alone at stations. Our Trade Unions have also raised concerns about the increased levels of serious violence in London and how this impacts on staff feelings of safety. Occasionally incidents on the street spill onto the transport system as victims seek refuge or assistance from staff.
- 3.3 Our female staff tell us that they sometimes experience aggression as misogyny or as sexual harassment. Many of our staff from diverse backgrounds experience aggression as hate crime. The cumulative impact of hateful language can take its toll on the well-being of our diverse workforce and undermines all our efforts to make the transport system feel safe and inclusive for all.
- 3.4 TfL Occupational Health has reported themes of some staff feeling let down or angry that the organisation hasn’t protected them; an ongoing sense of threat; feeling vulnerable; feeling that the organisation doesn’t care; and being made to feel that they are to blame for violent or aggressive situations. Victims are reporting issues of increased anxiety, sleeplessness, anger and unwanted memories of the incident. It is affecting both their work life and their personal life. We recognise that this is unacceptable and we are committed to addressing this.
- 3.5 Last year, there were some 4,500 incidents of violence and aggression against our employees and the employees of our operators and contractors. Of these, around 30

per cent were physical assaults. TfL employees reported around 2,500 incidents, of which 28 per cent were physical assaults; employees of our contractors and operators reported around 2,000 incidents, of which 34 per cent were physical assaults.

- 3.6 TfL reporting systems record a higher number of incidents than police data. There are numerous reasons for this – not all incidents are reported to the police and not all incidents will meet the threshold for being recorded by the police as a crime.
- 3.7 In 2018/19, just over 2,800 violent and serious public order offences² against our people (including those working for our bus, train, tram and DLR operators) were reported to police, a four per cent overall increase from the 2017/18 financial year (figure 1).

² Public order offences include the use of threatening and words or behaviour causing harassment, alarm or distress and drunk or disorderly behaviour.

Figure 1: Offences against staff reported to police over 2017/18 and 2018/19 financial years

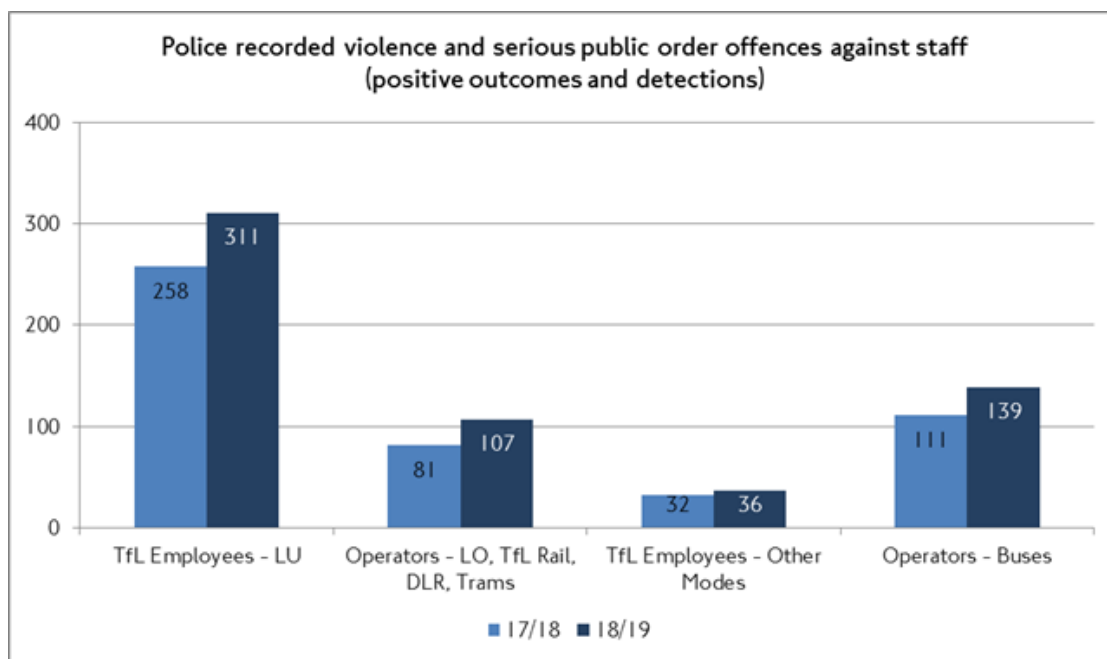


3.8 Over the 2018/19 financial year, around 20 per cent of work-related violence and aggression incidents reported to the police were recorded as hate crimes. Hate crime is criminal behaviour motivated by prejudice on the basis of race, religion, sexual orientation, gender identity or disability. It is an aggravating factor in work-related violence and aggression which has a disproportionate impact on its victims as they are being attacked for a personal characteristic. Reported sexual offences remain low, averaging just over two reported offences per month, but we hear from our female staff that they are regularly subjected to sexual harassment.

3.9 The positive outcome/detections rate for victims of violent or serious public order offences reported to the police was 18 per cent in 2017/18 and 20 per cent in 2018/19. In these cases, the offender was identified, and action was taken against them. The positive outcome/detections rate is higher for violence with injury offences.

Figure 2: Positive outcomes/detections for offences against staff for 2017/18 and 2018/19 financial years³

³ Final strategy to include data on outcomes for most similar violent crime



- 3.10 The triggers for work-related violence and aggression vary. They can vary depending on the job role, the time of day, as well as other external or environmental factors. Fare evasion and fare disputes are the most common trigger of work-related violence and aggression affecting our people. On London Underground, for example, over 70 per cent of incidents happen in the ticket hall, with 40 per cent in total at the gate line. Other common triggers include alcohol and drunkenness, network disruption, aggressive begging and anti-social behaviour (any behaviour that causes alarm or distress).
- 3.11 We recognise that much of the work-related violence and aggression our people face goes unreported. Our operational and customer-facing people have told us that they frequently don't report incidents with reasons given including the time taken to report, an acceptance that it is part of the job and perceptions that it won't be taken seriously or result in any action. We must work to change this.
- 3.12 We know from our research that violence, aggression and threatening behaviour is also a top concern for our customers, along with drunken behaviour/people drinking alcohol and antisocial behaviour. TfL and police action to tackle these issues will reduce risk to our staff and improve customer and staff perceptions of safety.
- 3.13 Data on the scale and nature of work-related violence and aggression across our networks is limited. Our understanding of the nature, frequency and impact of work-related violence and aggression needs to improve. Through this strategy, we aim to improve reporting and analysis of incidents, through improvements to reporting systems and processes, case management and dedicated analytical resource, to have a strong evidence base to inform our prevention activities.

4 Vision and leadership

Our vision is that we eradicate work-related violence and aggression

- 4.1 We are adopting the Vision Zero approach in seeking to eradicate violence and aggression against our people. It is neither inevitable nor acceptable that our people should face violence and aggression at work. Our people should feel safe and supported at work. We can only achieve our vision through strong leadership. The Mayor, our Board and our Leadership Team have made a commitment to our people and trade unions that we will do more and do better in tackling work-related violence and aggression. This first pan-TfL strategy to eradicate work-related violence and aggression is evidence of that commitment. We will put the safety of our people first and ensure we have the structures, resources and processes in place to protect them.
- 4.2 We have worked with our TfL Trade Unions since April 2019 to develop this strategy. Our first agreement is an overarching commitment that we seek to apply across the whole transport sector in London. TfL along with our operators, contractors and our policing partners, pledge to our people to: work together to prevent incidents; better support our people when they are victims, pushing for the toughest penalties for offenders; listen to their feedback; and work with them to achieve our vision of eradicating work-related violence and aggression.
- 4.3 The pledge below will be communicated to our directly employed staff and those of our operators and contractors:

Experiencing violence and aggression is not part of your job

We are working together to improve your personal safety at work. Our vision is to eradicate work-related violence and aggression. We are putting measures in place to reduce the risk of violence happening.

If you do experience violence or aggression while doing your job we will support you.

Working together we will take action to prevent work-related violence and aggression by:

- Putting your personal safety first
- Investing in equipment and training where this reduces risk
- Tackling the causes and triggers that can lead to violence and aggression

Working together we will better support you when you experience work-related violence and aggression by:

- Taking all reports seriously and investigating them
- Providing excellent support and care to help you to recover physically and mentally
- Helping you to report incidents and support you through investigation and court processes
- Working to bring offenders to justice, pushing for the strongest penalties possible
- Keeping you updated on your case

We will listen to your feedback and work with you to achieve our vision of eradicating violence and aggression.

This is our pledge to you as employees of TfL, its operators and contractors

4.4 To properly resource the delivery of this strategy and drive progress we are doubling the size of our dedicated work-related violence teams to 22 people and bringing the Surface and London Underground teams together to create a single pan-TfL team in TfL’s Directorate of Compliance, Policing and On-street Services (CPOS). This team will lead on the implementation of this strategy, provide excellent post incident support to our people and their managers and ensure we become a learning organisation. We will work to improve the support we give to our operators and contractors. We have agreed with our Trade Unions that we should be aiming for consistency of support across TfL, and through the employers that operate and supply services to Transport for London.

Action 1.	TfL, our policing partners, operators and contractors pledge to our people to tackle work-related violence and aggression.
Action 2.	We will double the size of our dedicated work-related violence team to 22 to lead on the implementation of this strategy.

5 Preventing work-related violence and aggression

As an organisation, we will seek to eradicate violence and aggression against our people by tackling the most common causes; investing in equipment and training that reduces the risk of incidents occurring; working with our police partners to improve visibility, engagement and support for our people; and providing clear communications to our customers that we will not tolerate violence and aggression against our people and will push for the strongest penalties against offenders.

Tackling the common causes of work-related violence and aggression

- 5.1 Our people have told us that too many transport users feel they can get away with not paying to use our transport network or acting in an antisocial or threatening manner without any consequences.
- 5.2 Our operational and customer-facing colleagues undertake many different roles, have different working arrangements in different environments and as a result the triggers and circumstances that lead to violence and aggression vary in challenge and complexity. Our commitment is that we will adopt an evidence-led approach to tackling the most common causes of violence and aggression against our people, working with the police and other partners. We will involve our people in the development of strategic and local problem-solving plans.
- 5.3 Our unions have raised concerns about lone working at bus and London Underground stations as well as for our on-street enforcement officers. We will undertake analysis to understand the risk faced by lone workers, and ensure that

appropriate measures are in place to minimise risk. We will encourage our operators and contractors to do the same.

- 5.4 Fare evasion and revenue disputes are a major trigger for violence against customer-facing staff on London Underground and our contracted rail services, for our revenue protection staff and for bus drivers. We are taking an organisation-wide approach to tackling fare evasion, which will protect our income and reputation as a world class transport provider and help to reduce the risk of conflict and challenge for our people. We are working with the police to deal robustly with those blatant examples of fare evasion and antisocial behaviour where people jumping over barriers or pushing through gate lines.

Action 3. We will work closely with our people and our partners to address the common causes of violence and aggression through effective, coordinated action.

Action 4. We will undertake a review of our data to assess the risk of work-related violence to our directly employed people working at LU and bus stations or in on-street enforcement roles. We will encourage other employers providing transport services in London to do the same.

Maximise visibility of police and uniformed enforcement staff

- 5.5 We recognise that the presence of police and uniformed enforcement staff provides a visible deterrent to crime and antisocial behaviour and provides reassurance and support to our customers, operational and customer-facing people.
- 5.6 We will continue to invest in dedicated policing for our transport network and work with our police partners to prevent work-related violence and aggression and maximise police visibility and engagement with our people. We currently invest in around 3,000 officers in the British Transport Police, City of London Police and through the MPS Roads and Transport Policing Command. Tackling work-related violence and aggression will be a clear priority in their policing plans and we will hold them to account for progress and delivery. In addition, we also propose to invest more funding in the British Transport Police to enable their plans to create a dedicated Work-related Violence and Aggression Task Force and increase the number of officers in the TfL-funded BTP Staff Assaults Team. The task force will provide a significant level of proactive policing at hotspot locations across London Underground, our rail, DLR and tram network while the additional investigators in the BTP Staff Assaults Team will provide enhanced investigation and victim support for our other rail modes. The MPS remains committed to tackling work-related violence and aggression and we will work with them to ensure consistent high standards of support to our colleagues working across our bus and road networks.

- 5.7 We know we have to do more to prevent workplace violence and aggression, and the antisocial behaviour that can trigger incidents. We are proposing to strengthen our own operational capability to provide greater security across our network and support to our people and customers. We are recruiting a new team in TfL's Directorate of Compliance, Policing and On-Street Enforcement (CPOS) of approximately 150 directly employed transport support and enforcement officers. This new team will deal with the common triggers of work-related violence, as well as giving support to our frontline people and providing greater visibility and reassurance across our entire public transport network. They'll provide a visible and reassuring presence, enforcing TfL bylaws and supporting local problem solving. They will work with our policing partners and with local communities to build our intelligence about the root causes of workplace violence and target activity. These officers will act as 'capable guardians' and have powers, training and equipment to deal with antisocial behaviour and enforce TfL byelaws and regulations. They will be trained and able to provide referral and help to those who have underlying problems behind the anti-social behaviour being exhibited on our transport system. The new team will begin being rolled out from spring 2020.
- 5.8 Given our people's concerns over the blatant fare evasion on London Underground we are also increasing the size of the London Underground Revenue Control Team and investing in 60 additional new Revenue Control Officers (RCOs) and recruiting revenue control inspectors (RCIs) to sustain the current numbers. These new roles will be focussed on providing a uniformed presence to deter fare evasion, allowing greater coverage across the network, and issuing penalty fares. They will complement our current team of expert RCIs who undertake a vital wider role covering intelligence gathering, investigations and support for prosecutions. The role of RCIs remains unchanged and these proposals recognise their unique skills and contribution to revenue protection for TfL.
- 5.9 To enhance revenue protection activity on London Buses we have undergone a transformation and created a new operational officer role. This means that by 2021 there will be over 400 multi-functional officers that can be deployed more effectively across areas including revenue protection on London Buses. This provides flexibility and additional capacity for revenue activity on the bus network where it is needed.

Action 5. We will harness police support to reduce risk of harm and support our people.

Action 6. We will strengthen our own enforcement capability and invest in additional police officers to deal with the common triggers of work-related violence and aggression and to provide reassurance and support to our people.

Invest in personal safety equipment

- 5.10 Putting our people's safety first means investing in personal safety equipment where this reduces risk. Body worn video cameras have been proven to reduce staff assaults. A recent trial undertaken by the BTP, Cambridge University and the Rail Delivery Group showed that body worn videos reduced staff assaults by almost half. Our own experience in TfL shows that staff who wear body worn video generally feel safer and more confident. We are therefore investing in body worn video cameras for our directly employed people across the business, in line with operational requirements. We will encourage our operators and contractors to do the same for their employees where this is needed and where they haven't already done so.
- 5.11 We will continue to monitor improvements in technology, including CCTV, body worn video cameras, emergency communications and alarm systems and, where needed, develop business cases for investment.

Action 7. We will invest in personal safety equipment, such as body worn video cameras, in line with operational requirements.

Improve conflict management capabilities for operational and customer-facing staff

- 5.12 Effective conflict management, de-escalation and personal safety training for staff can reduce the risk and severity of incidents. Our people have told us that they would like enhanced conflict management and resolution training and improved guidance for staff in operational and customer-facing roles.
- 5.13 We will improve the standard and consistency of training by ensuring that our people complete conflict management training that is appropriate for their roles and that this is refreshed on a regular basis.
- 5.14 We will learn from the Rail Delivery Group and Rail Safety and Standards Board's review of conflict management and safety training to identify best practice and act on and disseminate the findings of this review across TfL and with our contractors and operators. We will also encourage and work towards mandating appropriate training requirements for our operators and contractors where this is needed.

- 5.15 We will improve the guidance and information we provide to our people on work-related violence and aggression by developing a single portal for all guidance. This will include developing guidance for staff who are subjected to abuse and intimidation online, over the telephone or in public forums about what to do, how to report incidents and what action we will take.
- 5.16 We will also produce guidance for people working for our operators and contractors and those people we regulate on strategies for reducing the risk of violence and aggression and where they should go for support, and will make this easily accessible to them.

Action 8. We will improve the consistency and standard of conflict management and de-escalation training and guidance for our people.

Communications to customers

- 5.17 Our people have told us that that they want us to take a stronger, zero tolerance approach to work-related violence and aggression and that they want more communications and information about what we are doing to tackle violence and aggression, as well as updates on our successes.
- 5.18 We will implement a focused, pan-modal communications campaign to raise the profile of work-related violence and aggression, the impact it has on our people and what we are doing to tackle it.
- 5.19 We will make it clearer as part of our external customer communications that TfL does not tolerate violence and aggression against our staff and that we will take the strongest action possible against offenders. As part of this we will routinely publish successful outcomes against offenders to demonstrate that there are consequences for those that harm our people.
- 5.20 Our people told us that members of the public don't see them as real people that are worthy of respect. We will continue our communications that seek to 'humanise' our workforce and highlight the important role our people have in keeping London moving and supporting our customers. We will also take an evidence-led approach to customer communications and behaviour change initiatives, including research to understand what works and learning from other organisations.

Action 9. We will use different communications channels to emphasise our zero-tolerance approach to violence and aggression against our people.

Action 10. We will publicise successful outcomes against offenders to demonstrate that there are consequences for those who assault or threaten our people.

6 Support our people

We have a duty of care to our directly employed staff who are victims of work-related violence and aggression, but we want to go further than this and provide more support to all staff working across our transport network. We will do this by making it easier to report incidents, provide advice for victims and their managers, enhancing peer support to aid wellbeing and return to work, and holding perpetrators to account.

Post incident support

- 6.1 When our people are victims of work-related violence and aggression, they deserve the best support from us and our policing partners. As part of our pledge, we have committed to working with our operators, contractors and police partners to improve the support we provide. We have pledged to take all reports seriously and investigate them; provide excellent support and care to help our people recover physically and mentally; help our people to report incidents and support them through investigation and court processes while keeping our people updated on their case. This is what our people should expect.
- 6.2 We recognise that post incident support varies across our organisation and our operators and contractors. We, in TfL, will lead the way and work with our operators and contractors to improve the support we give to all our people impacted by work-related violence and aggression.
- 6.3 In TfL, our dedicated work-related violence and aggression reduction and support team will provide one to one support and advice for our directly employed people following incidents and over time will make that support available to more people working for our operators and contractors. We will ensure that our directly employed people are given enough time in their working day to report incidents and to support investigations and any criminal justice processes. We will prioritise their welfare after an incident so that they feel cared for and have access to wellbeing support where this is needed. Staff in the work-related violence team will also accompany TfL staff to court, on their request. We will encourage our contractors and operators to do the same for their employees.
- 6.4 Our people have told us that they want their managers to be more empathetic and supportive. Managers have a key role in the mental and physical recovery of their staff and their return to work following an incident. TfL Occupational Health reported that it is the response of the manager that has the most significant impact on how a member of staff recovers from work-related violence and aggression. When staff are well-supported by their manager, they report feeling safe, cared for and understood when off work and when they return, and feeling that they have a

sense of control on how and when they return to work. We need to do better to help our managers protect and support their teams. We will improve the guidance, training and information we give to managers and to how to support their staff following an incident.

- 6.5 We will work with the police to enhance the investigation of violence and aggression against our people and continue to provide support for their investigations including the provision of CCTV, body worn video and emergency communication recordings, Oyster details, witness statements and appeals for information.
- 6.6 Our people have told us that they would like more emphasis on mental health and peer support. In addition to the formal support from Occupational Health, our peer/trauma support programmes provide valuable support to our staff that have been impacted by work-related violence and aggression. It can sometimes be easier for our people to talk to and get help from trusted and trained colleagues who have shared similar experiences than it is from an occupational or mental health professional in the first instance. We will build on these successful, well managed peer support programmes by recruiting and training more colleagues to take part. We will share our learning and best practice with our operators and contractors and encourage them to introduce similar programmes if they haven't already done so.
- 6.7 We will improve our communications to our people by providing regular updates on our progress in how we are tackling work-related violence and aggression, supporting victims and with the actions we have taken to hold offenders to account. We will do this through a variety of communication channels including an internal bulletin that brings together information on how we are tackling work-related violence.

Action 11.	We will deliver on the commitments in our pledge and provide one to one support and advice for victims of work-related violence and aggression and their managers.
Action 12.	We will expand on our successful peer/trauma support programmes to aid victim wellbeing and return to work.
Action 13.	We will provide our people with regular updates on our work to tackle work-related violence and aggression, how we are improving support for our people and managers and the action we are taking against offenders.

Easier reporting and feedback on progress

- 6.8 Our people have told us that reporting can be time consuming and have called on us to make it simpler and quicker to report incidents. They have told us that incidents

often go unreported, that that they are concerned about the value of reporting incidents because of the lack of action and feedback when they do.

- 6.9 We will improve the reporting and recording of incidents of violence and aggression by reviewing and standardising our reporting processes and systems to make it easier to report. We will work towards having a single reporting system or app for all staff working on our network.
- 6.10 We will seek to improve our case management with a system for improved tracking of action and outcomes for every incident. This will enable us to provide better support to our people and keep them updated on any developments relating to their incident and recovery.
- 6.11 Improved and consistent reporting and case management systems will help us to better understand the nature, scale and the victim and organisational impact of work-related violence and aggression. This will be used to inform prevention activities and tasking and deployment processes for police and TfL's enforcement officers.
- 6.12 We will also seek to provide managers with regular information and analysis on the local issues affecting their teams to facilitate open and honest conversations about this and what is being done to tackle it.

Action 14. We will introduce an improved and consistent reporting and case management system for work-related violence and aggression incidents.

Push for strongest penalties and publicise successful outcomes

- 6.13 Our people are concerned that that there are little to no consequences for those who harm them, physically or emotionally. We are committed to changing this and are working closely with our people, the police and other criminal justice partners to do so.
- 6.14 To help with this we need our people to support police investigations so that the offence can be investigated, and offenders can be held to account. Without the cooperation of our staff, the action we can take against offenders to bring them to justice is extremely limited. There are many understandable reasons why our people choose to disengage from the criminal justice process. We must do better to support them through this and clearly demonstrate that there is value in supporting a police investigation and any subsequent judicial action. We will work to identify, understand and resolve barriers to reporting incidents, including reporting to the police and supporting criminal investigations.

- 6.15 We will push for the strongest penalties possible for offenders. We will work with the police to make greater use of ancillary orders or other alternative sanctions and programmes to redress the harm caused by an offender or prevent future re-offending. This includes increased use of Criminal Behaviour Orders for those offenders that repeatedly harm or threaten our people and banning them from our transport network. We will also seek to pursue offenders through civil debt recovery processes for the costs that have resulted from their actions.
- 6.16 We are undertaking a one-year trial to improve judicial outcomes for public order offences against our directly employed staff in Surface Transport. For this trial, TfL will work with the MPS and lead the investigation and prosecution of public order offences against our people. We will evaluate the trial before rolling this out wider.
- 6.17 We will engage with the Crown Prosecution Service (CPS) to improve the understanding of the impact of violence and aggression on our people and the transport sector and work with them to strengthen criminal justice outcomes for offenders. We will also work with Government to raise awareness of the scale and impact of violence and aggression against our people and to advocate for changes in legislation or sentencing guidelines to strengthen penalties for offenders.

Action 15.	We will push for strongest penalties against offenders and make greater use of ancillary orders and other alternative sanctions to deal more effectively with those who harm our people.
Action 16.	We will engage with the CPS and Government to advocate for changes in legislation or sentencing guidelines to strengthen penalties for offenders.

7 Learn and improve

As an organisation we must monitor our progress, evaluate our activities to identify what works and seek to continuously review, learn from and improve how we tackle violence and aggression and support our people.

Listening to our people

- 7.1 We will only be successful if we listen to our people’s feedback and work with them on the implementation of measures that reduce the risk of violence and aggression occurring in the first place.
- 7.2 Our work-related violence and aggression summit in March 2019 and staff engagement workshop in June 2019, which involved operational and customer-facing people, trade unions, policing partners, our operators and contractors and other key stakeholders, was critical to the development of this strategy. We will hold

an annual summit to share best practice and learnings with transport sector organisations and those in other industries on how to better tackle violence and support our people. The annual summit will also enable our operational and customer-facing people and trade unions to review progress, share their experiences and provide feedback for future to reduce work-related violence and aggression.

- 7.3 We will survey our people’s experiences of work-related violence and aggression and their views on the support victims receive and use this and other surveys to identify areas for improvement and track our progress in delivering the strategy.
- 7.4 We will also hold case review sessions, once a quarter, with representatives from across our business and the police to review a sample of cases to learn from incidents and their investigation and to act on this learning.
- 7.5 We will establish a network of work-related violence and aggression reduction advocates who will help to shape and promote our activity to tackle work-related violence and aggression. These volunteers will provide insight from colleagues about their experiences of work-related violence and provide constructive feedback on proposals, plans and activities.

Action 17. We will provide structured opportunities for our people to share their experiences and feedback with us.

Action 18. We will establish a network of work-related violence and aggression reduction advocates to help shape and promote our activity.

Learning and improving

- 7.6 We will improve the collection, analysis and reporting of work-related violence and aggression data to better understand and respond to the causes and triggers of violence and aggression against our people and to evaluate measures to tackle this.
- 7.7 We will monitor developments and innovation across the transport sector and other industries, in the UK and worldwide, to identify what works in tackling violence and aggression and supporting staff. This includes sharing best practice and learning from the Government’s NHS violence reduction strategy, the work of the National Police Chiefs’ Council to reduce assaults on police and police staff and the Rail Delivery Group’s Work Place Violence Group.
- 7.8 We will include pan-TfL work-related violence and aggression improvements in the existing TfL safety management frameworks to ensure a systematic, proactive approach to preventing incidents and supporting our people. This will incorporate our guidance, risk management, safety promotion and assurance.

7.9 We will use the learnings from our case reviews, monitoring and data analysis to identify gaps in our prevention and support activities and address these through annual action plans.

Action 19.	We will improve the collection, analysis and reporting of work-related violence and aggression incidents.
Action 20.	We will adopt a TfL-wide safety management framework to ensure a systematic, proactive approach to preventing incidents and supporting our people.
Action 21.	We will monitor what works in tackling work-related violence and aggression, learning from other organisations learn from across the transport sector and other industries.

Accountability and Governance

7.10 We will be accountable to the TfL Board’s Safety, Sustainability and Human Resources Panel (SSHRP). This will include publishing an annual action plan with key deliverables and milestones and reporting quarterly on our activity and progress to prevent violence and aggression and to support our people when incidents do occur. SSHRP meeting papers are published on our [website](#) for external scrutiny.

7.11 We also hope to continue working closely with all our TfL trade unions through the Joint TfL/ Trade Union Steering Group. Their involvement in the development of this strategy has been invaluable and their ongoing support and feedback will be integral to its success.

7.12 We will establish a Director-level steering group to oversee the delivery of this strategy and provide strategic direction for the annual work programme and initiatives. This group will include representatives from across different operational and customer facing areas of our business including our operators and contractors.

7.13 As an employer we will continue to consult and engage through our functional council and consultative mechanisms with our trade unions across TfL on proposals and changes that fall within the frameworks of our recognition agreements.

Action 22.	We will be accountable to TfL Board for delivery of this strategy and will publish an annual action plan and regular updates on progress to the Safety, Sustainability and Human Resources Panel.
Action 23.	We will establish a Director-level steering group to oversee the delivery of this strategy and provide strategic direction for the annual work programme and initiatives.

8 Measuring success

- 8.1 In addition to measuring our progress in delivering the actions in this strategy, we will establish a set of performance indicators to measure our progress towards eradicating work-related violence and aggression.
- 8.2 We recognise that there is underreporting of work-related violence and aggression incidents and the strategy seeks to encourage and give our people the confidence to report all incidents. If we are successful, we anticipate seeing an increase in reported incidents in the short to medium term, particularly in verbal assaults and threatening behaviour. However, we expect that most physical assaults resulting in injury will already be reported and we would expect to see a reduction in these with the delivery of the strategy's prevention actions.
- 8.3 We will be undertaking further analysis of work-related violence and aggression data to finalise the list of indicators and establish a baseline for these. A summary of the indicators is shown in the table overleaf.

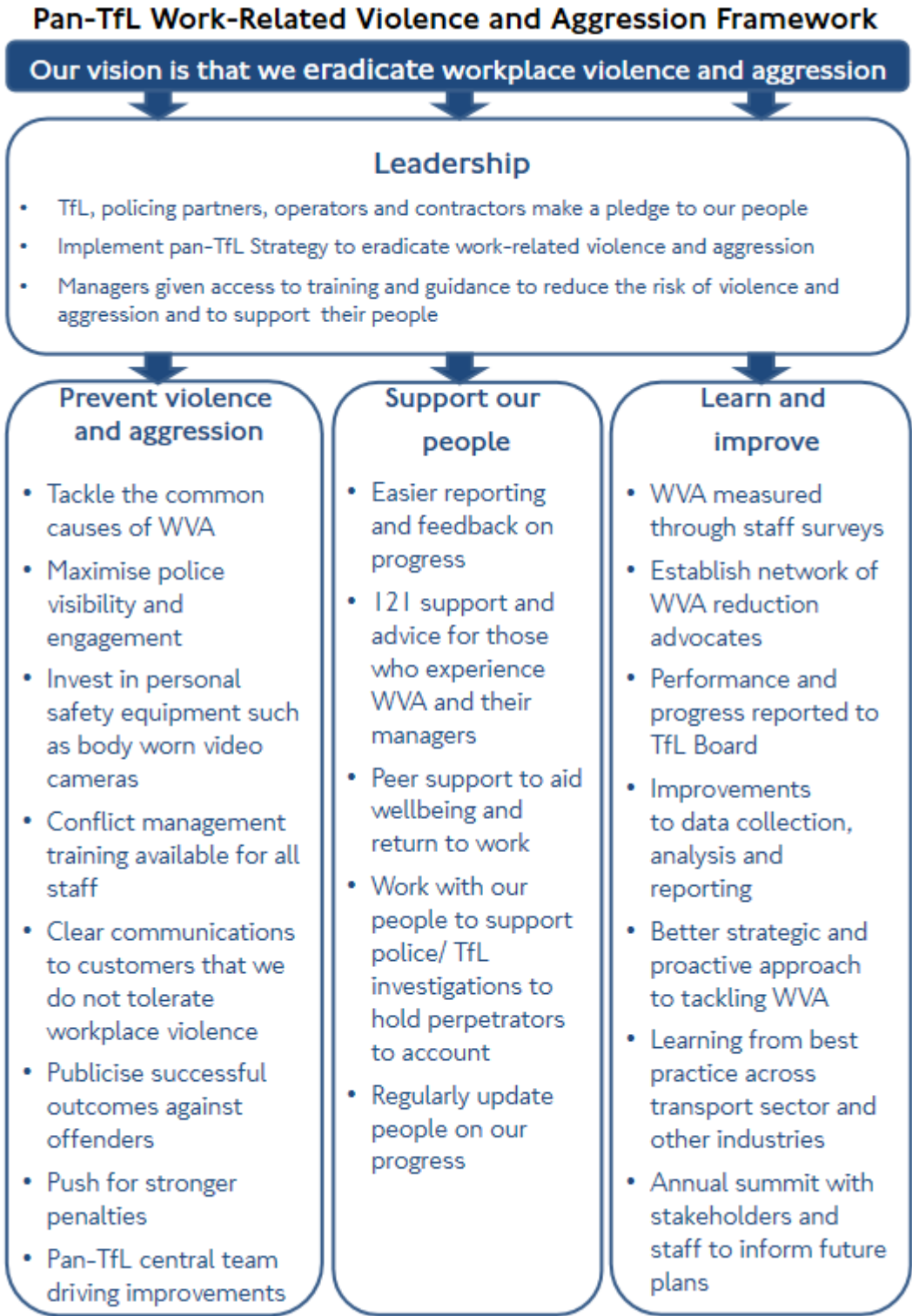
Indicator	Expected improvement
Number of incidents reported (total, by mode and for TfL and contractors)	Increase in the number of reports
Number of recorded crimes – violence with injury (total and by mode)	Reduction in the number of offences involving serious injury
Solved rate for violence with injury offences (total and by mode)	Increase in the solved rate
Number of recorded crimes – violence without injury (total and by mode)	Increase in the number of reported offences
Solved rate for violence without injury offences (total and by mode)	Increase in the solved rate
Number of recorded crimes – public order (total and by mode)	Increase in the number of reported offences
Solved rate for public order offences (total and by mode)	Increase in the solved rate
Percentage of staff victims supporting police investigation and criminal justice process (total and by mode)	Increase in the percentage of staff victims willing to support investigation and criminal justice process
Number of criminal prosecutions violence and public order offences and percentage of successful outcomes	Increase in the percentage of successful outcomes
Number of TfL prosecutions for public order offences and percentage of successful outcomes	Improvement on police outcomes for public order offences
Survey measure to track levels of work-related violence and aggression experienced by our people	Reduction in percentage of staff who have experienced workplace violence and aggression in last year
Level of victim satisfaction (measured by police survey)	Improvement in victim satisfaction
Number of ancillary orders against offenders	Increase in the number of ancillary orders given

Summary of actions

- Action 1.** TfL, our policing partners, operators and contractors pledge to our people to tackle work-related violence and aggression.
- Action 2.** We will double the size of our dedicated work-related violence team to 22 to lead on the implementation of this strategy.
- Action 3.** We will work closely with our people and our partners to address the common causes of violence and aggression through effective, coordinated action.
- Action 4.** We will undertake a review of our data to assess the risk of work-related violence to our directly employed people working at LU and us station or in on-street enforcement roles.
- Action 5.** We will harness police support to reduce risk of harm and support our people.
- Action 6.** We will strengthen our own enforcement capability and invest in additional police officers to deal with the common triggers of work-related violence and aggression and to provide reassurance and support to our people.
- Action 7.** We will invest in personal safety equipment, such as body worn video cameras, in line with operational requirements.
- Action 8.** We will improve the consistency and standard of conflict management and de-escalation training and guidance for our people.
- Action 9.** We will use different communications channels to emphasise our zero-tolerance approach to violence and aggression against our people.
- Action 10.** We will publicise successful outcomes against offenders to demonstrate that there are consequences for those who assault or threaten our people.
- Action 11.** We will deliver on the commitments in our pledge and provide one to one support and advice for victims of work-related violence and aggression and their managers.
- Action 12.** We will expand on our successful peer/trauma support programmes to aid victim wellbeing and return to work.
- Action 13.** We will provide our people with regular updates on our work to tackle work-related violence and aggression, how we are improving support for our people and managers and the action we are taking against offenders.
- Action 14.** We will introduce an improved and consistent reporting and case management system for work-related violence and aggression incidents.
- Action 15.** We will push for strongest penalties against offenders and make greater use of ancillary orders and other alternative sanctions to deal more effectively with those who harm our people.

- Action 16.** We will engage with the CPS and Government to advocate for changes in legislation or sentencing guidelines to strengthen penalties for offenders.
- Action 17.** We will provide structured opportunities for our people to share their experiences and feedback with us.
- Action 18.** We will establish a network of work-related violence and aggression reduction advocates to help shape and promote our activity.
- Action 19.** We will improve the collection, analysis and reporting of work-related violence and aggression incidents.
- Action 20.** We will adopt a TfL-wide safety management framework to ensure a systematic, proactive approach to preventing incidents and supporting our people.
- Action 21.** We will monitor what works in tackling work-related violence and aggression, learning from other organisations learn from across the transport sector and other industries.
- Action 22.** We will be accountable to TfL Board for delivery of this strategy and will publish an annual action plan and regular updates on progress to its Safety, Sustainability and Human Resources Panel.
- Action 23.** We will establish a Director-level steering group to oversee the delivery of this strategy and provide strategic direction for the annual work programme and initiatives. We will continue to use our existing trade union mechanisms to consult on proposals that affect them.

Appendix A: Pan-TfL Work-related Violence and Aggression Framework



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Date: 12 February 2020

Item: Human Resources Quarterly Report

This paper will be considered in public

1 Purpose

1.1 To provide the Panel with an update on key Human Resources (HR) led activities and performance for Quarter 3 (Q3) 2019/20.

2 Recommendation

2.1 **The Panel is asked to note the report.**

3 Background

3.1 This HR Quarterly Report provides an update on activities being delivered in relation to our people against the five themes contained within the 2019/20 People Plan.

3.2 The report also provides information on our performance against the People measures contained within the TfL Scorecard.

3.3 In Q3 we received and shared our annual Viewpoint Survey results. We met our Scorecard target for Total Engagement and exceeded our target for the Inclusion Index. We continued to make good progress with our Workforce Representativeness Indices in Q3.

Appendices:

Appendix 1: HR Quarterly Report

List of Background Papers:

None

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HR Quarterly Report Q3 2019/20

12 February 2020



HR Quarterly Report – 2019/20 Quarter 3 Update

Introduction

This Human Resources (HR) Quarterly Report provides an overview of key people activity and deliverables that have taken place in the third quarter of 2019/20.

This report demonstrates how our activity aligns to our key areas of focus for this performance year, as outlined in our People Plan as well as our People Scorecard performance.

In Q3 we received and shared our annual Viewpoint Survey results. We met our Scorecard target for Total Engagement and exceeded our target for the Inclusion Index. We continued to make good progress with our Workforce Representativeness Indices in Q3.

On the 20 December we published our Ethnicity Pay Gap report for 2019 and have also published our Diversity & Inclusion Impact Report for 2018/19 which are available online.



People Scorecard Measures 2019/20

There are four people measures on the TfL Scorecard for 2019/20. These are:

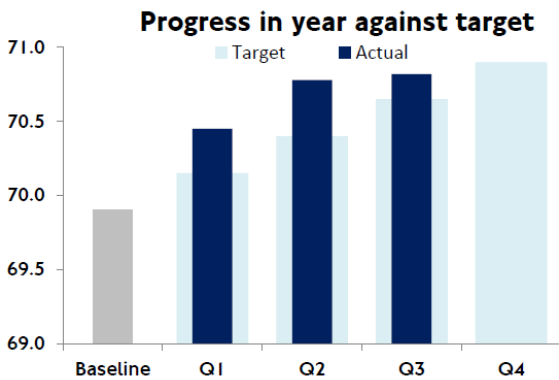
People	2018/19 Result	2019/20 Target
Foster a workforce representative of London		
Workforce Representativeness Index - All Staff	69.9%	70.9%
Workforce Representativeness Index - Director/Band5	37.8%	38.3%
Engage our people		
Total Engagement Index	56%	57%
Build and inclusive environment		
Inclusion Index	43%	46%



Workforce Representativeness Index – All Staff

Our scorecard target for the all staff workforce representativeness index (WRI) was +1 per cent on last year’s end of year score of 69.9 per cent.

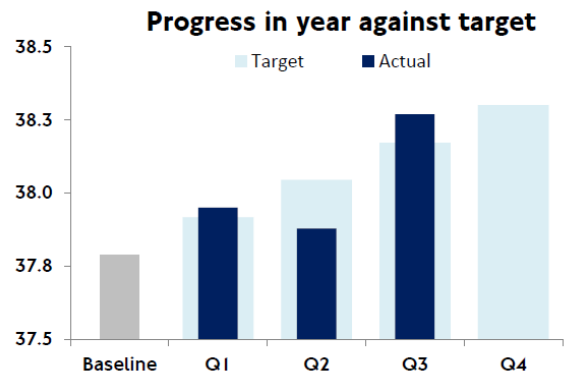
In Q3, our all staff WRI increased slightly from 70.77 to 70.82 per cent, remaining ahead of target. In the year to date, this has been driven by an increase in female, minority faith and disabled employees.



Workforce Representativeness Index – Band 5+

Our scorecard target for the Band 5+ WRI was 0.5 per cent up on last year’s end of year score of 37.8 per cent. This scorecard measure includes our senior managers at Band 5 and above.

In Q3, our Band 5+ WRI increased by 0.5 per cent to reach 38.28 per cent. This increase moves us ahead of target for Q3 and on track to meet the scorecard target for year. This increase was lead by increases in those declaring as Black, Asian and Minority Ethnicity (BAME), minority faith and disabled.



Total Engagement and Inclusion Index

On the 11 November, we published the results of our annual Viewpoint employee engagement survey. The survey calculates our Total Engagement across the organisation and Inclusion Indices which are included on the TfL Scorecard.

Our Total Engagement increased:

57% +1

Achieved target of 57%

We also exceeded our target for the Inclusion Index:

47% +4

Achieved target of 46%

More information on these scorecard targets and work which has contributed towards these scores is included in the following section.



Improving engagement across the organisation

We are committed to making TfL a great place to work for everyone, caring for our people, and supporting them to be the best they can be. This is the only way we can truly deliver for London. The best indicator of how well we are doing at this are our Viewpoint engagement scores, which tell us how our people feel about working for us and what needs to be better.

Viewpoint 2019

Our annual Viewpoint survey results have now been shared with our employees, Trade Unions and the TfL Board, with over 7,000 colleagues accessing their team's results on our SharePoint site.

Our Total Engagement score for 2019 was 57 per cent, which is up from 56 per cent recorded in 2018, meeting our Scorecard target. Employee engagement matters. An engaged workforce will deliver improved performance in safety, reliability and customer service for our customers, along with increased productivity and retention of our employees.

The inclusion index was ahead of target for 2019, with a score of 47 per cent, up from 43 per cent last year. Our wellbeing at work index also increased by 1 percentage point over the year. These measures differ slightly from our Total Engagement index, as they focus on questions within the survey which help to identify the culture of the organisation and the wellbeing of our employees.

Each business area is now in the process of establishing focus groups to review the 2019 Viewpoint results in more detail defining interventions to drive increased employee engagement in 2020.

Our guidance this year is for managers to focus on two or three key drivers of employee engagement specific to their area, these are included within the local area viewpoint reports already circulated.

Centrally we are coordinating a pool of case studies which demonstrate best practice, and areas which have seen the biggest improvements in a particular area of employee engagement, for example engagement with change and leadership. This will enable managers who are focusing on a particular key driver to readily access examples of what worked well elsewhere and best practice.

Action plans for each business area will be captured as part of the People Planning process currently taking place, a summary of which will be included at the next Panel.



Attracting, developing and retaining talent

This theme covers all activities to ensure we have the right people and capabilities to deliver our business plan and the Mayor's Transport Strategy.

Apprenticeship Launch Event

On the 6 November we hosted our Apprenticeship Launch Event for all Level 4, 5 and 6 apprenticeship schemes at Endeavour Square, with over 700 applications to attend the event from prospective applicants.

Applications for our apprenticeship schemes, along with our Graduate schemes, are now open on our Early Careers website across 18 different schemes.



Steps into Work

On the 11 December, we celebrated a further eleven students successfully completing their Steps into Work programme and their BTEC level 1 work skills qualification.

The Steps into Work programme is a partnership between TfL, disability specialist Mencap and Barnet and Southgate College.

This one-year programme is designed for people with mild to moderate learning disabilities which helps them to gain valuable knowledge and skills aid their development towards paid employment.

The national employment average of people with learning difficulties stands at just six per cent full or part time, of last year's cohort 67 per cent are now in paid work demonstrating the positive impact this scheme can have and the outstanding contribution of those involved.



We are delighted that two current Steps into Work students have been offered jobs with MTR Elizabeth Line, one as a Customer Experience Advisor (CEA) and the other on a Level 3 Apprenticeship CEA

Building on this success, from last September we have also increased the number of students on the programme from 12 to 24.

Best Diversity & Inclusion Strategy Award

On the 5 December our Skills and Employability Early Years team won the award for the best Diversity & Inclusion Strategy at the In House Recruitment awards.

This team are responsible for our apprentice and graduate recruitment, along with our

employability programmes, which aim to support those with barriers to work gaining work experience and employment opportunities.

The team beat stiff competition from Accenture, Expedia Group, Paddle and Version 1 and demonstrated the huge amount of work that takes place to ensure we achieve a diverse talent pipeline now and in the future.

Enterprise Advisors

As part of TfL's and the Mayor's support for the Careers and Enterprise Company, in December we led a recruitment drive to increase the number of employees who volunteer as Enterprise Advisors.

By sharing their own experiences and working with those who deliver careers advice in London schools, the Enterprise Advisor programme gives our employees the opportunity to help inspire the next generation to successfully achieve their career ambitions.

The Enterprise Advisor programme not only helps promote transport related disciplines as a career option, but also helps to create and strengthen relationships between TfL and local higher education institutions. The recent recruitment drive has successfully increased the number of Enterprise Advisors at TfL from seven to 35, and we will look to increase this number further.

Rewarding & recognising our people

Ethnicity Pay Gap Report

On the 20 December we published our Ethnicity Pay Gap Report for 2019. This showed that our median ethnicity pay gap has reduced from 9.3 per cent in 2018, to 9.2 per cent.

The report shows that in the last year, we have driven an overall increase in the number of BAME colleagues across most roles and grades. This is encouraging but there is still more work to do, particularly when it comes to representation of BAME employees in our operational areas and senior roles.



MAYOR OF LONDON



Over the past 12 months, we have put in place a significant number of sustainable and scalable activities to increase the representation of BAME employees in our organisation. This is aligned with our ambition to create a more diverse and dynamic organisation, which is more representative of London.

These activities include diversity and inclusion dashboards, impact assessments and we will fully roll-out anonymous shortlisting once the required technical solution has been embedded within our hiring system.

Making a difference

In November, we successfully launched our new Make a Difference online platform, allowing employees to nominate their colleagues who demonstrate our behaviours and who make this a great place to work. The new online platform helps to make the process of recognition more streamlined and consistent across the organisation.

We have received positive feedback relating to updates to the online platform itself and the scheme more broadly, with usage already matching previous levels achieved under the old scheme. We will continue to embed the new Make a Difference using communications and engagement, helping to further recognise the positive work that takes place across the organisation.



Developing an Inclusive Workforce that is Representative of London

International Day for Persons with Disability

To mark the International Day of Persons with Disability, we held a series of events across the organisation to raise awareness of the benefits to society as a whole, by including persons with disabilities in every aspect of political, social, economic and cultural life.

To mark the occasion on the 3 December there was a flag raising ceremony at 55 Broadway, led by the chair of the Disability Staff Network Group.



Other events to celebrate the day included a photography exhibition, which ran in reception of Palestra from the 29 November to the 3 December, and aimed to showcase diversity in the workplace capturing various disabilities of our employees, what they feel are their greatest achievements and ways that

they have faced challenges both positive and negative in the work environment.

We continued our Living With series, which provides a first-hand account of living with different disabilities, with a presentation from Winnie Lam who leads the Disability Staff Network Group.

Working alongside the disability charity and advocacy group, Transport for All, we also hosted a Step Free Tube Challenge where two wheelchair users visited all of our step free stations in one day to see who could get across our network in the quickest time possible. Dr Jon Rey-Hastie, CEO of DMD Pathfinders and Alan Benson, Chair of Transport for All, over a combined 21 hours and 23 minutes, visited all 78 step free Tube stations. Each followed a different route and both finished in Uxbridge. Although a long day, it has been a fantastic learning experience which has provided us invaluable feedback which we will use to improve.



Creating a mentally Healthy Workplace

The Health & Wellbeing strategy team have trialled training to upskill line managers and leaders on how to talk about mental health with their people and that helps attendees

understand the limitations and boundaries of a manager's role, and helps build confidence re: managing mental health difficulties.

Other objectives of the course include demystifying mental health and how to spot the signs. It also aims to equip managers with the skills to have - and perhaps most importantly start - conversations about mental health. How to access support services available is also covered

Initial training sessions were held with Surface Transport and City Planning, with feedback from the sessions showing an increase in the number that felt able to identify and confident to support their employee's mental health.

World mental health Day

World Mental Health Day took place on the 10 October and provided an opportunity to raise awareness of mental health issues and to encourage open conversations about wellbeing.



This year's focus was on suicide prevention and support, providing the opportunity for us to highlight the support available to our employees through our Employee Assistance Programme which includes an emergency helpline available 24 hours a day, seven days

a week, along with other resources available from our Occupational Health team.

Diversity & Inclusion Impact report

Our annual Diversity & Inclusion Impact Report for 2018/19 was published on the 20 December 2019. This is the second edition of the report and provides updates on our progress against the eleven equality, diversity and inclusion objectives listed in our Action on Equality strategy.

The report provides updates on key deliverables and case studies which took place from the 1 April 2018 to the 31 March 2019 and can be found online (<http://content.tfl.gov.uk/tfl-annual-diversity-and-inclusion-impact-report-2018-19.pdf>)



Delivering & embedding organisational change and modernisation

One of our key priorities for this performance year is to support ongoing organisational change, through the support of our employee relations, business partner and employee communication teams.

The re-design of our organisation continues with formal consultation with Trade Unions progressing in eight business areas, including London Underground, Finance and Business Services.

We are working closely with our Trade Unions and our people to ensure we do all we can to avoid, reduce and mitigate redundancies, reduce the level of uncertainty through change and to focus on the health and wellbeing of our people.

Supporting our People Through Change Toolkit

We are updating our toolkit for supporting our people through change to incorporate feedback from stakeholders and ensure accurate guidance is readily available for any teams preparing for org change in 2020. Feedback from HR (including Employee Comms), and Transformation has been reflected in the latest version. These changes are to ensure the impact of organisational change on our people is kept to a minimum.

Next steps

People Planning

We have started the process of developing our TfL People Plan as well as business area people plans for 2020/21. These plans outline the key people related priorities for the business as a whole and for individual business areas.

Initial people planning workshops have identified five key themes which apply to either the business as a whole or to multiple key business areas. These themes will be included in the pan-TfL People Plan, these and are;

- Talent & Succession Planning
- Improving Engagement
- Leadership & Management Capability
- Reviewing Reward
- Improving Attendance

We are continuing conversations across HR teams to identify any additional themes for inclusion in the plan.

Next steps are to identify the interventions and activities which sit under each of these themes for individual business areas. It is important to note that not all activity identified is new for 2020/21. Where applicable, HR activity from the 2019/20 people plans will continue in alignment with the identified themes.

We will return to the June Panel with an update on our People Plans and our people priorities for the year ahead.

Date: 12 February 2020

Item: Update on Our Gender and Ethnicity Pay Gaps

This paper will be considered in public

1 Summary

- 1.1 This paper provides an update on our latest Gender and Ethnicity pay gaps and the work taking place to reduce these.

2 Recommendation

- 2.1 **The Panel is asked to note the paper.**

3 Background

- 3.1 In October 2019, we published our 2019 Gender Pay Gap summary Report showing a median pay gap of 19.5 per cent, and a mean pay gap of 9.7 per cent. The 2018 Report published in early 2019 showed our Median pay gap was 19.7 per cent and a mean pay gap of 10.7 per cent.
- 3.2 In December 2019, we published our 2019 Ethnicity Pay Gap Summary Report showing a median pay gap of 9.2 per cent, and a mean pay gap of 11.4 per cent. The 2018 Report published in early 2019 showed our median pay gap of 9.8 percent and a mean pay gap of 10.2 per cent.
- 3.3 Our approach comprises medium to long-term activities that should create sustainable change and reduce pay gaps. We will continue to use evidence-based decision making to design and deliver our interventions and embed inclusive practices across the entire employee lifecycle. This includes a range of activity from proactively diversifying our talent pipeline to maximising opportunities to retain talented women and black, Asian and minority ethnic (BAME) staff.
- 3.4 The reports highlight a range of causes for our pay gaps; these include the underrepresentation of women and BAME employees in senior levels and the larger proportion of BAME employees in lower paid operational roles.
- 3.5 Our focus on addressing both the gender and ethnicity pay gaps are part of our wider programme of work to increase the diversity of our staff at all levels and in all parts of the business and to cultivate a more inclusive workplace culture for everyone.
- 3.6 The 2018/19 Ethnicity Pay Gap and Gender Pay Gap full reports are due to be published before the end of March 2020.

- 3.7 We are mindful that pay gaps can exist for other demographic groups, such as disabled staff. Research shows us that there are also likely to be compound intersectional pay gaps e.g. for BAME women. Given the accuracy of pay gap reporting can be limited by data quality, this is something we will need to carefully consider before reporting.

4 Addressing our pay gaps

- 4.1 Our new strategic approach – to be set out in Action on Inclusion in the summer of 2020 – will also help to align our approach to diversity and inclusion with the Mayor’s Transport Strategy. At the heart of our new strategic approach is that TfL will be more insight driven and data led. We will use behavioural and data sciences to better understand what works to set evidence-based priorities and establish best practice in reducing pay gaps.

5 Other ways we measure progress

Inclusion Index

- 5.1 The TfL Scorecard demonstrates best practice by including three specific measures relating to D&I. The first is an aggregate measure of the representativeness of our workforce (compared with London’s economically active population) across several protected characteristics. The second is the same measure for the senior leaders in our organisation. Finally, we measure how included staff feel by using our Inclusion Index.
- 5.2 The Inclusion Index is an aggregation of the key questions that indicate whether people feel included in the workplace. This index measures the extent to which our people feel that they work in an inclusive environment where their opinions matter, they feel safe to be themselves and are able to make a contribution.
- 5.3 The Inclusion index for 2019 is 47 per cent and has seen a significant increase of 4 per cent since 2018, already meeting our 2019/20 Scorecard target.

Diversity and Inclusion (D&I) Dashboards

- 5.4 In April 2018, we launched the first version of our D&I Dashboards, providing further data and insight to our senior managers. These data driven dashboards give a much richer and insightful picture of employee outcomes and experience across the entire employee life-cycle.
- 5.5 The dashboards are published quarterly and allow us to focus our activity in the right areas and see how effective our actions are in different parts of our organisation. The ongoing move to a new reporting tool – Power BI – will allow D&I data to be more accessible and real time allowing business areas to access and use data insights to make better decisions.
- 5.6 We will also be using our participation in the HR focused GLA Group Diversity and Inclusion Action standard to measure our performance and progress against other members of the GLA group. We are looking to develop this standard locally so that business areas can use the tool to support local D&I action plans, improving the maturity of D&I activity across the business.

6 Our Activity

Disclosure Campaign

- 6.1 We have successfully used behavioural science to test different ways of asking staff to disclose their diversity data, which has improved the D&I data of our workforce. We will continue to use behavioural science principles to improve demographic data declarations.

Impact Assessments

- 6.2 In July 2019, we launched a new People Impact Assessment tool to consider and minimise any potential impacts on staff during times of change – including those that could increase pay gaps. The tool uses diversity data to better identify the potential impacts of organisational change.

Leadership Foundation

- 6.3 We are developing a new Leadership Foundation, which is our ambitious approach to improving leadership whilst focussing on solving real business priorities. It comprises mentoring, shadow boards and a module on inclusive leadership. This should help to create the more inclusive culture into which a more diverse senior leadership will be recruited – helping to reduce pay gaps. The coming year will comprise phase 1 roll out to early adopters.

Mentoring, Coaching and Sponsorship

- 6.4 We continue to take steps to ensure that people from BAME communities can access senior, higher paid roles. We are widening access to mentors and coaches, as well as carrying on with targeted development programmes to identify the next generation of leaders from typically under-represented groups. This year, we are running the second year of an intercompany mentoring programme for BAME talent working in technology and data.
- 6.5 We will continue to support the Our Time initiative which is coordinated by the GLA. The initiative pairs high potential women with senior female and male employees from across the GLA family, for a minimum of six months.

Creating an Inclusive Operational Culture

- 6.6 We are ensuring there is visibility and understanding of the secondment culture in London Underground Operations by mapping formal and informal secondments, including their original recruitment process and duration. By embedding good practice and identifying tactics and guidance for improvement, we will ensure we promote a truly meritocratic culture with clear links to recruitment.

Recruitment

- 6.7 We ran an anonymised shortlisting pilot last year, resulting in a significant increase in the percentage of women hires. In one pilot, 53 per cent of new hires were women. We will be rolling this programme out across all roles once the technical solution has been embedded within our hiring system. This is currently in the final part of the testing phase.

- 6.8 We have continued to use diverse and independent interview panels wherever possible, particularly in transformation related selection. This ensures we can bring independence and diversity of thought to our recruitment process.
- 6.9 There has been significant progress in recruiting a diverse workforce with specific targeted recruitment campaigns in Engineering, Finance and Tech and Data.
- 6.10 The Talent Acquisition team is a multi award winning team recognised for its world class executive search strategy for both internal pipeline development and external proactive search. We use an award-winning Core, Close and Creative model to broaden the talent pool so that we can increase its diversity. This model also places a greater emphasis on the soft skills needed for leadership roles, including role modelling great behaviours and values.
- 6.11 We will build on the successful use of targeted social media searches and internal campaigns that find hidden talent via our Maximising Potential performance management system. We will be offering our 'project you' workshops – initially targeted at women – to a wider pool of diverse talent, especially those from BAME backgrounds.

Graduate Recruitment

- 6.12 Graduate and internship scheme assessment centres concluded in December 2019 across nine schemes for 54 roles. All roles have been offered except for 6 Engineering and Technology places, to be re-advertised in Q4. Of offers accepted to date 22.5 per cent are female and 30 per cent BAME with a further 28 per cent of roles to be accepted. A new microsite was developed for this years' campaign building on the new apprenticeship site launched early in 2019. Diverse role models were used on the site in the photo shoots of our existing graduates featured.

List of appendices to this report:

None

List of Background Papers:

None

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Date: 12 February 2020

Item: Sustainability in TfL Property Development

This paper will be considered in public

1 Summary

- 1.1 In 2019, TfL Commercial Development (CD) established a new approach to sustainable urban development in a Sustainable Development Framework (SDF). This metric-based approach to optimising and monitoring sustainability performance builds on industry best practice to deliver the Mayor's aspirations and TfL's wider objectives.
- 1.2 From August 2019, the SDF has been rolled out on a trial basis across the CD property development programme. The SDF is already yielding promising results across a range of indicators, including lifecycle carbon emissions, urban greening, biodiversity net gain, delivery of Healthy Streets, and external accreditation such as Home Quality Mark, BREEAM and the WELL Building Standard.
- 1.3 A review the SDF is underway. Following feedback from the Panel and other stakeholders, the SDF will be updated and launched in May 2020. The SDF methodology will subsequently be adapted to apply to TfL's existing property estate.
- 1.4 A paper is included on Part 2 of the agenda, which contains exempt supplemental information on case studies. The information is exempt by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial or business affairs of other organisations who have provided information for case studies. Any discussion of that exempt information must take place after the press and public have been excluded from this meeting.

2 Recommendation

- 2.1 **That the Panel note the content of this paper and endorse the approach being undertaken.**

3 Background

- 3.1 Mayoral strategies (including the Draft London Plan, the Mayor's Transport Strategy and the Mayor's London Environment Strategy) call for sustainable development practices that are considerably more ambitious than standard industry practice.
- 3.2 TfL's CD team is currently in the process of delivering a development portfolio of over 10,000 homes across more than 50 sites as well as commencing a commercial office programme of over two million square feet across seven sites.

Given the scale of this development programme, there is a unique opportunity to deploy and embed sustainable development practices at scale across the capital.

- 3.3 The team's review of industry leaders demonstrated that companies that build their approach to sustainability around measurable Key Performance Indicators (KPIs) significantly outperform those that are purely principle-based. We therefore set ourselves the task of creating a bespoke and best-in-class approach to sustainable development.

4 Sustainable Development Framework (SDF)

- 4.1 To embed these aspirations across our property development schemes and deliver exemplary projects that represent industry leadership, we have developed a KPI-driven methodology for optimising, specifying, monitoring, and improving performance across the triple-bottom-line (i.e. economic, social, and environmental). This methodology has been framed as a structured series of stages, known collectively as the Sustainable Development Framework or SDF.

- 4.2 The SDF was developed in conjunction with TfL and GLA subject matter experts, including those from TfL's Safety, Health and Environment team and the GLA Environment team. The framework was checked and cross-referenced by these subject matter experts to ensure alignment with existing and emerging policy such as the pending TfL Corporate Environment Strategy and GLA Circular Economy Guidance documents.

- 4.3 The primary objectives in developing this framework were to:

- (a) develop a robust approach, but one that could be adapted to a wide range of projects;
- (b) allow us to take control of the outcomes delivered by us and our development partners to promote our ambitions across the triple bottom line (environmental, social, and economic);
- (c) establish a performance baseline to ensure we consistently achieve high levels of performance;
- (d) define an industry-leading performance aspiration to work towards over time; and
- (e) achieve a balance across the triple bottom line.

- 4.4 The SDF contains nine dimensions as follows:

- (a) Economic Development:
 - (i) *Sustainable Revenue*: capital receipts, net revenue streams, life-cycle costs;
 - (ii) *Infrastructure Delivery*: active travel infrastructure, electric vehicle charging, renewable energy assets, transport network improvements, etc.; and
 - (iii) *Economic Development*: responsible procurement, employment and skills, promoting small business, etc.;

- (b) Environmental Stewardship:
 - (i) *Building Performance*: carbon, energy, water, waste, overheating, noise, circular economy, construction efficiency;
 - (ii) *Healthy Streets*: performance on the Healthy Streets Checklist for Designers; and
 - (iii) *Green Infrastructure*: urban greening, biodiversity net gain, run-off; and
 - (c) Social Impact:
 - (i) *Community Engagement & Inclusion*: pre-development community engagement, post-occupancy community engagement, inclusive design, displacement management;
 - (ii) *Social Infrastructure*: affordable housing, public services provision, leisure facilities, support for social enterprise, investment in community initiatives; and
 - (iii) *Health and Wellbeing*: air quality, responsible construction, security, safety, etc.
- 4.5 Each dimension contains a series of KPIs. These were identified through a comprehensive review of domestic and international policy and guidance, sustainability ratings systems (including BREEAM and Home Quality Mark) and similar frameworks used by industry leaders.
- 4.6 For each KPI, we:
- (a) noted any relevant TfL and GLA policies, taking care to ensure that all targets would meet or exceed TfL and Mayoral policy requirements, including any standards or policies in the Draft London Plan and Mayor’s Transport Strategy;
 - (b) established a portfolio-wide baseline performance level - this reflects a target that is ambitious but consistently achievable (we would expect to achieve this level as a minimum on all sites, unless site-specific constraints make it unfeasible); and
 - (c) established a portfolio-wide aspirational performance level - this reflects a target that demonstrates innovative practice and industry leadership (initially, we would expect to achieve these performance levels only infrequently).
- 4.7 Taken together, the baseline and aspiration create a performance range for each KPI that we expect our portfolio to sit within. This will allow us to rate the performance of our portfolio across a wide range of sustainable development indicators, and use this data to consistently monitor, report, and improve performance over time.
- 4.8 Using this system, we intend to move towards the aspirational performance level as the portfolio matures, establishing ourselves as an industry leader in sustainable development. It should be noted that the framework will be updated

on a bi-annual basis. It is expected that the KPIs will change over time, as policy and best practice evolve.

- 4.9 As appropriate, we will make use of the SDF and its KPIs to optimise monitor performance at the project level. This application will be on a case-by-case basis and tailored to each site, such that the SDF remains a relevant and value-added approach for all applicable projects.
- 4.10 Importantly, the SDF should not be seen as a standard or as a set of requirements; rather, it is a methodology for optimising and monitoring the sustainability performance of property development which is applied at the portfolio level and at the project level, where doing so is relevant and appropriate.
- 4.11 An overview of the SDF can be found at Appendix 1 (SDF Overview).

5 Piloting the SDF and Early Results

- 5.1 Beginning in August 2019, TfL CD began to pilot the application of the SDF. This pilot phase has yielded promising results. Examples include:
 - (a) *Energy and Carbon*: a focused effort to optimise KPIs within the Building Performance dimension across the portfolio allowed us to carry out a detailed analysis of 15 different energy system configurations. Using this analysis, on the vast majority of projects, we have been able to achieve lifecycle carbon reductions of more than 75 per cent versus the energy efficiency requirements as set out in Part L of Schedule 1 to the Building (Amendment) Regulations 2013 (S.I. 2013/1105). In the case of Morden Town Centre, we have worked with the London Borough of Merton to develop outline solutions that could potentially achieve zero carbon on-site, as well as decarbonise surrounding neighbourhoods. A detailed feasibility study of these options is currently being undertaken.
 - (b) *Green and Blue Infrastructure*: we have applied a range of urban greening best practices (many drawn from international case studies) to our projects. Most notably, we are working with Taylor Wimpey on a development scheme at High Barnet to substantially increase green infrastructure and biodiversity on site.. Our joint venture is aiming for this development to become one of the greenest developments in London and set a new precedent for 'naturalising' the built environment.
 - (c) *Healthy Streets*: prior to procuring a development partner, we completed a detailed Healthy Streets assessment at the Hounslow West development site in collaboration with Lucy Saunders, the Director of Healthy Streets. The assessment identified a range of specific interventions that could drive modal shift and improve Healthy Streets outcomes. We included this assessment in the Invitation to Tender (ITT) and asked bidders to make Healthy Streets commitments. The winning bidder has committed to delivering these recommended interventions, and as a result, we expect to achieve a Healthy Streets Check for Designers score of more than 75 per cent. If achieved, this would set a new benchmark for the delivery of Healthy Streets in property development.

- (d) *Home Quality Mark (HQM)*: we have actively sought to embed the Home Quality Mark system (the successor to the Code for Sustainable Homes) across all residential development schemes. Our build-to-rent joint venture with Grainger PLC has recently adopted a commitment to delivering industry-leading performance under the HQM system. At present, four build-to-rent schemes are achieving 4 stars under HQM and may achieve an unprecedented 4.5 stars with further design iteration.
- (e) *BREEAM and WELL*: in line with the Building Performance and Health and Wellbeing dimensions of the SDF, we have comprehensively implemented the BREEAM and WELL systems wherever possible. In the case of our commercial development at Southwark Tube station, the scheme is anticipated to be the largest scheme in the UK to achieve BREEAM Outstanding and WELL Platinum simultaneously. Additionally, the scheme has been specified to use carbon-sequestering cross-laminated timber (CLT) for its structure and is expected to become the tallest low-carbon timber building in the UK.

5.2 These examples are further illustrated in the confidential appendix on Part 2 of the agenda).

6 Industry Reception and Feedback

- 6.1 Both before and throughout the pilot, we have actively sought industry feedback. The feedback received to date has been encouraging. In the case of live projects, all development partners we are currently working with have retroactively adopted the SDF methodology. Importantly, these partners had already been procured. They were under no obligation to adopt the Framework, and have done so voluntarily, indicating a recognised value-add.
- 6.2 The SDF has also been tested in procurement processes. In several ITTs for development partners, bidders have been given the opportunity to make voluntary performance commitments against various KPIs within the framework. These quantitative commitments were scored relative to the site's baseline and aspirational targets, with the sustainability commitment scores forming five per cent of the overall ITT score. In response to this method, every bidder has made multiple commitments that exceed policy and our own baseline aspirations. In some cases, bidders have made proposals that would meet our aspirational targets, potentially allowing us to deliver projects that are truly world-leading.
- 6.3 We have also received constructive feedback as to where we can improve the framework. Most significantly, our build-to-rent partner (Grainger plc) advised that we could be more ambitious with our social impact KPIs. We have since worked with Grainger to develop and refine our social impact KPIs, which have now been formally adopted (along with the entire SDF framework) by our multi-site joint venture with Grainger, Connected Living London.
- 6.4 Feedback from development partners has also helped to streamline the SDF process and make the optimisation recommendations easier to implement.

7 Post-Pilot Implementation

7.1 The SDF is implemented at a project level via three stages as follows:

- (a) *Stage 1 – Performance Optimisation.* This stage assesses the site, investigates opportunities for implementing best practices, and recommends a series of interventions and principles for the project team to consider.
- (b) *Stage 2 – Performance Specification.* This stage carries out further analysis to determine which interventions from Stage 1 should be carried forward. On this basis, the baseline and aspirational performance targets for each KPI are calibrated to the site.
- (c) *Stage 3 – Performance Review.* This stage audits the scheme's performance against each KPI in relation to the site-specific baseline and aspirational targets set in Stage 2. Where there is potential for improvement, recommendations are made to the project team. This stage is iterative and is carried out multiple times across the project life-cycle.

7.2 In each stage, the exercise is completed for each of the SDF's nine dimensions of sustainability. This process is illustrated through case studies in the paper on Part 2 of the agenda.

7.3 This implementation plan is designed to:

- (d) ensure each scheme's sustainability performance is optimised from the outset, thereby maximising benefits and minimising costs;
- (e) clearly establish project-specific targets that can be effectively communicated to and delivered on by the supply chain; and
- (f) drive continuous improvement throughout the life-cycle of each project.

7.4 As of January 2020, 11 sites are in Stage 1 (Optimisation), 29 sites are in Stage 2 (Specification), and eight sites are in Stage 3 (Review).

7.5 It is anticipated that all sites currently in Stage 2 will have progressed to Stage 3 by the end of March 2020.

8 Next Steps

8.1 Over the next two months, we will be focusing our efforts on Stage 2 (Specification), which involves translating the work carried out under Stage 1 (Optimisation) into tangible and actionable plans for implementation. In parallel, we will be carrying out indicative performance reviews (Stage 3) to assess our portfolio with the aim of understanding if and how the SDF has impacted on scheme performance.

8.2 We are currently working with a number of consultancies specialising in the area of social impact to understand how we could better measure and optimise the social outcomes delivered by our projects.

8.3 In the same period, we will be soliciting input from professional bodies including the Royal Institute of British Architects (RIBA), the Royal Institution of Chartered

Surveyors (RICS), the Royal Town Planning Institute (RTPI), and the Institute of Environmental Management and Assessment (IEMA). We will also continue working closely with third-sector organisations, such as London Energy Transformation Initiative (LETI), the C40 Cities Climate Leadership Group (C40), the Urban Land Institute (ULI), and New London Architecture (NLA).

- 8.4 Combined with the feedback from our development partners, the product of the above activities will be used to inform a comprehensive update of the SDF. This will be undertaken in March 2020, with a final review to be completed in April 2020.
- 8.5 The framework will be updated and publicly launched in May 2020, with an initial emphasis on communicating our approach to the TfL Property Development supply chain.

9 The Existing Estate

- 9.1 At its core, the SDF is a methodology for optimising, specifying, and monitoring the sustainability performance of property assets. While it has so far only been applied to the TfL Property Development portfolio, there is an imperative for TfL to similarly improve the performance of its existing property estate.
- 9.2 In part, this is being driven by TfL's commitment to tackling the climate crisis. In September, TfL was one of 23 of the UK's leading commercial property owners who signed up to the Better Buildings Partnership Climate Change Commitment, which requires us to fully decarbonise our portfolio by 2050 and publish a comprehensive roadmap to zero carbon by the end of 2020.
- 9.3 In line with this commitment, we will be applying the SDF methodology (with appropriate modifications) to the existing estate. This will yield the required zero carbon roadmap, as well as plans for each of the other nine dimensions of the SDF framework, including Green Infrastructure, Healthy Streets, and Health & Wellbeing.

10 Conclusion and Recommendation

- 10.1 With one of the largest and most important property development programmes in London, TfL's CD department is keen to set ambitious goals to deliver the Mayor's aspirations and TfL's objectives on sustainability. Initially rolled out on a trial basis across the property development programme, CD's Sustainable Development Framework is already delivering very promising results across a range of indicators.
- 10.2 An early review of the SDF is underway prior to a launch. Significant stakeholder engagement has occurred throughout the pilot phase and this is ongoing. Lessons learned and stakeholder feedback will be incorporated into the published version. Subject to comments from the Panel, we aim to formally launch the Framework in May 2020. We are then planning to adapt the framework so that it can apply to all of TfL's existing property estate across the capital.
- 10.3 The Panel is asked to note the paper and endorse the approach being undertaken.

List of appendices to this report:

Appendix 1 – SDF Overview Document

A paper containing exempt supplemental information is included on Part 2 of the agenda.

List of Background Papers:

None

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Appendix 1

Sustainable Development Framework (SDF) Overview Document

Becoming a Sustainable Development Leader: Taking Cues from Industry


Clear strategies and principles are critical to driving a shift towards sustainable development practices. However, the delivery of these strategies requires practical methods for optimising, specifying, delivering, and monitoring sustainability performance in practice.

Property companies which lead the industry in sustainable development practices consistently adopt a performance-focused approach. This seeks to combine ambitious vision and well-defined strategy with focused performance metrics and quantitative targets – thereby ensuring that ambitions and strategies are translated into SMART (specific, measurable, achievable, relevant, and time-based) outcomes on the ground.

To ensure that TfL Property Development becomes an industry leader in this space, we have developed a performance-focused approach: the *Sustainable Development Framework*.


PROPERTY DEVELOPMENT

Sustainability Minimum Targets for all Projects




The following targets are the minimum requirements for all projects with a capital expenditure over £300,000. Individual targets will be reviewed on a project by project basis and shall be appropriate to the scope and scale of the proposals.

	Retail	Commercial	Residential
Wellbeing			
Local character	→ 100% high efficiency LED lighting, with limited upward light transmission for all exterior lighting		
Occupier health and wellbeing – fit-out	→ Implement the Standard Green Lease Clauses and Shop Fit-Out Guide for future occupiers	→ Use the Office Fit-Out Guide	
Community			
Community	→ Contractors to score above 40 on the Considerate Constructors Scheme → Contractors to support at least one community engagement activity each year, where team members give time to a project that benefits and supports the local community. Community engagement activity should address our four key priority areas in this regard: Education, Employment, Business and Culture → Engage with Centre Management/Managing Agents and seek British Land approval		
Futureproofing			
Energy	→ Achieve an Energy Performance Certificate (EPC) rating of B or better → Min 95% of light fittings rated energy efficient		
Materials and waste	→ 100% of timber from FSC (Forest Stewardship Council) or PEFC (Programme for the Endorsement of Forest Certification) sources → Zero waste to landfill; divert 100% of demolition and strip-out waste from landfill and 100% of construction and fit-out waste from landfill		



Requirements	Performance requirements	Application				
		New build	Refurbished	Refurbished	Other	New/Refurbished/Other
General						
Detailed Work Stage requirements reporting	Incorporate sustainability requirements within each detailed Work Stage requirements Report, and respond to The Crown Estate DSP Reporting requirements	•	•	•	•	•
Roles and responsibilities	Clearly identify roles and responsibilities of Project Team and Main Contractor across each detailed Work Stage requirements	•	•	•	•	•
Sustainability ratings/certification schemes						
Considerate Constructor's Scheme	CSCS Score of 37 or above	•	•	•	•	•
BPEFAM (current and relevant scheme)/Home Quality Mark	Excellent Rating (Office/Residential), Very Good Rating (Retail/Industrial), Home Quality Mark pre-assessment	•	•	•	•	•
WELL Building Standard	WELL Ready or Gold rating where certification is sought	•	•	•	•	•
Customer-centric						
Customer wellbeing						
Healthy design approach	Performance requirements should be consistent with the WELL certification standard (or equivalent) unless otherwise stated below	•	•	•	•	•
Indoor air quality	Total VOCs – 8-hour mean: 500µg/m ³ (besting in line with relevant ISO standard) Formaldehyde – 8-hour mean: 33.7 µg/m ³ PM ₁₀ – 24-hour mean: 50 µg/m ³	•	•	•	•	•
	Total VOCs – 8-hour mean: 500µg/m ³ (besting in line with relevant ISO standard) Formaldehyde – 8-hour mean: 33.7 µg/m ³ PM ₁₀ – 24-hour mean: 50 µg/m ³ PM _{2.5} – 24-hour mean: <15 µg/m ³	•	•	•	•	•
	Total VOCs – 8-hour mean: 500µg/m ³ (besting in line with relevant ISO standard) Formaldehyde – 8-hour mean: 33.7 µg/m ³ PM ₁₀ – 24-hour mean: 50 µg/m ³ , annual mean: 40µg/m ³ PM _{2.5} – 24-hour mean: <15 µg/m ³ , annual mean: 25µg/m ³	•	•	•	•	•
	Total VOCs – 8-hour mean: 500µg/m ³ (besting in line with relevant ISO standard) Formaldehyde – 8-hour mean: 33.7 µg/m ³ PM ₁₀ – 24-hour mean: 50 µg/m ³ , annual mean: 40µg/m ³ PM _{2.5} – 24-hour mean: <15 µg/m ³ , annual mean: 25µg/m ³	•	•	•	•	•



BY JOURNEY MATTERS

Sustainable Development Framework: Introduction and Objectives

Transport for London is currently undertaking one of London's most significant programmes of urban development and housing delivery. As with many of TfL's historic initiatives, this programme will leave a lasting legacy for London and shape its development for many decades to come. It is therefore critical that it adopts and embodies sustainable development best practice – and realises the economic, environmental, and social legacies that these practices have the potential to create.

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To ensure this is achieved and TfL sets a new benchmark for what sustainable development can and should look like, we have created the *TfL Sustainable Development Framework (SDF)*.

The SDF is a metric-driven approach to optimising, specifying, delivering, and monitoring best-in-class sustainability performance across its development portfolio. A living document, it will continuously evolve over time in line with policy, best practice, and lessons learned.

The SDF has six primary objectives, which are shown to the right.



Achieve a balance across the triple bottom line



Allow TfL to take control of sustainability outcomes



Ensure development partners are aligned with Mayoral ambitions



Create a robust framework that can be adapted to individual projects



Define and consistently deliver an above-average performance baseline



Define a market leading performance aspiration to work towards

Sustainable Development Framework:

9 Dimensions of Sustainability

To create a performance-based approach which meets the needs and objectives of TfL Property Development, an interdisciplinary consultation process and a review of policy and best practice was carried out.

This led to the development of a practical and user-friendly set of Key Performance Indicators which span the triple-bottom-line. This includes major ratings systems, such as HQM and BREEAM, in addition to more targeted KPIs which are grouped into nine 'dimensions' of sustainable development:

Economic:

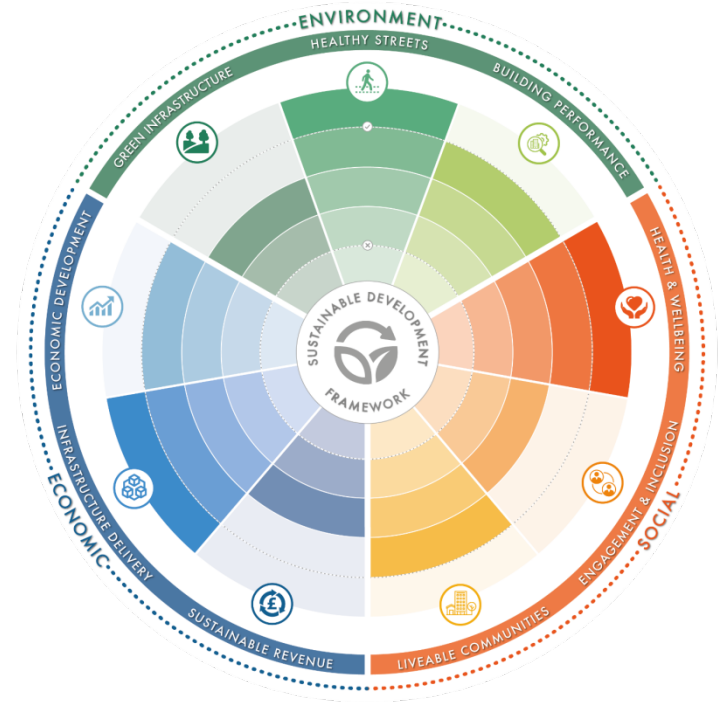
Sustainable Revenue, Infrastructure Delivery, and Economic Development

Environmental:

Green Infrastructure, Healthy Streets, and Building Performance

Social:

Health and Well-being, Engagement and Inclusion, and Liveable Communities



Sustainability Ratings Systems

TfL uses the following ratings systems to benchmark and monitor the overall performance of its schemes.

Assessment ratings



Residential



Commercial



Pilots – to be explored



LIVING BUILDING CHALLENGE™





Economic Dimensions

TfL uses the following KPI themes to benchmark and monitor the economic performance of its schemes.

Sustainable Revenue



- Capital Receipts
- Long-Term Financial Returns
- Lifecycle Cost Assessment

Infrastructure Delivery



- Healthy Streets infrastructure
- Cycle Hubs
- Step free access
- LUL infrastructure
- LBSL infrastructure
- Active travel infrastructure
- Renewable energy infrastructure
- EV charging points

Economic Development



- GLA Good Work Standard
- Ethical labour
- Responsible procurement
- Promoting local business
- Apprenticeships and training
- Job creation
- Local economic impact
- Local business support
- Mixed use development
- Creative enterprise
- Social enterprise



Environmental Dimensions

TfL uses the following themes to benchmark and monitor the environmental performance of its schemes.

Building Performance



- Responsible procurement
- Circular economy
- Construction efficiency
- Embodied carbon
- Operational carbon
- Operational energy
- Operational water
- Operational waste
- Smart building technologies

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Healthy Streets



- Checklist for Designers Assessment:
 1. People choose to walk, cycle, and use public transport
 2. Pedestrians from all walks of life
 3. Easy to cross
 4. People feel safe
 5. Things to see and do
 6. Places to stop and rest
 7. People feel relaxed
 8. Not too noisy
 9. Clean air
 10. Shade and shelter

Green Infrastructure



- Urban greening factor
- Biodiversity net gain
- Run-off rates



Social Dimensions

TfL uses the following KPI themes to benchmark and monitor the social performance of its schemes.

Health & Wellbeing



- Responsible construction
- Air quality
- Noise
- Overheating
- Health and safety
- Security

Engagement and Inclusion



- Diversity
- Inclusive design
- Pre-design community engagement
- In-operation community engagement
- Displacement impacts
- Community activities
- Community-led investment
- Meanwhile uses

Liveable Communities



- Social services
- Education
- Healthcare
- Childcare
- Public leisure facilities
- Community spaces

Note: The measurement and quantification of social impact is an emerging field, with little in the way of established methods or best practice. KPI themes relating to social impact (particularly Engagement & Inclusion and Liveable Communities) are consequently expected to change rapidly. As new policy emerges, methodologies are developed, and best practice is established, these KPIs will be updated to reflect current thinking.

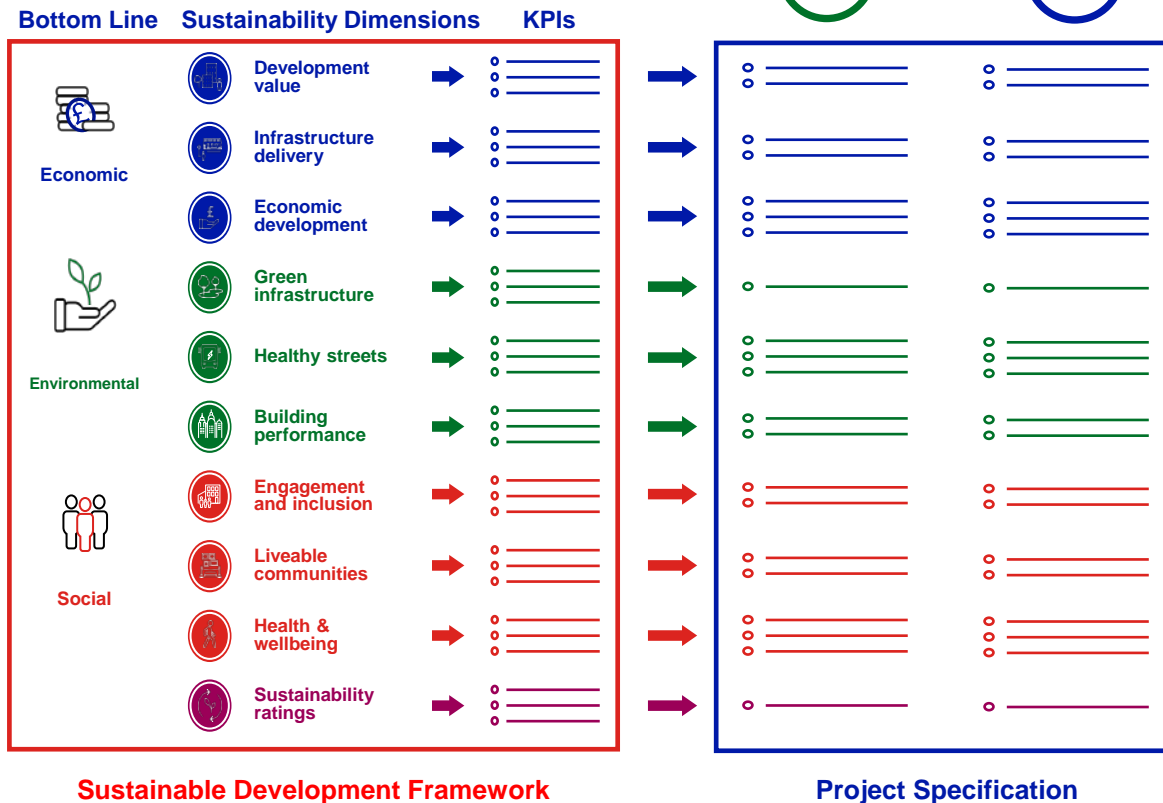
Implementing the SDF

Each of TfL's development sites is unique, and to ensure we are delivering the best outcomes possible, a site-specific approach is required.

This involves three key stages:

- 1. Optimisation:** evaluate opportunities for sustainable development practices, identify suitable measures, complete cost-benefit analysis, and use this information to optimise scheme performance across the triple bottom line.
- 2. Specification:** based on the optimised sustainability approach, set a performance baseline and performance aspiration performance for the project. These will serve as a specification for design teams to work towards.
- 3. Review:** the scheme's performance will be periodically assessed (at the end of each RIBA stage at a minimum) to ensure the desired performance is being achieved.

These stages are outlined in subsequent pages.



SDF Stage 1: Performance Optimisation



When:

- Ideally before RIBA 1 (Detailed Feasibility)
- Useful leading in to ITT or post-JV design
- Not relevant once planning is submitted

Output:

- Assess opportunities and constraints;
- Identify potential interventions;
- Complete cost-benefit analysis;
- Identify relevant interventions for consideration; and
- Set sustainability performance brief for design team.

Benefits:

- Sustainability performance optimized from the outset in a commercially viable manner; and
- SMART outcomes defined for design team

Example: Healthy Streets Optimisation

HEALTHY STREETS LIMMO PENINSULA

ASSESSMENT OF SITE POTENTIAL

A socially, environmentally and economically responsive development should be centred around a high quality human experience. Informed through a high level desktop site appraisal a series of spatial opportunities and challenges have been identified that look at maximising the site's potential.

CONCEPT SITE POTENTIAL

Limmo Peninsula's key location within London presents a series of opportunities that should be considered in the future redevelopment of the site. These spatial opportunities aim to positively contribute to the social, environmental and economic performance of the site. Opportunities for further improving the alignment of this development with Healthy Streets are:

Site Feature	Overview	Opportunities	Challenges
A Central Pedestrian and Cycle Bridge	Proposal to move the pedestrian crossing to more directly link up with the existing street and open space network.	Include a more central pedestrian and cycle connection that seamlessly links into the residential public space and waterfront environment.	There may be limitations to the permissions for the positioning of the bridge.
A Riverside Walk and Cycle Route	A linear pedestrian/cycleway that has break out spaces that interact with the water.	A multifunctional movement corridor supporting leisure, activation, public spaces and water landscaping.	Ensuring the proposed buildings appropriately engage, define and animate the public realm to support a safe waterfront experience.
A City - River Connection	Seamless pedestrian links between the pedestrian bridge and a collection of public spaces can connect people and water together.	This should also facilitate a well considered element of public realm to allow people to engage with the water edge and to allow commercial and cafe functions to spill into the space.	Ensuring the residential development allocation can still be achieved if more space is allocated to public spaces.
Consolidation of Deliveries	Consolidate the timing of deliveries on site.	Reduces the amount of vehicles moving through the site throughout the day.	Ensuring the management and organisation is communicated effectively with the resident enterprise operating on site.
Green Streets	Creation of green streets throughout the site.	Heens planting along the street network to provide shade, shelter and street seating.	Management and maintenance plans would need to be in place to ensure upkeep.
Accessible Streets	Create an accessible street network that supports a walk and cycle friendly environment.	Opportunity for an street weather protected cycle parking for all types of cycles to support people to travel actively.	Designing in elements to allow for various forms of transport to seamlessly integrate.



SDF Stage 2: Performance Specification



When:

- Before ITT for JV partners and contractors
- Not relevant post-ITT

Output:

- Evaluate the 'shortlist' of sustainability interventions in detail to identify which ones TfL wishes to see delivered or explored further;
- Draft a specification outlining the chosen interventions, and whether they are required or optional; and
- Validate the proposed KPIs and performance baselines / aspirations for inclusion in the ITT.

Benefits:




- Provides clarity to bidders on TfL's expectations and preferences;
- Ensures all ITT responses align with TfL's targeted performance; and
- Clearly lays out a 'menu' of best practices (and associated costs / benefits) for developers to consider.











Example: Healthy Streets Specification (Aspirational Level)

HEALTHY STREETS LIMMO PENINSULA

HEALTHY STREET IMPROVEMENT: SILVERTOWN WAY

A series of proposed improvements based on the 10 Healthy Street Indicators have been identified for Silvertown Way. These are high level suggestions that should increase the Silvertown Way's Healthy Street Check score to an aspirational level.

 <p>PEDESTRIANS FROM ALL WALKS OF LIFE</p> <p>Precedent: </p> <p>Potential Improvement: - Accommodate dedicated pathways on both sides of the road corridor to promote active transport.</p> <p>Indicative Score: 78</p>
 <p>EASY TO CROSS</p> <p>Precedent: </p> <p>Potential Improvement: - Tighten and raise the junction at side street corners to prioritise people crossing. - Review where new crossings need to be added to Silvertown Way. - Review traffic lights to make these direct crossings with plenty of time for people to cross.</p> <p>Indicative Score: 80</p>
 <p>SHADE AND SHELTER</p> <p>Precedent: </p> <p>Potential Improvement: - Establish trees and planting alongside the street edge to create a natural canopy to the street. - Identify opportunities for awnings and streetcape shelters such as kiosks, bus shelters and tree planting.</p> <p>Indicative Score: 83</p>
 <p>PLACES TO STOP AND REST</p> <p>Precedent: </p> <p>Potential Improvement: - Locate seating and benches along the street at key focal spaces along the street. - Introduce planters and stop terraces alongside some of the building edges. - Provide opportunities for seating at 50 metre intervals with local seating located in key focal places.</p> <p>Indicative Score: 93</p>
 <p>NOT TOO NOISY</p> <p>Precedent: </p> <p>Potential Improvement: - Reduce the speed limit to 20 mph, using design measures to slow speeds; such as narrowing traffic lanes, tightening junctions and using speed cameras for enforcement if needed.</p> <p>Indicative Score: 73</p>

 <p>PEOPLE CHOOSE TO WALK, CYCLE AND USE PUBLIC TRANSPORT</p> <p>Precedent: </p> <p>Potential Improvement: - A dedicated cycle path with extended width to accommodate for two-way use. - Protect cyclists from general traffic and address narrow footway pinch points to enhance safety and proliferate active travel.</p> <p>Indicative Score: 78</p>
 <p>PEOPLE FEEL SAFE</p> <p>Precedent: </p> <p>Potential Improvement: - Future development to engage and animate the street will improve passive surveillance. - Measures put in place to reduce traffic congestion and speed.</p> <p>Indicative Score: 83</p>
 <p>THINGS TO SEE AND DO</p> <p>Precedent: </p> <p>Potential Improvement: - Future development to propose ground floor uses that animate the street edge. - Street vendors, street artists and social spaces to encourage people to linger. - Public art, facade lighting and planting.</p> <p>Indicative Score: 83</p>
 <p>PEOPLE FEEL RELAXED</p> <p>Precedent: </p> <p>Potential Improvement: - Adequate provision of trees along the street to minimise blur. - Wide cycle paths to cater for seating and future demand. - Align street elements to support people who are walking.</p> <p>Indicative Score: 79</p>
 <p>CLEAN AIR</p> <p>Precedent: </p> <p>Potential Improvement: - Introduce promotional activities to reduce vehicular traffic along the street. - Establish a local traffic management plan to reduce parking, manage deliveries and waste reduce through routes in the neighbourhood with filtered permeability.</p> <p>Indicative Score: 75</p>

SDF Stage 3: Performance Review and Reporting



When:

- At the end of each design stage

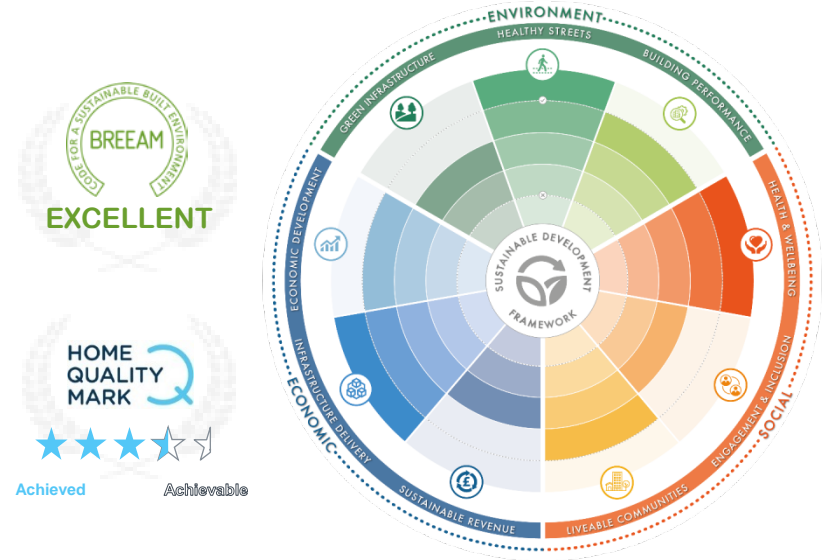
Output:

- Audit the scheme's projected performance against the project's targeted performance;
- Provide recommendations on where and how performance can be improved; and
- Specify the range of interventions to be delivered on site which will help to achieve the desired level of performance.

Benefits:

- Provides valuable data and quality assurance;
- Helps demonstrate exemplary sustainability performance to stakeholders, and report performance to governance bodies.

Example: Project Performance Dashboard



Date: 12 February 2020

Item: Transformation Programme Update

This paper will be considered in public

1 Summary

1.1 This paper provides an update on the Transformation Programme.

2 Recommendation

2.1 **The Panel is asked to note the paper.**

3 Background

3.1 The changes we are making will improve the efficiency and effectiveness of our organisation. Our change programme has released substantial savings in our central functions. The continuation of this programme is critical to delivering our Business Plan which commits us to reducing our net cost of operations again in 2019/2020 and achieving a net operating surplus by 2022/23.

4 Recent Developments

4.1 The re-design of our organisation continues. We have closed consultation in two business areas – Business Services and Finance. Through structural re-design, process improvement and new ways of working, we will save £10m per year as a result of these changes. Both new functions are due to become operational on 2 March 2020.

4.1.1 **Business Services:** We have consolidated HR and Finance transactional services that operate across TfL (eg payroll, accounts payable etc), and data and reporting that allows us to run our business and support front line service delivery. This new function will achieve cost reduction and revenue opportunities through simplification and structural integration ‘across’ end-to-end processes.

4.1.2 **Finance:** The new Finance function will drive revenue growth and cost reduction to deliver an operating surplus by 2022/23. This change has reduced the size of the function and aligned it to a new, streamlined Finance leadership structure.

4.2 **TfL Engineering:** Following our asset lifecycle review we are dividing TfL Engineering into two distinct areas: TfL Technical Authority and TfL Engineering Delivery. This will ensure accountability and representation for asset safety and strategy at the most senior level and support a pan-TfL approach to asset

management. This will provide a clear line of sight between business priorities and asset investment.

- 4.3 **Workplace Violence and Aggression:** We are taking a new organisational approach to tackling Workplace Violence and Aggression and are developing the first pan-TfL strategy to eradicate it. We are bringing together two dedicated workplace violence teams with a single point of accountability and an integrated framework. The TUPE transferring the London Underground teams to one TfL team took place in January.

5 New Activity

- 5.1 **Dial-a-Ride:** As part of our Assisted Transport Strategy, to make our services more safe, reliable and convenient and offer flexibility and choice to our customers, we are proposing changes to the management, service control and reservation functions in Dial-a-Ride. These proposals aim to improve customer service by clarifying management responsibilities, providing greater support to drivers, improve customer call handling and reduce call waiting times.
- 5.2 On 29 January we launched consultation with staff and Trade Unions on our proposals. Subject to consultation, the estimated reduction in posts is two.

6 Transformation Team

- 6.1 Andrew Pollins, Director of Transformation and Business Services, has left Transport for London to take up a new role at Engie as UK & Ireland Chief Finance Office. The Transformation Team will continue to support the work of continuously improving and transforming TfL, ensuring that all the changes we have made are embedded and that we continue to evolve and optimise our operating model to meet the challenges we face. The team will now report directly to Vernon Everitt, Managing Director, Customers, Communication & Technology, to ensure this important agenda stays at the heart of what we do.

List of appendices to this report:

None

List of Background Papers:

None

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Date: 12 February 2020

Item: Members' Suggestions for Future Discussion Items

This paper will be considered in public

1 Summary

- 1.1 This paper presents the current forward programme for the Panel and explains how this is put together. Members are invited to suggest additional future discussion items.

2 Recommendation

- 2.1 **The Panel is asked to note the forward programme and invited to raise any suggestions for future discussion items.**

3 Forward Plan Development

- 3.1 The Board and its Committees and Panels have forward plans. The content of the plans arise from a number of sources:
- (a) Standing items for each meeting: Minutes; Matters Arising and Actions List; and any regular quarterly reports. For this Panel these are the Health, Safety and Environment Quarterly Report and the Human Resources Quarterly Report.
 - (b) Regular items which are for review and approval or noting such as the Health, Safety and Environment Annual Report.
 - (c) Items requested by Members: The Deputy Chair of TfL and the Chair of this Panel will regularly review the forward plan and may suggest items. Other items will arise out of actions from previous meetings (including meetings of the Board or other Committees and Panels) and any issues suggested under this agenda item.

4 Current Plan

- 4.1 The current plan is attached as Appendix 1. Like all plans, it is a snapshot in time and items may be added, removed or deferred to a later date.

List of appendices to this report:

Appendix 1: Safety, Sustainability and Human Resources Panel Plan.

List of Background Papers:

None

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Safety, Sustainability and Human Resources Panel Forward Planner 2020/21**Appendix 1**

Membership: Kay Carberry CBE, Dr Nina Skorupska CBE (Vice Chair), Bronwen Handyside, Dr Mee Ling Ng OBE, and Mark Phillips.

Abbreviations: Managing Director (MD), Customers, Communication and Technology (CCT), London Underground (LU), Surface Transport (ST), CPO (Chief People Officer), CHSEO (Chief Health, Safety and Environment Officer), D (Director), DIT (Diversity, Inclusion & Talent) and HSE (Health, Safety & Environment)

10 June 2020		
Quarterly Health, Safety and Environment Performance Reports (to include resilience, assurance and compliance issues)	CHSEO	To note
Responsible Procurement	CFO	To note
Energy Strategy Update	D City Planning	To note
Human Resources Quarterly Report	CPO	To note
Employee Engagement Update	CPO	To note
Our People Plan 2020/21	CPO	To note
Strategic Risk Update	CSHEO	To note
Transformation Update	D Transformation	Standing Item

9 September 2020		
Quarterly Health, Safety and Environment Performance Reports (to include resilience, assurance and compliance issues)	CSHEO	To note
Health and Wellbeing Update (including work on fatigue)	CHSE0	To note
Human Resources Quarterly Report	CPO	To note
Bus Safety Programme Update		
Safety Management System Update	CSHEO	To note
Bus Driver Facility Improvements	MD ST	To note
Disability Roadmap	D DIT	To note
Development Update	CPO	To note
Strategic Risk Update	CSHEO	To note
Transformation Update	D Transformation	To note

4 November 2020		
Quarterly Health, Safety and Environment Performance Reports (to include resilience, assurance and compliance issues)	CSHEO	To note
Review of CIRAS Report and Themes	CSHEO	Annual review to note
Human Resources Quarterly Report	CPO	To note
Vision Zero Update	CSHEO	To note.
Strategic Risk Update	CSHEO	To note
Transformation Update	D Transformation	To note

10 February 2021		
Quarterly Health, Safety and Environment Performance Reports (to include resilience, assurance and compliance issues)	CSHEO	To note
Human Resources Quarterly Report	CPO	To note
Bus Driver Facility Improvements	MD ST	To note (6 monthly standing item)
Strategic Risk Update	CSHEO	To note
Transformation Update	D Transformation	To note

Regular items

- Quarterly HSE Performance Report – standing item
- HR Quarterly Report – standing item
- Bus Driver Facility Improvements – six monthly update
- Transformation update – standing item
- Review of CIRAS Report and Themes - annual
- Strategic Risk

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