

Agenda

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

Date: Thursday 24 February 2022

Time: 10:00am

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

Members

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

Dr Mee Ling Ng OBE
Mark Phillips
Marie Pye

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).

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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;
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
Wednesday 16 February 2022

Agenda
Safety, Sustainability and Human Resources Panel
Thursday 24 February 2022

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 2 December 2021 (Pages 1 - 10)

General Counsel

The Panel is asked to approve the minutes of the meeting of the Panel held on 2 December 2021 and authorise the Chair to sign them.

4 Matters Arising and Actions List (Pages 11 - 14)

General Counsel

The Panel is asked to note the updated actions list.

5 Safety, Health and Environment Performance Report (Pages 15 - 76)

Chief Safety, Health and Environment Officer

The Panel is asked to note the report.

6 Safety, Health and Environment Assurance Report (Pages 77 - 90)

Director of Risk and Assurance

The Panel is asked to note the paper.

7 Pan-TfL Fatigue Management Programme (Pages 91 - 100)

Chief Safety, Health and Environment Officer

The Panel is asked to note the paper.

8 Bus Safety Programme (Pages 101 - 112)

Chief Safety, Health and Environment Officer

The Panel is asked to note the paper.

9 Bus Driver Welfare (Pages 113 - 126)

Chief Safety, Health and Environment Officer

The Panel is asked to note the paper.

10 2030 Net Zero Modelling (Pages 127 - 138)

Director, City Planning

The Panel is asked to note the paper.

11 Climate Change Adaptation Update (Pages 139 - 152)

Chief Safety Health and Environment Officer /Director, City Planning

The Panel is asked to note the paper.

12 Human Resources Quarterly Report (Pages 153 - 166)

Chief People Officer

The Panel is asked to note the report.

13 Members' Suggestions For Future Discussion Items (Pages 167 - 172)

General Counsel

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

14 Any Other business the Chair Considers Urgent

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

15 Date of Next Meeting

Wednesday 29 June 2022 at 10.00am

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, Thursday 2 December 2021**

Members

Kay Carberry CBE (Chair)
Dr Nina Skorupska CBE (Vice Chair)
Cllr Julian Bell
Dr Mee Ling Ng OBE
Mark Phillips (via Teams)

Board Members also in Attendance

Marie Pye (via Teams)
Peter Strachan (via Teams)

Executive Committee

Howard Carter	General Counsel (via Teams)
Andy Lord	Managing Director, London Underground and TfL Engineering
Lilli Matson	Chief Safety, Health and Environment Officer
Tricia Wright	Chief People Officer
Alex Williams	Director, City Planning

Staff

Louise Cheeseman	Director of Bus Operations
Mike Shirbon	Head of Integrated Assurance
Amy Pidwill	Road Safety Strategy Lead
Stuart Reid	Head of Insights and Direction (for Minute 62/12/21)
Tim Rudin	Senior Commercial Manager, Responsible Procurement (for Minute 64/12/21)
Paul Kiteley	Senior Commercial Manager, Procurement and Supply Chain (for Minute 64/12/21)
Tom Sutton	HR Communications Manager (for Minute 65/12/21)
James Varley	Secretariat Officer

Also in attendance

Elliot Treharne	Assistant Director for Environment and Energy, GLA
Catherine Baker	Director, CIRAS (for Minute 59/12/21)
David Howell	Chair, CIRAS (for Minute 59/12/21)

55/12/21 Apologies for Absence and Chair's Announcements

The Chair welcomed everyone to the meeting. As Mark Phillips was attending via Teams, he could take part in the discussions but was not counted toward the quorum. An apology for absence had been received from Bronwen Handyside. Gareth Powell and Marcia Williams were unable to attend. Louise Cheeseman, attending via Teams was deputising for Gareth Powell.

The Chair welcomed the recently appointed TfL Board Members, Marie Pye and Peter Strachan, who were observing the meeting via Teams

The discussions in public were being webcast to TfL's YouTube channel to ensure that public and press could observe the proceedings and decision making without the need to attend.

9 November 2021 marked the fifth anniversary of the tram overturning at Sandilands, Croydon in 2016. The Panel had been involved in, and had oversight of this matter and would continue to do so. The thoughts of all those present remained with those affected.

TfL was continuing to closely monitor the public health situation, particularly in relation to the challenges arising from the Omicron variant of the coronavirus. The Panel welcomed the re-introduction of national regulations relating to wearing face coverings on public transport.

The Chair reminded those present that safety was paramount to TfL and encouraged Members to raise any safety issues during discussions on a relevant item or with TfL staff after the meeting. Members confirmed there were no other safety matters they wished to raise, other than those to be discussed on the agenda.

56/12/21 Declarations of Interests

Howard Carter introduced the item.

Mark Phillips declared an interest in Item 5, the Presentation from CIRAS as he was a director of the organisation. The item was for noting and consequently, Mark Phillips was not required to recuse himself from the discussion of the item.

Members' declarations of interests, as published on tfl.gov.uk, were up to date and there were no additional interests that related specifically to items on the agenda.

57/12/21 Minutes of the Meeting of the Panel held on 14 September 2021

The minutes of the meeting of the Panel held on 14 September 2021 were approved as a correct record and signed by the Chair.

58/12/21 Matters Arising and Actions List

Howard Carter introduced the paper, which set out progress against actions agreed at previous meetings of the Panel.

The Panel noted the actions list.

59/12/21 Presentation from CIRAS

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

Confidential reporting was an important part of a robust safety culture. CIRAS worked closely with TfL and ensured staff were aware of the service it provided. A fixed timeline existed for reporting and investigations with inbuilt flexibility should the need arise, to allow TfL to undertake actions and for feedback to be received from the complainant prior to the report being closed out.

The last 18 months had been unusual and this was reflected in the nature and number of incidents recorded. There were substantially fewer reports than in previous periods and concerns about rules and procedures and about health and wellbeing had replaced fatigue as the most common subject.

The Panel welcomed the reduction in fatigue related reporting and noted that TfL had undertaken a significant amount of work in that area, although at this stage, the data was not available to establish a direct causal relationship.

There had been a small increase in the number of reports that had cost control and change management as a possible cause. It was recognised that this could continue to be an issue moving forward, particularly as TfL's financial situation remained uncertain and CIRAS would monitor this.

TfL put considerable efforts into developing a safety culture that was responsive to staff. The use of CIRAS demonstrated that, on occasion, some staff felt more confident in using a confidential reporting service. TfL would continue to refine and improve its safety culture to address any such shortfalls in confidence in its own management systems.

The Panel noted the paper.

60/12/21 Quarterly Safety, Health and Environment Report

Lilli Matson, Louise Cheeseman and Andy Lord introduced the report, which provided an overview of safety, health and environmental performance for London Underground, TfL Rail, Surface Transport (including London Overground) and Crossrail for Quarter 2 2021/21 (27 June to 18 September 2021) and notable incidents outside the reporting period.

The period had seen an increase in patronage across the network, which was welcomed. At the same time, the Government had eased restrictions on the wearing of face

coverings. To maintain the public's confidence in London's transport network, TfL had maintained the requirement on its network through conditions of carriage as the Government lifted national restrictions, which had subsequently been re-introduced. TfL had kept staff informed of changes to isolation rules and was continuing to plan for the return to the office as appropriate.

To date, 103 transport staff had lost their lives to Covid-19. The thoughts of the Panel and TfL staff were with the families of those affected.

Three customers had been killed on the network during the reporting period. One person died at Golders Green Underground station after falling onto the track following a medical episode. Two people had died on the bus network, with one falling on the stairs inside a bus and the other when entering Victoria Bus Station. The incident at Victoria Bus Station was the subject of an ongoing formal investigation as well as an internal investigation, and Members would be updated at a future meeting.

[Action: Gareth Powell / Lilli Matson]

It was noted that the performance of electric and internal combustion engine buses differed, and that work was taking place to ensure consistent driving styles. Regular meetings took place with the bus operators and this was a useful forum for sharing experiences and encouraging consistency in driving style and lessening the impact it had on slips, trips and falls figures.

Outside of the period, there had been a fatality at Farringdon station when a customer was struck by a train which was being investigated.

On 12 October 2021, a London Overground train hit the buffer stops at Enfield Town station at slow speed, causing damage to the infrastructure and the first carriage of the train to partially derail. The driver and one passenger were treated for minor injuries, neither of which required hospital treatment. This incident was under investigation by the Rail Accident Investigation Branch with full support from TfL and Arriva Rail London. The Panel would be provided with an update in due course.

[Action: Gareth Powell / Lilli Matson]

There had been two occurrences of fires, one on a London Underground train involving an e-scooter and the other in a London Underground office involving an electric unicycle that was being stored as lost property. A review of mitigations was taking place and recommendations would be issued.

Customer injuries were tracking above target for the quarter and intoxication was a factor behind some of the incidents, particularly on the rail network. Messaging on safe travel would be re-enforced during the Christmas period.

The number of people killed or seriously injured on London's roads was lower than 2020 or 2019 but was still unacceptably high. Cycle fatalities had increased since 2019, although the rate was trending downwards.

The Ultra Low Emission Zone extension was launched in the period and would deliver significant environment benefits.

The Panel welcomed the improvements to the Holborn Gyratory system and would be kept up to date on the progress of the Junction Improvement programme.

Members discussed the need for TfL to have a long-term funding settlement agreed as soon as possible to give it the stability to continue to address safety issues robustly. Safety would always be prioritised, regardless of the funding scenario, but it was difficult to drive improvements in customer safety in a challenging financial situation. Where there was a risk of safety being compromised due to financial pressures, services would be reduced to prevent an erosion of safety.

Capital delivery safety performance was seeing an increase in reportable incidents, particularly on London Underground, while Crossrail performance remained relatively low and stable. Any applicable learning from Crossrail's safety activity would be integrated into the wider TfL system.

Musculo-skeletal disorder and mental health were the two main drivers of staff sickness and absence. This was consistent with all large organisations. There was an extensive programme of assistance for staff, with training for line managers and a network of mental health first aiders. It was noted that the effects of 'long Covid' tended to impact wellbeing rather than having an immediate impact on sickness levels.

The flooding events that took place in July 2021 highlighted the need to give further thought to how TfL could seek funding for the protection of transport assets.

On 1 December 2021, the Audit and Assurance Committee discussed a report on the work of the Task Force on Climate-related Financial Disclosures and its application to TfL. TfL had done a lot of work in this area and a gap analysis would be undertaken to determine what had been done, what needed to be done and best practice from other large complex organisations. As this work progressed, it would be reported to the Panel.

The Panel noted the report.

61/12/21 Safety, Health and Environment Assurance Report

Mike Shirbon introduced the paper, which provided an overview of the effectiveness of the risk controls for Enterprise Risk 1 – Major safety, health or environmental incident or crisis (ER1).

As assurance work matured, the granularity of data would be improved and trends could be better understood. Future reporting would include graphical representation of information, particularly on progress against management actions.

[Action: Mike Shirbon]

Members were informed that the potential legal non-compliances in Audit 21 732 'Commercial Development Estates Management HSE Compliance' related to documented information, rather than the actual processes and physical activity.

The Panel noted the paper.

62/12/21 Vision Zero Action Plan Progress Report

Stuart Reid and Amy Pidwill introduced the paper, which provided an update on the Vision Zero Action Plan Progress Report, which was published on 15 November 2021.

The Progress Report had been supported by London Councils and the Metropolitan Police Service. The work was predicated on TfL being in receipt of long-term adequate funding and the beneficiaries of the funding would be the people of London who would be able to make their travel choices in a safer environment.

Good progress was being made on reducing road danger, particularly for children and people on or around buses.

Safer travel was also an enabler for achieving mode shift from private vehicles to more active travel as well as improving air quality.

The rate of road deaths was falling faster than the national average, however there are challenges including the volume of motorised traffic, the increase in the number of powered two wheel vehicles particularly in the food delivery sector, increases in cycling and the use of private e-scooters.

An evidence-based approach was used and followed international best practice. The bus safety standard was an example of this approach and had seen the greatest reduction in deaths and serious injuries in any transport mode.

Vision Zero was a long-term plan and required the collaboration of TfL, the London boroughs, the Metropolitan Police Service, and key stakeholders. The Plan had been refreshed to renew the commitment from partners.

The Panel welcomed the work on 20mph speed limits and acknowledged that allowing local authorities to have additional enforcement powers would make a significant difference in the ability to manage speed limits and behaviour on the roads. A number of outer London boroughs had not adopted the 20mph limits and engagement was taking place to promote the benefits.

The Panel noted the paper.

63/12/21 Air Quality Update

Alex Williams introduced the paper, which provided an update on TfL's programme of actions to improve air quality.

On 1 March 2021, higher standards had been introduced for heavy vehicles entering the Low Emission Zone. In October 2021, the Ultra Low Emission Zone was expanded from the central zone to an area bounded by, but not including, the North and South Circular roads. These were expected to reduce nitrogen oxides (NOx) emissions from road transport by 30 per cent across London in 2021.

The vehicle scrappage scheme had seen 13,300 older, more polluting vehicles off London's roads.

The shift to net zero was a major challenge and TfL was working with the Greater London Authority to produce a report on how this could be achieved by 2030. The Panel would be updated on the initiatives being put forward. **[Action: Alex Williams]**

It was expected that by 2030, half of the vehicles on London's roads would still be powered by internal combustion engines (ICE) but the rate of transition from ICE to electric vehicles from 2025 could be influenced and TfL was considering incentives to accelerate the rate. Continued support was required to make provision for electric vehicle charging infrastructure across London.

The boroughs had been responsible for much of the EV charging infrastructure in London and a targeted programme was required to address geographical imbalances. Some boroughs still needed encouragement to be more proactive and private sector intervention was also needed to add to the rapid charging network.

Members commented that the pricing structures of charging point providers was not always as transparent as it could be, and TfL was working with suppliers to address this.

The Panel noted the paper.

64/12/21 Responsible Procurement Update

Tim Rudin introduced the paper, which provided an update on activities taking place within the Responsible Procurement programme in 2021.

The Supplier Skills Programme had seen 524 new apprenticeship starts in the supply chain, of which 51.2 per cent were from a Black and minority ethnic background and 27.8 per cent were women.

The third Women into Transport and Engineering pre-employment programme commenced in October 2021, with 14 women completing the programme and five commencing longer work placements.

A series of Mentoring Circles sessions was ongoing with Morson Group, a supplier of track maintenance labour. Run in partnership with the Department for Work and Pensions, the online sessions had given over 100 individuals an insight into working on the London Underground network.

Internal and external capacity building had taken place to raise awareness of the risk of Modern Slavery in supply chains.

The Greater London Authority (GLA) Central Responsible Procurement team had liaised with Safety, Health and Environment colleagues to ensure the environmental commitments aligned with TfL's Corporate Environment Plan.

TfL was collaborating with National Highways, Network Rail and HS2 on the Diversity Data Benchmarking Initiative, which was asking key suppliers to disclose their workforce diversity data. Data had been disclosed by 52 per cent of key suppliers, with a target of 65 per cent by the end of 2022.

Support was being given to the London Recovery Board work through the promotion of supplier diversity by working with small and medium sized businesses, many of which had been hard hit by the coronavirus pandemic.

The Responsible Procurement Implementation Plan, which set out how TfL and the GLA Group functional bodies will deliver the Responsible Procurement Policy was due to be published shortly. All GLA Group functional bodies would be required to apply a minimum weighting of 10 per cent of the total evaluation score to relevant responsible procurement and social value matters, for above threshold contracts.

The GLA worked with the London Business Hub to provide access to tender readiness support. This would help small and diverse businesses to better understand the procurement process.

The Panel welcomed the work of the Responsible Procurement programme.

The Panel noted the paper.

65/12/21 Human Resources Quarterly Report

Tricia Wright introduced the paper, which provided an update on key Human Resources (HR) led activities and performance for the period September - December 2021.

Approximately 15,000 staff had taken part in the Viewpoint staff survey, slightly down on the previous year. Total engagement, although below 2020 levels, was higher than in 2019. Health and wellbeing was also slightly below 2020 levels. The survey provider had indicated that surveys of other organisations across the country also reflected this pattern.

Listening sessions were being set up with staff to gain a clearer understanding of their thoughts and this would be fed into the briefing for the Board in January, ahead of the discussion of the results by the Board on 2 February 2022.

The survey had shown that a clear majority of colleagues were positive about a number of areas that had, in the past, seen lower scores. These were: feeling positive about working at TfL; having a clear vision for the future; communications from senior managers; and working conditions. There were indications that staff felt less positive about their work and recommending TfL as a good place to work. This sentiment reflected some of the challenges facing the organisation going forward.

TfL continued to do everything it could to support the families and loved ones of the 103 colleagues who had lost their lives to Covid-19. The thoughts of the Panel Members and staff were with the families of those affected. The Employee Assistance Programme was available to all employees and their dependents and bereavement support was also extended to families of the deceased via our Sarah Hope Line.

Guidance for line managers, around rules for self-isolation, had been reviewed as the Omicron variant emerged. As the return to office work continued, Government advice was monitored to ensure it was being followed correctly. It was recognised that staff had a range of needs that affected their ability to return to an office environment and that some

staff were hesitant. TfL considered the needs of all staff and would look at ways of accommodating everyone appropriately.

Work continued to make TfL a more inclusive and diverse organisation. The listening and reflection sessions that had taken place had gone well. Black History Month had been celebrated, including the creation of a Black History Tube map.

A new cohort of apprentices and graduates would be commencing their careers with TfL in January 2022 with 58 new starters.

TfL had jointly received the Best Crisis Management Strategy award at the HR Excellence Awards, which had taken place the previous evening.

The Panel noted the paper.

66/12/21 Members' Suggestions for Future Discussion Items

Howard Carter introduced the item. Mark Phillips requested that an update from the Rail Accident Investigation Branch be added to the forward plan. No further suggestions were raised for future discussion items on the forward plan or for informal briefings.

The Panel noted the forward plan.

67/12/21 Any Other Business the Chair Considers Urgent

It was noted that changes to the Panel's membership would be considered by the Board on 8 December 2021. It was proposed that Kay Carberry CBE would step down as Chair but remain on the Panel; Dr Lynn Sloman MBE would be appointed to the Panel as its Chair; Marie Pye would join the Panel and Cllr Julian Bell would step down as a member. Cllr Julian Bell expressed his thanks to Members and staff.

The Chair thanked the Members for their input to the work on the Panel, and Dr Nina Skorupska CBE, who as Vice Chair had provided valuable advice and assistance.

The Chair also thanked staff for their work. The Panel had seen significant steps forward by TfL in a number of areas, most notably the Vision Zero programme, air quality, bus safety and the outstanding way the Human Resources team had looked after staff in the coronavirus pandemic.

Staff present thanked Kay Carberry CBE for the support and challenge she gave during her time as Chair. Panel Members also thanked Kay Carberry CBE for her balanced and thoughtful approach to the work of the Panel, which was of vital importance; highlighting her work at the start of her tenure on the Panel, in relation to the tram overturning at Sandilands, Croydon on 9 November 2016.

There was no other business.

68/12/21 Date of Next Meeting

The next scheduled meeting of the Panel would be held on Thursday 24 February 2022 at 10.00am.

The meeting closed at 12.55pm.

Chair: _____

Date: _____

Safety, Sustainability and Human Resources Panel



Date: 24 February 2022

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 24 February 2022)

Actions from the meeting held on 2 December 2021

Minute No.	Description	Action By	Target Date	Status/note
60/12/21 (1)	Quarterly Safety, Health and Environment Report The Panel would receive an update on the fatality at Victoria Bus Station.	Gareth Powell / Lilli Matson	-	Investigations are ongoing and the Panel will be updated on their conclusion.
60/12/21 (2)	Quarterly Safety, Health and Environment Report The Panel would be provided with an update on the incident at Enfield Town station.	Gareth Powell / Lilli Matson	24 February 2022	Update included in the Quarterly Report on agenda for this meeting. Complete.
61/12/21	Safety, Health and Environment Assurance Report Future reporting would include graphical representation of information, particularly on progress against management actions.	Mike Shirbon	29 June 2022	This will be included in future reporting.
63/12/21	Air Quality Update The Panel would be updated on the initiatives being put forward that would potentially achieve net zero by 2030.	Alex Williams	24 February 2022	On agenda for this meeting. Complete.

Outstanding actions from previous meetings

Minute No.	Description	Action By	Target Date	Status/note
10/02/21	Sustainability in TfL Buildings The Panel would be updated on the Sustainable Development Framework (SDF) after its launch.	Graeme Craig	-	This will be addressed as part of the establishment of the proposed Land and Property Committee later this year.

Date: 24 February 2022

Item: Safety, Health and Environment Performance Report

This paper will be considered in public

1 Summary

- 1.1 This paper summarises key information reported in the third Quarterly (Q3) Safety, Health and Environment (SHE) report for the 2021/22 financial year.
- 1.2 The Q3 period covers the dates 19 September 2021 – 11 December 2021. Most data presented covers this range, except for some road safety and work-related violence data. It is clearly highlighted when data falls outside this period.
- 1.3 This paper summarises the key information and trends that are contained in the Q3 report.

2 Recommendation

- 2.1 The Panel is asked to note the paper and appendix.

3 Key information presented in the Q3 report

Scorecard

Quarter 3 2021/22 Scorecard			
Measure	Unit	Q3 Target	Q3 Actual
People killed or seriously injured in road traffic collisions per million journey stages	Killed or seriously injured per million journey stages	0.45	0.32
People killed or seriously injured in road traffic collisions in or by a London Bus (per million surface journey stages)	Killed or seriously injured per million journey stages	0.020	0.022
Customer all injuries per million passenger journeys	All injuries per million journeys	2.52	2.71
Workforce all injuries	Number of workforce injuries	425	322

- 3.1 The report shows that people killed or seriously injured on our roads and workforce all-injuries safety scorecard measures for Q3 2021/22 have been met.
- 3.2 We narrowly missed our central scorecard target for the rate of people killed or seriously injured on or by a London bus, but the rate is below our floor target of 0.024. Our aim for bus safety is more stretching than the general road safety aim, to reflect our ability to more directly influence bus services.
- 3.3 Our public transport customer safety scorecard measure was not met, although our score this quarter was an improvement on both Q1 and Q2 2021/22. In Q3 we saw a seasonal increase in intoxication-related customer injuries in the lead up to Christmas.

Safety

Public Transport

- 3.4 During Q3, we continued to see more customers returning to our public transport network, especially in the second half of the quarter, leading up to Christmas.
- 3.5 Across our public transport network, sadly one customer was killed. This happened at Farringdon London Underground station, when they were struck by the front corner of a train as it entered the station, resulting in their subsequent death.
- 3.6 Overall, there were 13 more customers killed or seriously injured this quarter than any quarter since the beginning of 2020/21, when the pandemic began. This increase can be partially attributed to the continued increase in the number of customers travelling on our network during the quarter, as well as the expected seasonal peak in intoxication-related injuries in the pre-Christmas period.
- 3.7 The number of customers injured per million passenger journeys was 2.71, which is above our target at 2.52 per million journeys, but a significant improvement on Q2 (2.91). Compared to Q3 2019/20 (preceding the pandemic) there have been 20 per cent fewer customer injuries during Q3 2021/22.

Streets

- 3.8 In Quarter 3 2021/22, there were 17 people killed. The total number of people killed has been on a general downward trajectory since Q3 2019/20, when 31 people were killed. Comparing this figure for Q3 2019/20 with Q3 2021/22, the total number of people killed on London's roads has reduced by 45 per cent.
- 3.9 Early estimates indicate 816 people were seriously injured on London's streets in Q3. More people walking were seriously injured (266), compared to other transport modes, followed by people cycling and people using powered two wheelers (193 for both modes).
- 3.10 An emerging trend of 2021 is the reduction among motorcycle riders suffering fatalities (over 60 per cent lower than pre-pandemic levels, average taken from 2017-19) and serious injuries (around 15 per cent lower than pre-pandemic levels). The early hypothesis is that this is linked to a reduction in motorcycle commuting on higher speed roads.

- 3.11 We are seeing a significant growth in registrations of lower powered motorcycles (under 125cc), which have the lowest training and licencing requirements of any motorised mode, despite being one of the most vulnerable road user types. We are working to make the case to government to strengthen the one-day Compulsory Basic Training (CBT) course and talking to delivery companies about how we and they can best protect their riders. We are also updating design guidance for motorcyclists to reflect current best practice and developing and piloting a motorcycle safety review tool, tested with stakeholders, to improve safety on corridors with the highest harm.
- 3.12 We report on the continued upward trend in enforcement of speeding offences. This is linked to our joint commitment with the Metropolitan Police Service (MPS) to develop the capacity to enforce against up to one million speeding offences per annum, in all limits including 20mph. During the Quarter final preparations were completed to allow additional mobile speed enforcement teams to commence operation in Q4, further enhancing the ability to deter this dangerous behaviour.

Workforce

- 3.13 There were no incidents reported under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) in our capital delivery projects. This is positive news in terms of progress towards our long-term ambitions, but there were several significant near misses during Q3 that had the potential to result in serious harm to our colleagues. These included two incidents involving the incorrect use of telehandlers and another involving the incorrect erection of a mobile scaffold tower, influenced by failures to follow safe instructions and correct procedure. Close attention is also being paid to address recent increases in incidents caused by attempted violence and assault on staff. High potential or significant near misses are treated in the same way as serious injuries, with full investigations completed, findings shared between across TfL Capital teams (and wider industry where appropriate) and mitigations put in place to prevent harm from occurring.
- 3.14 Fare evasion remained the biggest trigger for work-related violence and aggression (WVA) during Q3, resulting in 28 per cent of all WVA incidents on London Underground (LU) and 39 per cent on the Surface transport network. This is a slight increase of four per cent on the Surface network. There has also been a rise in the number of WVA incidents on the LU Network involving a customer with an e-scooter from seven in Q2 to 13 in Q3. A ban on e-scooter carriage on our services due to fire risk was introduced at the very end of Q3, so this increase will require further monitoring.

Health

- 3.15 It is with regret that we report that up to 27 January 2022, 105 people providing TfL services have tragically lost their lives to COVID-19 since the start of the pandemic.
- 3.16 COVID-19 remained the top cause of short-term absence in the quarter and remained the third most common cause of long-term absence. Absences related to mental health and musculoskeletal issues were the most significant causes of long-term absences and remain the focus of our preventative measures.

Environment

- 3.17 Our electricity consumption in Q3 saw a return to near pre-pandemic levels. It was within one per cent of Q3 2019/20, but a five per cent increase on Q3 2020/21, attributable to the reduced service levels we were operating at that time. When comparing with Q3 2019/20, a more normal year for comparison, our electricity consumption has dipped below pre-pandemic levels. In Q3 2021/22 our total electricity consumption was 373.59 gigawatt hours compared to 375.33 gigawatt hours in Q3 2019/20.
- 3.18 Carbon dioxide emissions from operations, excluding buses, track closely to electricity consumption. Despite overall electricity consumption increasing by five per cent compared to Q3 2020/21, carbon emissions reduced by four per cent as a result of grid decarbonisation. In comparison with the more normal year of 2019/20 when TfL CO2 emissions were at 100,910 tonnes in the quarter, we saw a drop in CO2 emissions as for Q3 2021/22 our CO2 emissions totalled 83,594 tonnes.
- 3.19 On 25 October 2021, the Ultra Low Emission Zone (ULEZ) was expanded to include the area within the North and South Circular Roads. The newly expanded ULEZ is 18 times the size of the original central London zone, which the Mayor introduced in April 2019, and now covers almost four million people. It will bring the health benefits of cleaner air to millions more Londoners, both inside and outside the zone.
- 3.20 The Northern Line Extension (NLE) project was awarded 'Excellent' for CEEQUAL (Civil Engineering Environmental Quality Assessment & Award Scheme), a scheme awarded by the Building Research Establishment. The tool is used on Civil Engineering and Infrastructure projects to assess, improve and verify sustainability performance. Sustainability is at the heart of the Mayor of London's Transport and Environmental Strategies and the CEEQUAL assessment scheme ensures that TfL is delivering projects that align with this.
- 3.21 The TfL Sustainable Development Framework (SDF) was launched on 22 November 2021. The nine dimensions of the SDF form a tool which can be used to measure and seek continual improvement to the sustainability of current and future projects. The 97 key performance indicators (KPIs) of the SDF directly link to the London Recovery Programme. For example, KPIs setting targets for healthy streets, active travel improvements and child friendly design recognise the disproportionate road danger and injuries that London's deprived communities and some ethnic groups can suffer.

List of appendices to this report

Appendix 1: Safety, Health and Environment Quarterly Report Quarter 3 2021/22

List of Background papers

None

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Appendix 1

Safety, Health and Environment Quarterly report

Quarter 3 2021/22

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Introduction and Executive Summary

This report summarises our performance in the last Quarter and identifies strategic trends covering the period from 19 September 2021 to 11 December 2021, unless specified.

It sets out ways in which we have continued to keep our customers and workforce safe during the coronavirus pandemic. This Quarter, our priority remained reassuring them that we continue to do all that we can to operate safe and clean services for London. In parallel, we have continued to make progress towards our longer-term safety, health and environmental objectives.

During Quarter 3, we saw an increase in customer numbers, which ended the quarter at 0.67 billion customers, representing a 0.13 billion increase from the end of Quarter 2. Looking ahead to Quarter 4, we will be closely monitoring how our customer numbers were impacted by the prevalence of the Omicron variant of COVID-19 and the Government's work from home guidance to the public. Our customer numbers still have some way to go until reaching pre-pandemic levels, which means that many of our key safety, staff and environmental performance indicators remain at different levels than they might have been previously.

We have progressed with the implementation of measures to improve our short and long-term safety, health and environmental performance. We have continued to perform well on most of our safety metrics. However, in Quarter 3 we did not meet our customer injury rate target, which can be largely attributed to a seasonal peak in intoxication-related injuries in the lead up to Christmas. It is worth noting that the overall customer injury rate this quarter has improved when comparing with the previous two quarters of 2021/22.

Although TfL is continuing to emerge from the COVID-19 pandemic, coronavirus remained the top cause of short-term absences in Quarter 3, albeit representing a lower percentage of total short-term absence than in Quarter 2. Mental health and musculoskeletal-related health remained the top two causes of long-term absence. Shortly after Quarter 3 ended, on Monday 13 December 2021 and in-line with the Government's Plan B restrictions, TfL reissued the guidance for our staff who were able to, to revert to working from home. Following the Government's decision to remove Plan B restrictions from 19 January 2022, we have been able to gradually return to the office.

In 2018, the Mayor's Transport Strategy set out the goal of Vision Zero, that, by 2041, all deaths and serious injuries will be eliminated from London's transport network. This Quarter, we published the [Vision Zero Action Plan Progress Report](#) which includes new measures such as improving safety for people motorcycling and working with delivery companies and riders to understand how to better safeguard people riding motorcycles for work.

In Quarter 3, we expanded the Ultra Low Emission Zone to cover the area within the North and South Circular Roads. This demonstrates our commitment to improving

London's environment and will bring the health benefits of cleaner air to millions more Londoners, both inside and outside the zone. The global spotlight was firmly turned to the environment when the COP26 conference was held in Glasgow from 31 October – 13 November 2021, and the debates there underlined the importance of TfL's goal to transition to a zero-carbon London by 2030.

About this report

This report explores and highlights the performance, trends and measures we are implementing to improve safety, health and the environment performance.

Throughout this report, our 'customers' refers to direct users of our services, and our 'workforce' includes our directly employed staff as well as people working in our supply chain. For both groups, we use data collected directly from our operational businesses. Some assault data comes from both our own internal reporting systems and the police.

When referring to people killed or seriously injured, the following causes of injury are excluded: an injury which results from an incident arising from a pre-existing medical condition; intentional self-harm resulting in a physical injury or death; criminal activities perpetrated by customers or members of the public on other customers or members of the public.

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

Reporting period

Most data covers the quarter from 19 September 2021 – 11 December 2021, except for some work-related violence and aggression data which is reported six months in arrears. Some data is provisional and is subject to change.

Mayor's Transport Strategy and Scorecard

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

Scorecard

Figure 1: Quarter 3 2021/22 Scorecard

Measure	Unit	Q3 Target	Q3 Actual
People killed or seriously injured in road traffic collisions per million journey stages	Killed or seriously injured per million journey stages	0.45	0.32
People killed or seriously injured in road traffic collisions in or by a London Bus (per million surface journey stages)	Killed or seriously injured per million journey stages	0.020	0.022
Customer all injuries per million passenger journeys	All injuries per million journeys	2.52	2.71
Workforce all injuries	Number of workforce injuries	425	322

The table sets out the relevant scorecard metrics and accompanying targets and actual performance. Below are brief explanations of the performance of each measure. More detailed explanations, with accompanying graphs are set out in the relevant sections of this report.

Road safety measure

Working towards our Vision Zero ambition to eliminate death and serious injury on the roads, our aim in 2021/22 is to reduce the number to fewer than 0.45 people killed or seriously injured on the roads per million journeys. Our Quarter 3 result was 0.32 people killed or seriously injured on the roads per million journeys.

Bus safety measure

Our ambition is that no one is killed or seriously injured on, or by, a bus. In Quarter 3, our aim was to have no greater than 0.020 deaths or serious injuries per million journey stages. In Quarter 3 there were 0.022 deaths or serious injuries per million surface journey stages. This is marginally above our central target (of 0.020), but below our floor target of 0.024.

Public transport customer safety measure

Working towards our Vision Zero ambition to eliminate deaths and injuries to customers travelling on our public transport network, our aim in 2021/22 is to have fewer than 2.52 injuries to our customers per million journeys. In Quarter 3, the result was 2.71, unfortunately missing this target. This does represent an improvement on performance in Quarters 1 and 2 and reflects the continued growth in passengers travelling on our network. However, we also saw a seasonal peak in intoxication-related customer injuries in the lead up to Christmas.

Workforce safety measure

Working towards our Vision Zero ambition to eliminate deaths and injuries to our workforce, in Quarter 3 our aim was to have fewer than 425 workforce injuries. In Quarter 3 there were 322 injuries sustained by our workforce. This is a positive result, but a reminder we must strive for continuous improvement towards Zero Harm when it comes to the safety of our workforce.

Safety

This section summarises our safety performance across London's roads, public transport, capital delivery activities and work-related violence. It provides an overview of key trends for the year and the areas we are targeting for improvement.

Road safety performance

Quarter 3 2021/22 involved different circumstances to Quarter 3 2020/21, which was dominated by the reintroduction of restrictions in the winter lockdown. This year we saw near normal levels of travel activity which meant more people were out on the network, until the prevalence of the Omicron variant curbed activity.

In 2020, we experienced significantly suppressed levels of traffic at key periods, but in 2021 levels of traffic were near pre-pandemic levels and more stable. It is helpful to keep this in mind when comparing Quarter 3 2021/22 results with 2020/21, and so at the end of this section, Quarter 3 2019/20 is used as a comparison as a more "normal" year.

Quarterly performance

Figure 2: Number of people killed on London's roads

Transport Mode	Q3 2019/20	Q3 2020/21	Q3 2021/22*
Pedestrian	15	16	8
Pedal cycle	1	2	2
Powered two wheeler	8	3	4
Car	5	2	2
Bus or coach	1	1	0
Taxi	0	1	0
Private hire	0	0	0
Goods vehicle	0	0	1
Other vehicle	1	0	0
Total	31	25	17

**Quarter 3 2021/22 figures are provisional and subject to change.*

17 people were killed on London's roads in Quarter 3 2021/22, which is lower than the 25 killed during the same period in 2020/21. Additionally, the number of people seriously injured also decreased. The majority of this reduction comes from eight fewer pedestrian deaths. Conversely, there was sadly one more death of someone riding a powered two wheeler and a person travelling in a goods vehicle.

Figure 3: Number of people seriously injured on London's roads

Transport Mode	Q3 2019/20	Q3 2020/21	Q3 2021/22*
Pedestrian	331	267	266
Pedal cycle	153	225	193
Powered two wheeler	200	224	193
Car	120	99	111
Bus or coach	14	19	17
Taxi	1	2	3
Private hire	3	3	3
Goods vehicle	12	3	11
Other vehicle	3	25	19
Total	837	867	816

**Quarter 3 2021/22 figures are provisional and subject to change.*

The number of people seriously injured on London's roads decreased compared to Quarter 3 of last year (816 serious injuries in 2021/22 compared to 867 in 2020/21). Within this, serious injuries occurring to people using both pedal cycles and powered two wheelers reduced by 14 per cent. More people were seriously injured while driving cars (an increase of 12 per cent), and goods vehicles (8 more people seriously injured). There were 6 fewer serious injuries among the other vehicle category which includes the illegal use of private e-scooters on public highways.

It is useful to compare this to Quarter 3 2019/20 data, as that was more reflective of a "normal" year than 2020/21. Fewer people have been killed in Quarter 3 2021/22 than Quarter 3 2019/20 (a 54 per cent reduction), and fewer have been seriously injured (a 3 per cent reduction). There have been notable increases in people killed or seriously injured cycling (an increase of 21 per cent), with the caveat of increased ridership since 2019, and we have seen a reduction in the number of people killed or seriously injured riding a powered two wheeler (a reduction of 3 per cent). E-scooter usage has risen since 2019/20, which has led to more user injuries (recorded in the 'other vehicle' category).

Emerging trends from 2021

Early analysis of the 2021 calendar year shows that the number of people killed or seriously injured on a motorcycle has dramatically fallen. In 2021, fatalities were over 60 per cent lower than pre-pandemic levels (2017-2019 average). Previously there had been between 22 and 31 fatalities each year, compared to 10 in 2021.

The reduction in fatalities has been greatest among riders of large motorcycles (over 125 cc). Serious injuries have also fallen by around 15 per cent compared to pre-pandemic levels, driven again by a reduction in larger motorcycles involved in collisions causing serious injuries, but also roughly 10 per cent fewer collisions causing serious injuries for motorcycles under 125cc. However, slight injuries have risen by 16 per cent overall, driven by a 39 per cent increase in slight injuries among people riding small bikes under 125cc.

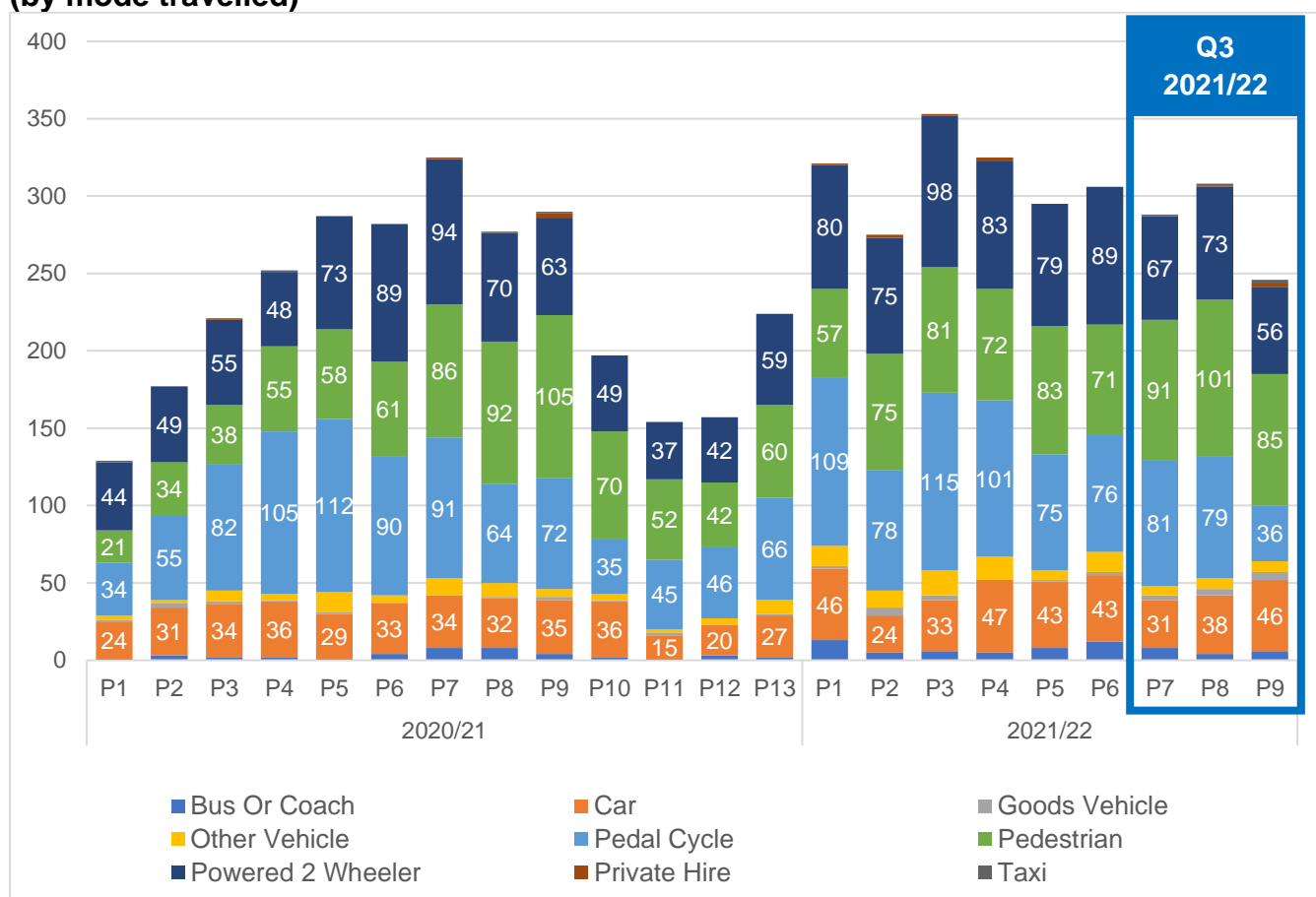
Our early hypothesis to explain the reduction in harm to people motorcycling is that prior to the COVID-19 pandemic, most people were killed on big motorcycles (over 125cc), on A-roads in outer London at peak times. Many of these were longer commuting journeys, which have greatly reduced this year, with the wider adoption of working from home.

The pivot to online shopping and the growth of the food delivery economy has led to an increase in new small motorcycle (under 125cc) registrations in London, driven by many more people riding for work. Despite this, fewer people on small motorcycles have been killed or seriously injured in 2021 than before the pandemic (though more have been slightly injured). Our early hypothesis is that this may be due to three reasons: firstly, fewer people are commuting on outer London high speed A-roads, where conflicts are likely to result in greater harm. Secondly, delivery riders are making more journeys on small local roads and congested high streets, with lower speed limits and more motorcycles, bicycles and pedestrians around (so drivers are potentially more cautious of their surroundings). Finally, delivery riders may be using smaller, lower power motorcycles (e.g. limited to 30mph).

Although the number of people killed or seriously injured fell, the combination of more journeys for work, poor regulation of smaller motorcycles, and the proliferation of higher risk vehicles are a concerning trend. We need to continue to partner with the industry and with Government to address this. Smaller motorcycles can be ridden with completion of the one-day Compulsory Basic Training (CBT) course, which can be taken at age 16 and has no theory element. 125cc motorcycles can be ridden at speeds up to 80mph and motorcycles are disproportionately involved in collisions which kill or seriously injure other vulnerable road users. We are working with Government to strengthen the CBT course to reflect this risk and talking to delivery companies about how we and they can best protect their riders. To further reduce motorcycle collisions, we are updating design guidance for motorcyclists to reflect current best practice and developing and piloting a motorcycle safety review tool, tested with stakeholders, to improve safety on corridors with the highest harm.

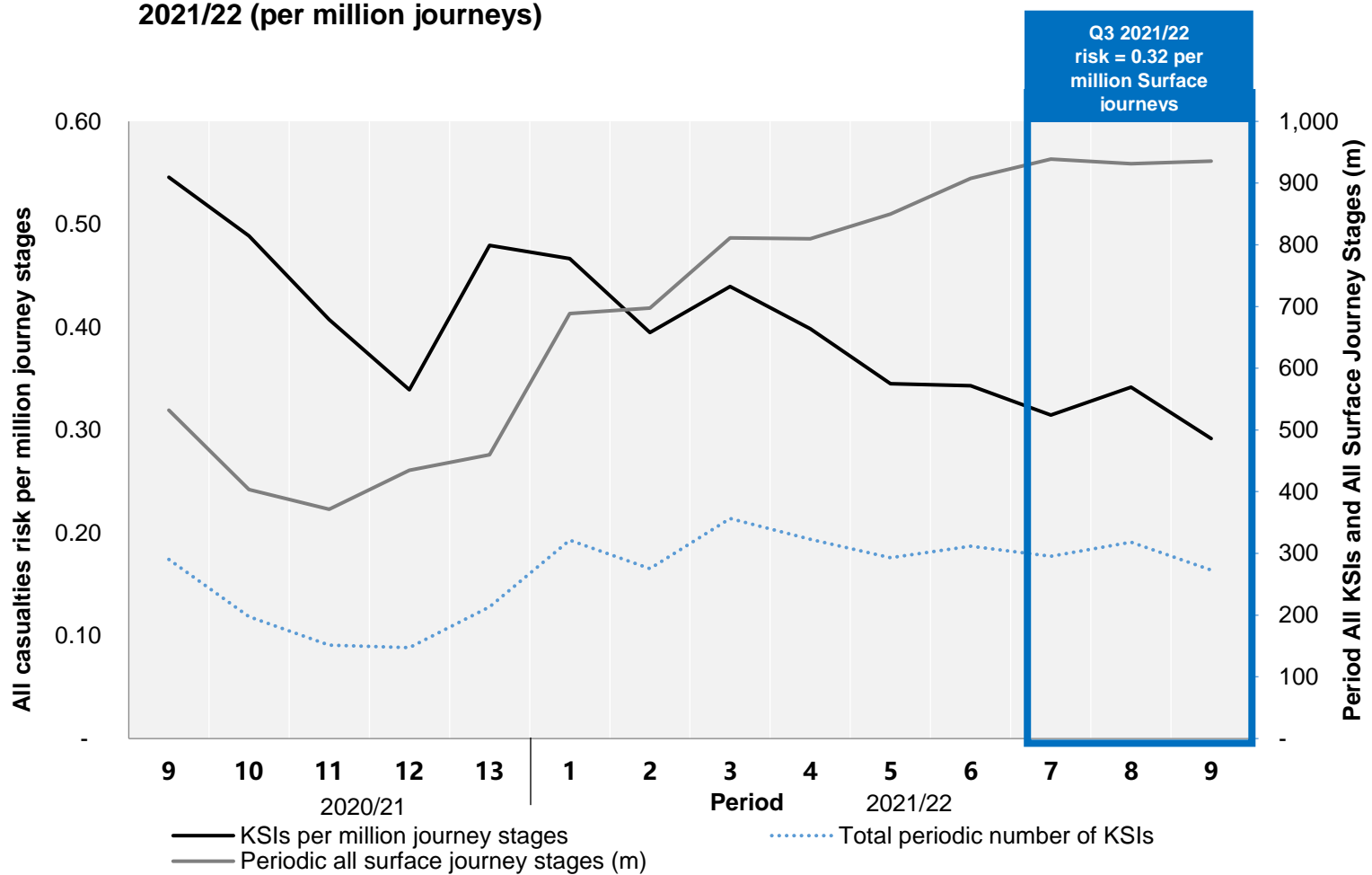
Provisional data for the whole of the 2021 calendar year suggests that fatalities of people walking are very low – we believe that this is largely due to increased working from home where, especially before June 2021, we saw far fewer journeys made by foot for trips relating to work (e.g. walking to get public transport, walking from transport to the office, walking between office locations etc). In addition, there have been significantly fewer tourists walking in central London. Also, the reallocation of road space, pedestrianisation and low traffic neighbourhood schemes as well as the expansion of 20mph limits have contributed to making walking safer.

People killed or seriously injured on London's roads in 2020/21 and 2021/22 (by mode travelled)



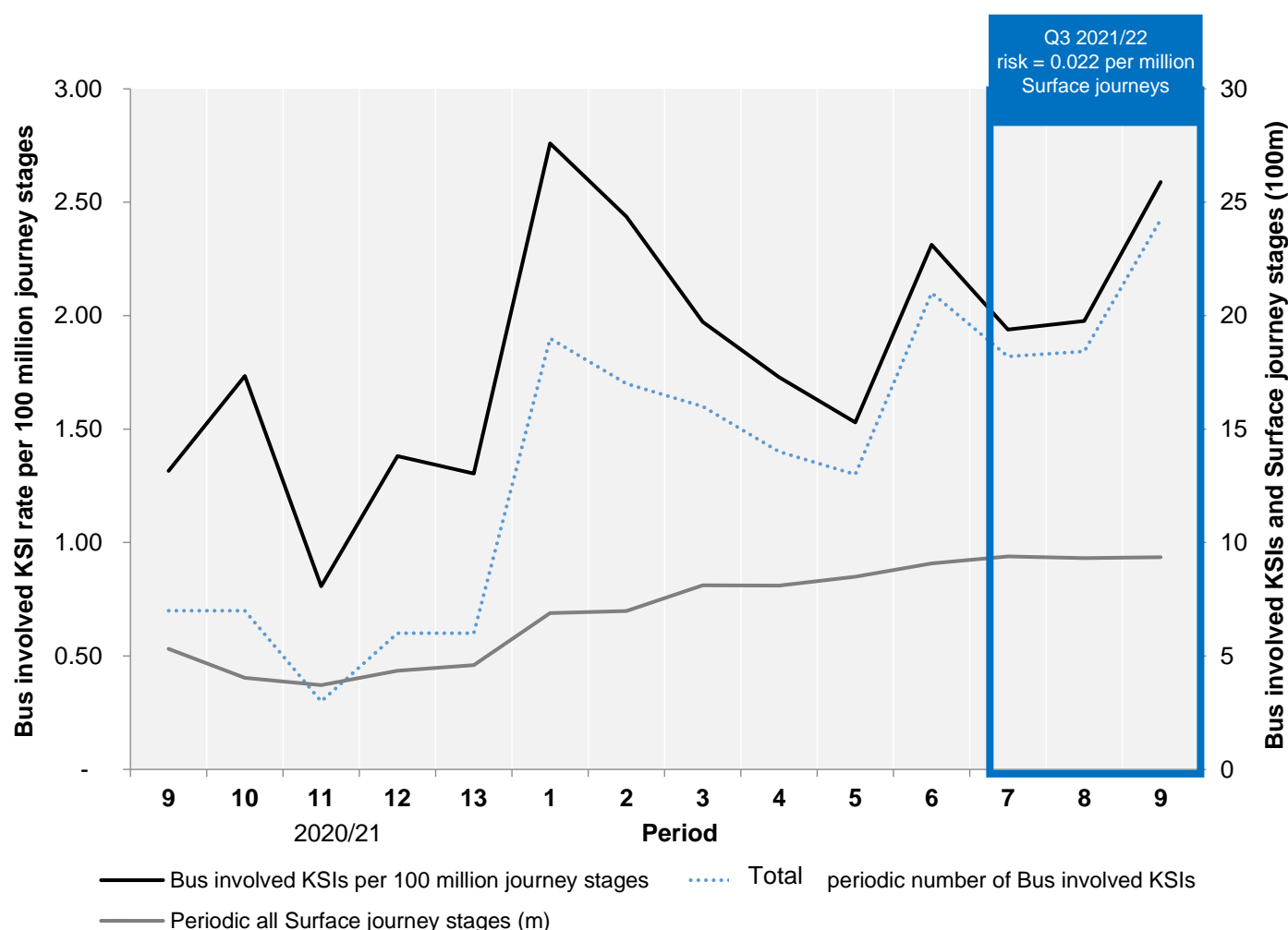
In Quarter 3 2021/22, 833 people were killed or seriously injured on London's roads. This represents a 10 per cent reduction compared to the previous Quarter (926 people). These changes have been driven largely by a reduction in people killed or seriously injured on pedal cycles and powered two wheelers. Compared to the previous Quarter, there was an 18 per cent increase in people seriously injured while walking, but a 29 per cent reduction in people killed or seriously injured on a pedal cycle and a 29 per cent reduction in people killed or seriously injured while riding a motorcycle.

Scorecard measure: People killed or seriously injured in road traffic collisions 2021/22 (per million journeys)



Working towards our Vision Zero ambition to eliminate death and serious injury on the roads, our aim in 2021/22 is to reduce the number to fewer than 0.45 people killed or seriously injured on the roads per million journeys. Our Quarter 3 result was 0.32 people killed or seriously injured on the roads per million journeys.

Scorecard measure: Rates of fatal or serious injury experienced by people in collision with buses



Our ambition is that no one is killed or seriously injured on, or by a bus. The risk of a bus being involved in a collision that kills or seriously injures either a bus passenger or someone else on the roads remains extremely low.

In Quarter 3, our aim was to have no greater than 0.020 deaths or serious injuries per million journey stages. Our aim for bus safety is more stretching than the general road safety aim, to reflect our ability to more directly influence bus services. In Quarter 3 there were 0.022 deaths or serious injuries per million surface journey stages. This is marginally above our central target but below our floor target of 0.024.

Road safety updates

Vision Zero Action Plan Progress Report Publication

We came together in 2018 to publish our first Vision Zero action plan, setting out ambitious short, medium and long-term targets towards eliminating road deaths and serious injuries by 2041.

Three years on, we have published a [progress report](#) which outlines achievements so far and commits to new, tougher measures to ensure we meet these targets.

London has made significant strides since committing to Vision Zero, with road deaths and serious injuries falling faster than the national average. However provisional data from 2021 suggests that 74 people were killed, and 3,434 people suffered serious injuries on our roads, evidence that continued action is needed to achieve the Mayor's Vision Zero goal.

Emerging road danger reduction trends are increasing the challenge, with the volume of motorised traffic remaining high, journey planning apps increasing such traffic on residential roads, and the number of journeys driving for work rising.

The Vision Zero action plan progress report reiterates our focus on actions that contribute to creating a Safe System:

- Safe speeds: lowering speeds to reduce the severity of collisions
- Safe streets: redesigning streets to reduce conflict between road users – which is integral to our Healthy Streets approach
- Safe vehicles: allowing only the safest vehicles to use our roads
- Safe behaviours: engaging and educating people about travelling safely and enforcing road rules
- Post-collision learning and justice: learning from collisions and better supporting the people who have been involved.

We also set out a range of new activity which, with appropriate funding, will help us reach our Vision Zero target. This includes:

- Accelerating the rollout of the 20mph speed limit programme on TfL roads
- Delivering a significant increase in speed enforcement capacity undertaken by the Metropolitan Police Service (MPS) to tackle the risk and harm caused by speeding
- Improving safety for people motorcycling
- Publishing analysis showing how deprived communities and some ethnic groups suffer road injuries at a disproportionate rate
- Responding to new trends in road danger; including increased use of smartphones, driving apps and in-car entertainment systems and more home delivery traffic.

As London recovers from the COVID-19 pandemic, we believe this is the right time for TfL, the MPS and London borough councils to renew our commitment to place Vision Zero at the heart of what we do. We are working with Government to secure the necessary funding to enable us to continue this journey and to avoid progress stalling.

Safe Speeds

Lowering Speed Limits Programme

Lowering the speed of vehicles in London is key to reducing both the likelihood of a collision occurring and the severity of the outcome.

The second phase of the programme is underway. We aim to accelerate the delivery of our 20mph speed limit programme so that, by 2024, 220km of the TfL Road Network (TLRN) will be a 20mph zone. To date we have introduced a 20mph speed limit on 80km of TfL roads, and 19 of the 33 London Boroughs (including the City of London) have committed to a 20mph default limit.

In 2021 we reduced the speed limit on 14km of TfL roads, including a new 20mph speed limit on A3220 Battersea Bridge and A3212 Chelsea Embankment. There is a further 17km in detailed design, with the programme continuing in 2022, subject to funding. By working with London's boroughs, nearly half of London's roads now have a 20mph speed limit. We have also reduced the speed limit on all our roads within the central London Congestion Charging zone to 20mph. This includes 20mph town centres in:

- Whitechapel
- Archway
- Brixton

Construction has started on reducing the speed limit to 30mph on the A10 Great Cambridge Road between White Hart Lane and Great Cambridge Roundabout in LB Haringey and LB Enfield respectively.

This quarter, we have continued to engage with the emergency services (London Ambulance Service, London Fire Brigade and the MPS) on the upcoming phase two Lowering Speed Limits programme. The new 'Have Your Say' webpage has helped local stakeholders to engage with the whole programme over the three-year delivery period and is proving useful for developing the programme further. Our programme will be supported by marketing activities, including advertising and radio promotion, to coincide with the launch dates.

Safe Streets

Safer Junctions

Work to address 43 of the 73 Safer Junctions locations is now finished, following the completion of new pedestrian crossings and cyclist safety improvements at Camden Road/Camden Street.

Design work continues on the remaining 30 junctions, including detailed design of York Road roundabout and Holloway Road/Drayton Park, with these schemes delivering essential motorcycle and pedestrian safety measures, and - subject to funding - construction expected to begin in Spring and Summer 2022, respectively.

Subject to funding, we propose to engage on 10 further Safer Junctions by 2024, which would then progress to delivery, depending on the outcome of engagement with local stakeholders.

Safe Vehicles

Fleet Operator Recognition Scheme (FORS)

Making vehicles safer is a vital part of our Vision Zero commitment to eliminating death and serious injury on the transport network. FORS, which was created by TfL in 2008, is an accreditation scheme recognising freight and fleet safety and environmental standards.

The voluntary scheme audits fleet operators and awards bronze, silver, and gold accreditations by asking them to demonstrate exceptional levels of best practice in safety and efficiency. It commits fleet operators to achieve high vehicle and driving standards relating to road safety, and environmental performance.

In October 2021, TfL signed a new contract with Sopra Steria to run the FORS fleet recognition scheme, which works to make vehicle fleets across the UK safer and greener. The new contract began in January 2022 and will last for five years, with Sopra Steria taking over from the current administrators AECOM.

Encouraging fleet operators to take part in the FORS scheme is an important part of the Mayor's Vision Zero goal to eliminate death and serious injury on the transport network and his commitment for London to become a zero-carbon city by 2030.

Electric Scooters

On Monday 13 December 2021, we announced that all privately-owned e-scooters and e-unicycles, including those that can be folded or carried, were banned from being transported on London's transport network. This is the result of safety concerns about these items following recent fires on TfL premises and services. Customers in possession of such devices will not be permitted to enter any premises on TfL's network or travel on any of its services, including on the Tube, buses, Overground, TfL Rail, Trams and the Docklands Light Railway, under our Conditions of Carriage.

In the first month of the ban, TfL enforcement officers had to intervene with 258 customers who were attempting to bring their vehicle onto services. Those customers were prevented from travelling with their e-scooter. Two customers were reported for prosecution for a byelaw offence for failing to comply with an officer's instruction. Feedback from the enforcement teams suggests that, despite the ban being in place for a relatively short period of time, compliance is improving. The situation is being monitored closely.

Whilst privately owned e-scooters remain illegal to use in public spaces, they are widely available for purchase. We do not know the number of privately owned e-scooters being used on London's roads but, based on police data, we have begun to build a picture of some emerging themes that may provide implications about the safety of the use of e-scooters on our network.

We have considered the number of e-scooter riders killed or seriously injured in London over the same period as a percentage of all people killed or seriously injured in London. From our data, it is clear that e-scooter riders are forming an increasing proportion of London's total number of people killed or seriously injured, from one person seriously injured in 2017 to 101 people killed or seriously injured (3 per cent of the total number of people killed or seriously injured) in the 2021 calendar year up to 20 December 2021.

Safe Behaviours

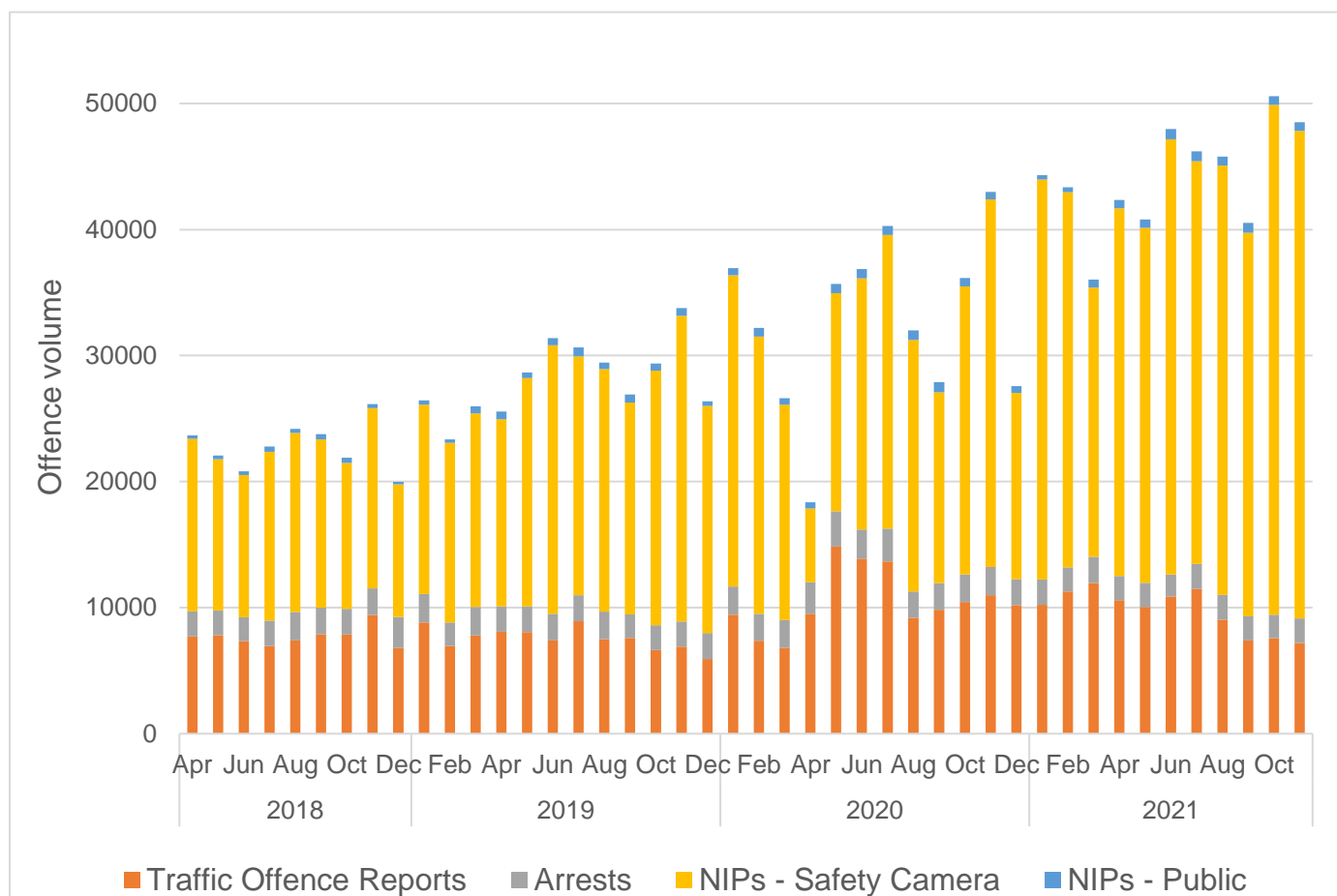
Enforcement

The Metropolitan Police Service (MPS) undertakes significant and wide-ranging activity to reduce road danger and prevent harm to all road users. This includes prevention and intelligence gathering activities, problem-solving to tackle the root causes of problems, community engagement and education initiatives and actively monitoring and targeting high risk vehicles and drivers.

Going forward, we will report on notable progress against enforcement actions in the Vision Zero Action Plan Progress Report and key operational activity.

Total offences volume from 2018-2021

*NIP = Notice of Intended Prosecution



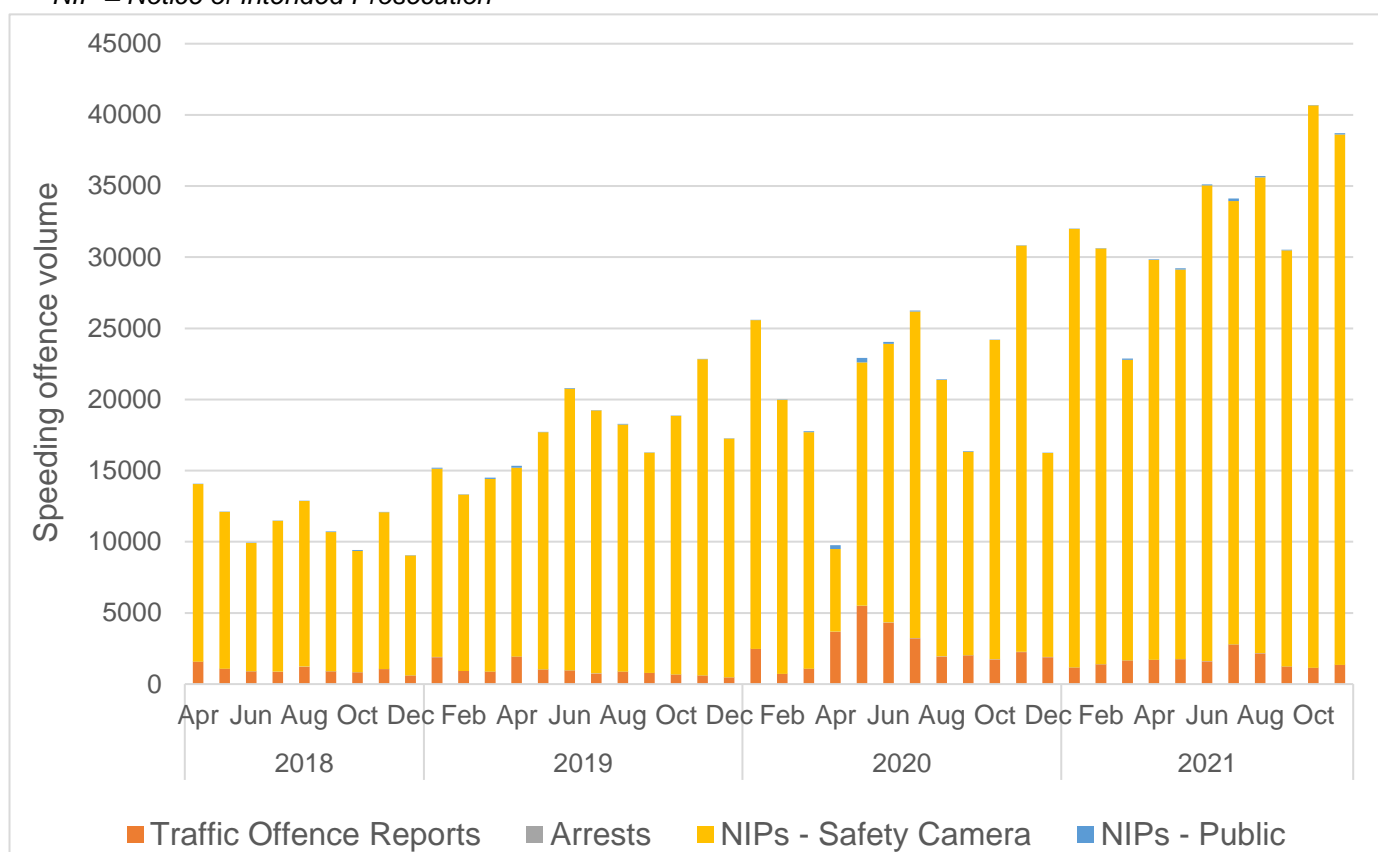
The MPS dealt with 362,731 road traffic offences through enforcement action between April and November 2021. This was 34 per cent higher than same period in 2020, an additional 92,519 offences dealt with.

Enforcement action includes Traffic Offence Reports which are issued by police at the roadside, arrests or Notices of Intended Prosecution for offences enforced through safety cameras or evidence provided members of the public (e.g. through headcam or dashcam footage).

The MPS prioritises its enforcement on the offences that cause the greatest risk and harm on London's roads. This includes speeding, mobile phone offences, driving under the influence of drugs and alcohol, red light offences, careless or dangerous driving, driving without a licence or in an uninsured vehicle or driving while disqualified. During this period, around 90 per cent of all road traffic enforcement action taken by the MPS was for priority offences. Speed enforcement accounted for 76 per cent, reflecting the risk and harm this causes, with the majority of offences identified through safety cameras and on-street enforcement (95 per cent and 5 per cent of all speeding offences respectively).

Speeding offences volume 2018-2021

*NIP = Notice of Intended Prosecution



In-line with our commitments in the Vision Action Plan Progress Report, we have been working with the MPS to increase the level of police enforcement to tackle speeding and the harm it causes. This has included a programme of activity to increase the effectiveness of the safety camera operation, working towards having the capacity to enforce up to one million speeding offences by 2024/25. We have also been working to introduce new mobile safety camera capability (five lasercam devices) that will be operated by Roads Policing Police Community Support Officers. This capability will complement police roadside enforcement activity and the fixed safety camera network. It will enable us to deal more effectively with emerging issues and being more responsive to local community concerns. The new enforcement capability will launch early in Quarter 4.

Behaviour Change Campaign

On 17 November 2021, we launched the TV advert for our 'See their side' campaign. The aim of this campaign was to challenge the sometimes divergent nature of London's road culture and to encourage all road users to be more empathetic when travelling.

Since the launch of this campaign we have received feedback from some of our road safety stakeholders and as a result of which we took the decision to pause the 'See their side' advertising campaign. We remain committed to improving the road culture in London and reducing road danger.

Cycle Training for Adults and Children

Face-to-face cycle training continued to be delivered across London boroughs in Quarter 3. The 2021/22 budget is £2.55m, of which £576,000 was equally distributed to boroughs for use between July and September 2022 (excluding the City of London).

This distribution of funding has allowed 4,227 children to be trained to Bikeability Level 2, and 3,650 adults to be trained.

Since the beginning of the financial year a total of 19,645 children have been trained to Bikeability Level 2, and 9,775 adults have been trained.

Post-collision learning and criminal justice

Road Danger Dashboard

In December 2021, we updated our online Road Danger Dashboard. The interactive dashboard lets the user explore the locations and details of published collisions in London.

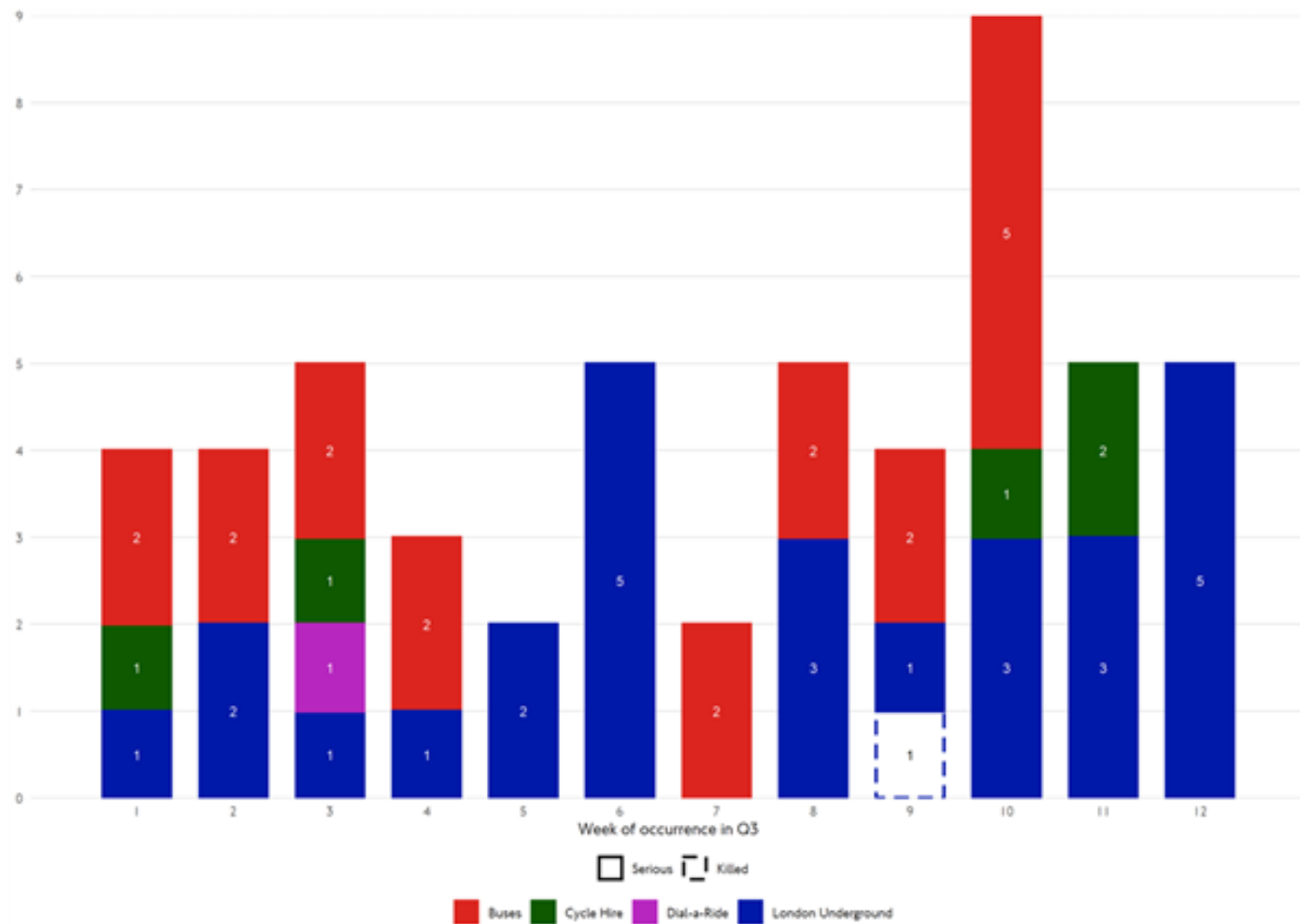
What has changed?

- Collision data can be made available to the public more quickly because we have made significant technical and process improvements in the way we process collisions data received from the police.
- Additional functionality has been added to the online dashboard. Users can now search by location. Some transport modes that were aggregated have now been separated out.
- As set out in our Vision Zero action plan and progress report we are committed to promoting a culture of transparency internally and across operators, and publishing data wherever possible.

Public transport safety performance

Quarterly performance

Customers killed or seriously injured per week in Quarter 3 (by mode)



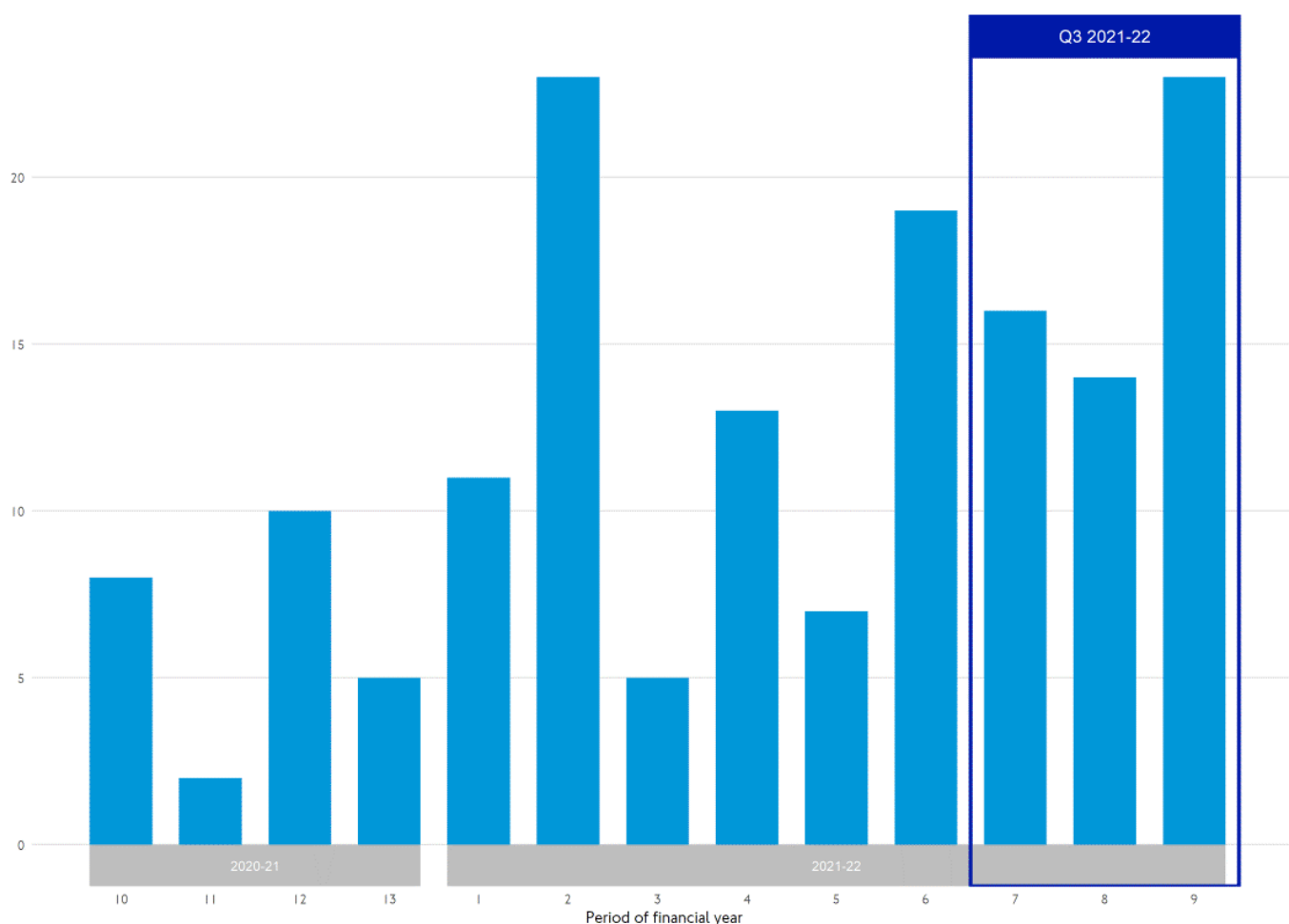
Sadly, one customer was killed on our public transport network during Quarter 3. This incident involved a person at Farringdon London Underground station whose head collided with the front corner of a train, resulting in their subsequent death.

In Quarter 3 there were 52 customers seriously injured whilst travelling on public transport.

Overall, there were 13 more customers killed or seriously injured than Quarter 2; this is the highest total of deaths and serious injuries of any Quarter since the beginning of 2020/21, when the COVID-19 pandemic began. This increase, driven by more serious injuries on our network, can largely be explained by growth in the number of customers travelling, and a seasonal peak in intoxication-related injury in the lead up to Christmas.

Most deaths and serious injuries occurred on London Underground (53 per cent) and Buses (36 per cent), as these modes carry the most passengers. However, there were also five customers seriously injured using our Cycle Hire service, and one customer seriously injured using our Dial-a-Ride service.

Customers killed or seriously injured per period this year (total)



Intoxication was mentioned as a possible factor in 15 (28 per cent) of the deaths and serious injuries sustained by customers on our public transport network this quarter. Intoxication-related deaths and serious injuries on our network mainly occur on London Underground (LU), where intoxication was reported as a contributory factor in 50 per cent of deaths and serious injuries. This compares to Buses where intoxication was reported as a contributory factor in 5 per cent of serious injuries on the Bus network.

Tackling intoxication on our public transport network

LU's intoxication strategy aims to reduce customer injuries, assaults on our staff and help our customers feel safe. The strategy takes the four E's approach to behaviour change: Engagement, Education, Encouragement and Enforcement. The key to tackling intoxication on the front line is through consistent staff

engagement to support and assist our more vulnerable customers. Activity during Quarter 3 included:

- **Team London Bridge ‘Safe Space’ initiative**

Following a successful trial pre-pandemic, ‘Safe Space’ involved a mobile team of medics, funded by Southwark Council, who patrolled London Bridge LU and Network Rail station and Canada Water LU station on Thursday to Saturday evenings over the festive period. Medics assisted intoxicated and vulnerable customers, preventing accidents, and treating injuries should they occur. Medics also worked with staff to share best practice on how to look out for and support vulnerable customers.

- **Behaviour Change Workshop**

The first workshop was delivered at King’s Cross, one of our intoxication hotspots. The workshop explored drivers of customer behaviours and worked with station staff to implement interventions tailored to challenges at King’s Cross. Further workshops are planned at other hotspot stations.

- **Intoxication and safety announcements**

Announcements were recorded by the London Ambulance Service and broadcast at hotspot stations all day from 13 December 2021 – 5 January 2022 to raise awareness of safety risks and the importance looking after yourself and others over the festive period.

Over the festive period, we know that an increase in intoxicated people walking can create additional risk of collisions or harsh braking events for bus drivers. During Quarter 3, two of our bus operating companies, Go-Ahead and Abellio, ran seasonal campaigns targeted at their bus drivers to promote awareness of these risks and to ask drivers to take care and watch out for intoxicated people walking.

On London Underground, the most common causes of customer serious injuries were:

- falls on stairs (43 per cent)
- falls on escalators (18 per cent)
- falls at the platform train interface (14 per cent)

Intoxication was the most frequently mentioned contributory factor; however, other factors linked to serious injury outcomes included customers rushing, not holding onto handrails, and being weighed down by their baggage.

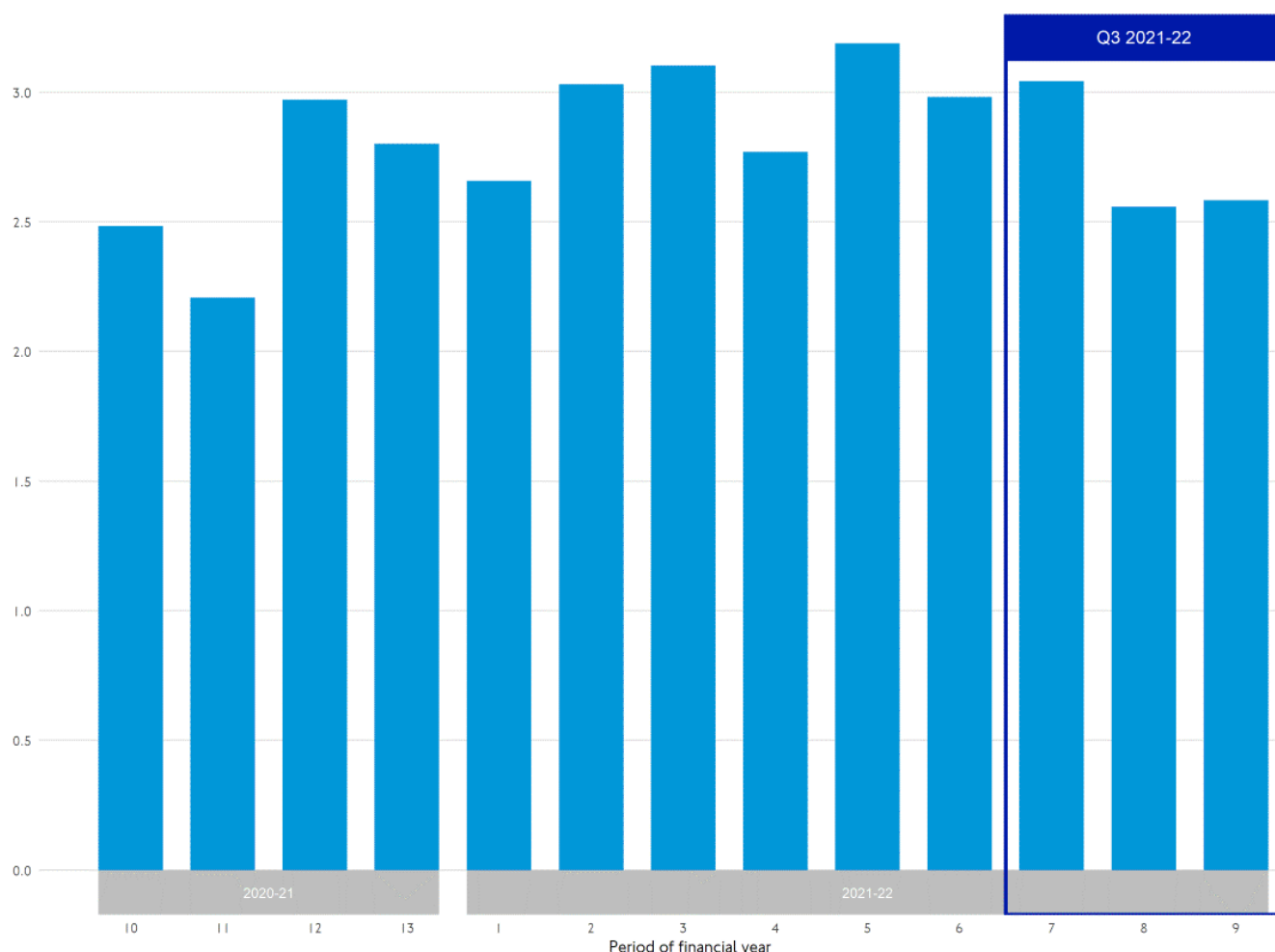
On Buses this quarter, approximately a third of serious injuries to customers were sustained because of bus drivers braking harshly or unexpectedly. Bus drivers frequently report the action of other road users, such as people driving or walking, as prompting a need to brake suddenly to avoid a collision. However, drivers braking for

pedestrian crossings and traffic lights were also mentioned as reasons for harsh braking events which led to serious injury.

Aspects of the Bus Safety Standard - such as improved direct and indirect vision, and the use of collision avoidance technologies - are intended to help bus drivers anticipate other road users' movements and allow sufficient space to brake smoothly. In addition to these improvements to buses, our bus driver training includes content on anticipation, to promote safe driving behaviours.

Other causes of serious injury to customers on Buses this quarter included bus drivers pulling away too early, and the incorrect operation of the doors such as closing the doors before customers had boarded or alighted properly. As part of work being done to look strategically at the causes of slips, trips, and falls on buses, further analysis into bus driver behaviour, and opportunities to target safety-related bus driver training are being explored.

Scorecard measure: Customer all injuries rate (per million passenger journeys)



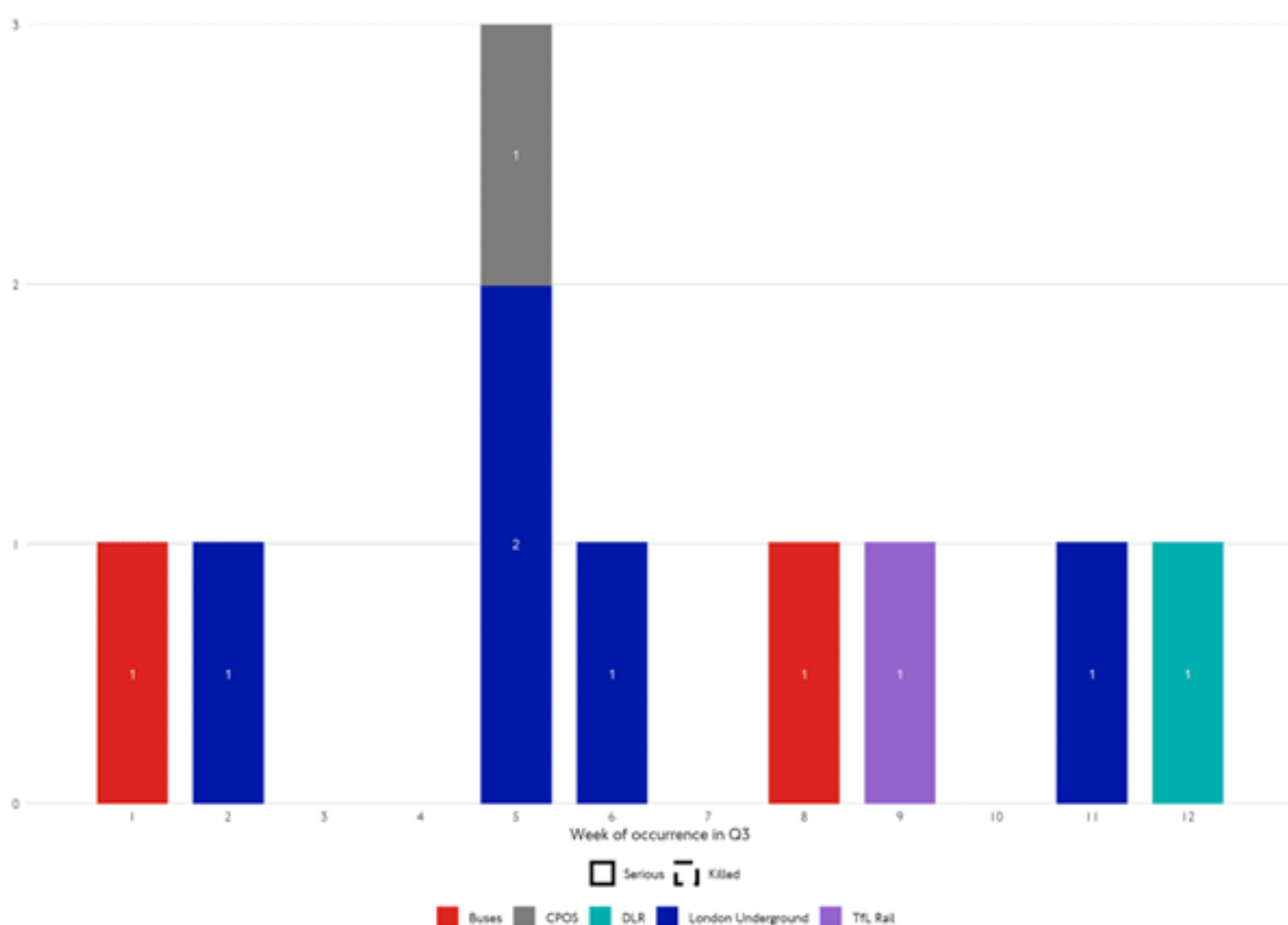
The number of customer injuries per million passenger journeys has decreased this quarter, to 2.71. This is despite the seasonal increase in the number and rate of intoxication-related customer injuries. This is a lower customer injury rate than Quarters 1 and 2 this financial year, but unfortunately remains above our target for 2021/22 of 2.52 injuries per million passenger journeys.

This decrease in customer injury risk is reflected across our most common causes of injury except intoxication. This includes a decrease in risk of customer injury relating to slips, trips and falls, injuries on both stairs and escalators, injuries sustained boarding or alighting vehicles, and injuries as a result of collisions or sudden braking (on relevant modes).

A continued return of customers to our public transport network, when travelling to work or school following the summer and continued pandemic easing up until Plan B measures were announced by the Government in December 2021 helped to reduce risk. These journeys are not as associated with known causes of injury as travel for retail, recreation and hospitality which saw a more immediate recovery in the summer months during Quarter 2.

So far, we are seeing a leisure and weekend-led recovery to travel, and an acceleration in pre-pandemic trends around working from home and online shopping reducing the need to travel (see TfL's Travel in London report 14). This could cause a shift in the make-up of journey purposes on public transport, with a greater proportion of journeys for leisure, recreation, and hospitality. These journeys are more associated with known risk factors such as intoxication. An increase in the share of these journeys, and a decrease in the share of commuting trips, could result in the number of customers injured per million passenger journeys increasing. However, long-term trends in post-pandemic travel demand are yet to be reached.

Workforce killed or seriously injured per week in Quarter 3 (by mode)

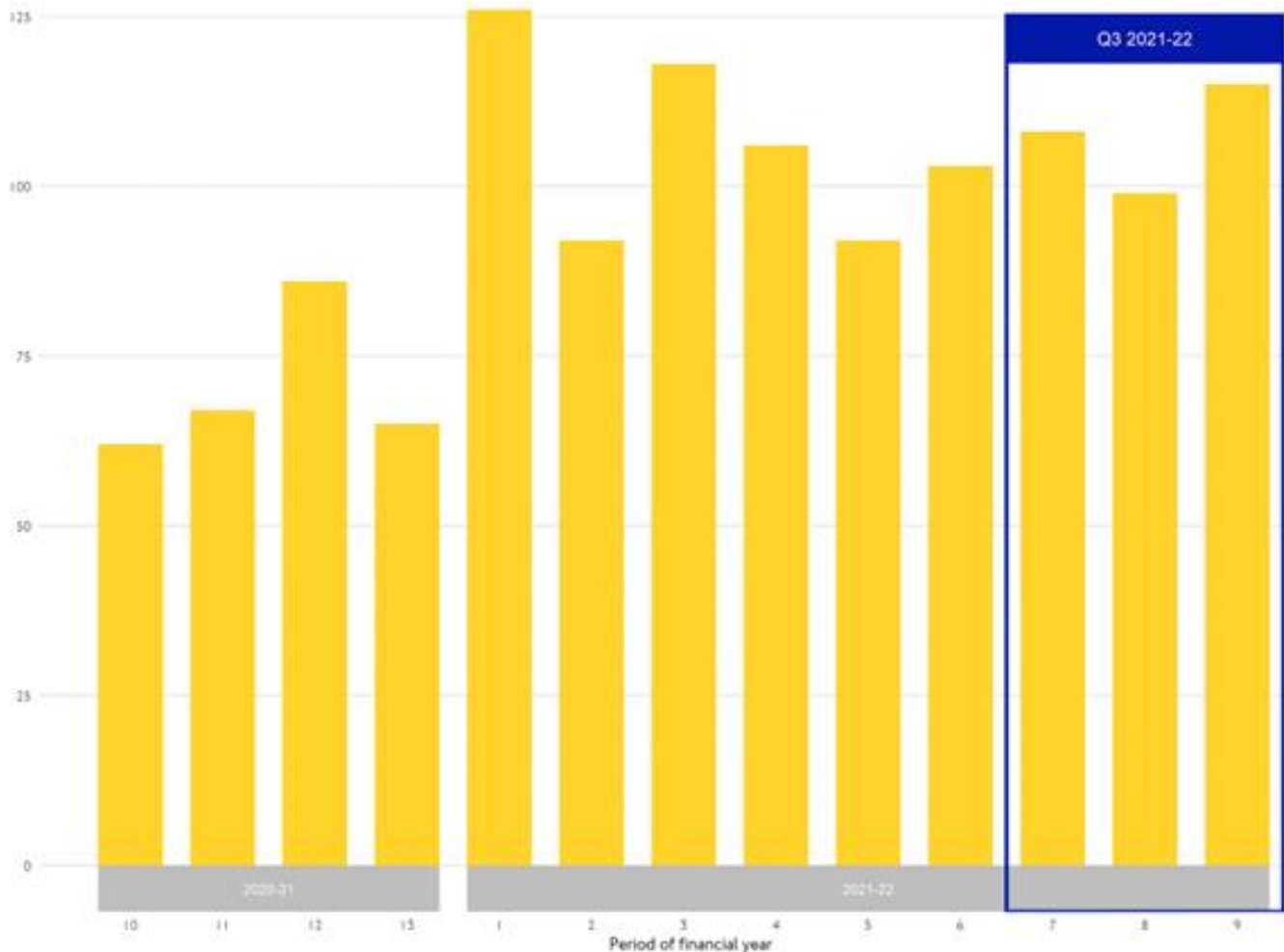


No one was killed whilst working on our public transport network in Quarter 3. Unfortunately, ten members of our workforce were seriously injured. This compares to four serious injuries sustained by our public transport workforce in the previous quarter. These included:

- Trips on stairs (four serious injuries involving LU staff - two carrying out maintenance duties, and two Train Operators)
- Slips in garages and depots (three serious injuries across Buses, Docklands Light Railway (DLR) and LU)
- Physical assaults (two serious injuries within Buses and TfL Rail)

- Struck body part (one serious injury in Crime, Policing, Operations and Security team)

Scorecard measure: Workforce injuries



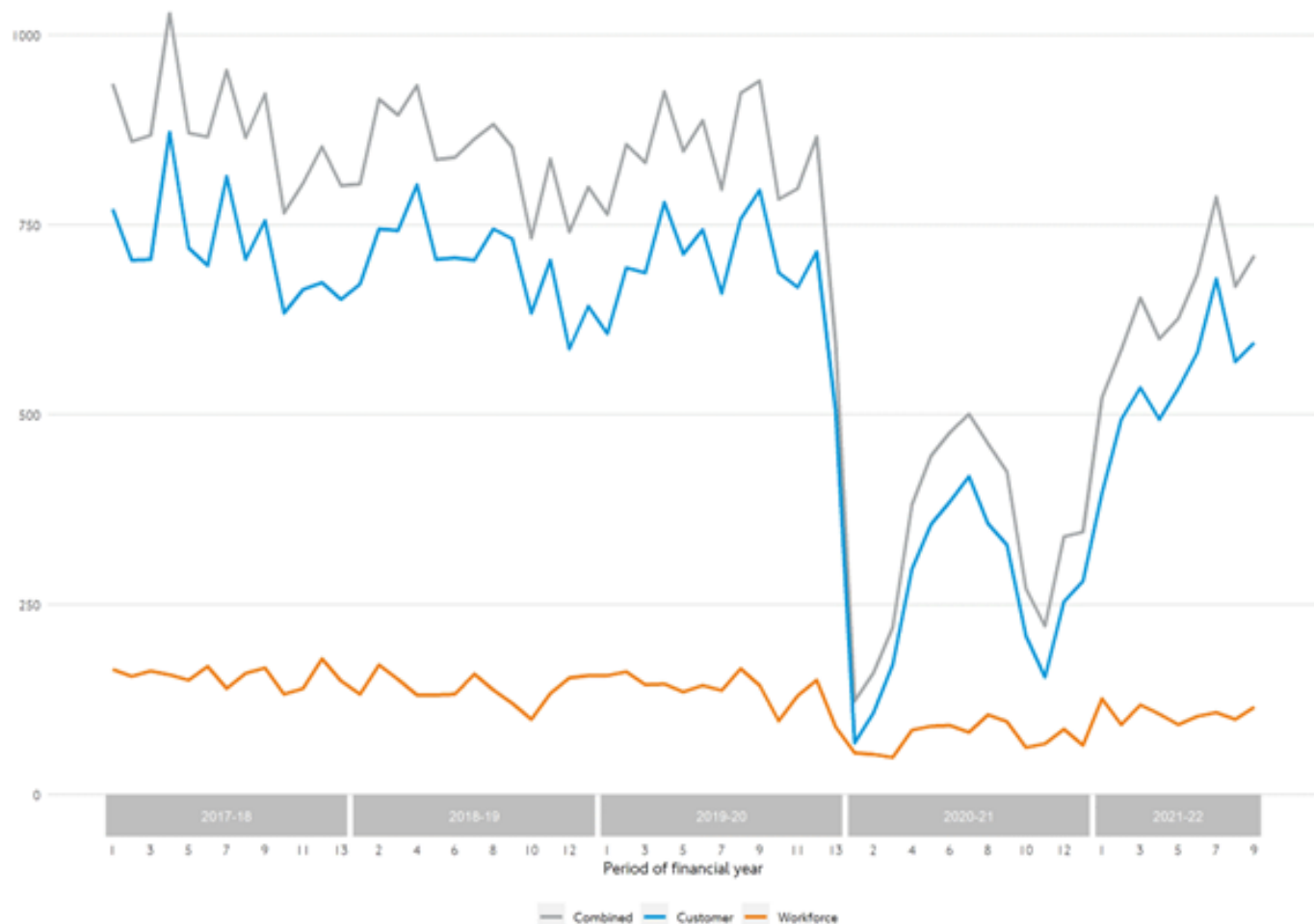
In Quarter 3, 322 members of our workforce were injured. Everyone who works for us should go home safe and healthy every day. Our Vision Zero ambition is to significantly reduce all injuries sustained by our workforce by 2030 and eliminate death and serious injury by 2041. Whilst it is disappointing that 322 people who work for us were injured whilst doing their job this quarter, this represents significantly fewer injuries than our scorecard target of 425 injuries and is a step towards eliminating harm.

Total workforce injuries remain below pre-pandemic levels. Trends vary by injury type, for example, assaults remain below pre-pandemic levels. This may be linked to fewer people travelling, but we have also made improvements to prevent workplace violence and aggression. These include the deployment of Transport Support and Enforcement (TSE) Operational Officers across our stations to prevent and tackle the common triggers of workplace violence and aggression, the roll out of body-worn

cameras, and refreshed customer communications campaigns. In contrast, other workforce injury types have largely resumed to pre-pandemic levels, such as slips, trips and falls, particularly on stairs.

Long term trend

Customer and workforce injury numbers per period since 2017-18 (total)



Since the beginning of 2021, customer injury numbers have been climbing steadily, reflecting the easing of lockdown restrictions throughout the year, and the return of customers to our network. The long-term trend in workforce injuries has been more stable, with injuries also remaining below pre-pandemic levels despite our workforce headcount remaining more stable than passenger numbers. Workforce injuries have increased over the past four quarters however, likely reflecting a return to business as usual for a larger number of roles.

The line chart displays the Customer injury rate over five financial years. The y-axis represents the rate, ranging from 0.0 to 3.0. The x-axis shows the period of the financial year, from 1 to 13. The rate starts at approximately 2.7 in 2017-18, peaks at 3.0 in 2017-18, and then fluctuates. It reaches a low of about 1.8 in 2020-21 and a high of about 3.2 in 2021-22.

Period of financial year	Customer injury rate
1	2.7
2	2.4
3	2.5
4	3.0
5	2.8
6	2.6
7	2.7
8	2.4
9	2.5
10	2.7
11	2.4
12	2.3
13	2.4
1	2.6
2	2.7
3	2.7
4	2.7
5	2.7
6	2.7
7	2.4
8	2.6
9	2.4
10	2.7
11	2.5
12	2.1
13	2.2
1	2.4
2	2.4
3	2.4
4	2.6
5	2.7
6	2.8
7	2.2
8	2.6
9	2.6
10	2.9
11	2.4
12	2.7
13	1.8
1	2.5
2	2.6
3	3.2
4	3.1
5	2.6
6	2.6
7	2.6
8	2.4
9	2.5
10	2.4
11	2.2
12	2.9
13	2.7
1	2.6
2	3.0
3	3.1
4	2.8
5	3.2
6	3.1
7	3.0
8	2.6
9	2.5
10	2.6

Public transport safety updates

The Safe Track Access (STA) Programme aims to provide improved tools, training and approaches to safely access the London Underground (LU) track environment during Engineering Hours, to minimise the risk of injuries to themselves and others working in this environment. While none of our colleagues or contractors have been seriously hurt while working in the LU track environment in recent years, the tragic

accidents on the Network Rail network, and some near miss incidents on our own network, underline the importance of the STA Programme.

This will be achieved through cultural and behaviour change and by building new infrastructure and technology to mitigate the two main risks when accessing the track:

- Coming into contact with live traction current.
- Being on the track before the passage of the last train.

The Safe Track Access Programme is divided into two main workstreams:

1. Infrastructure:

- Track Signage: installation of signage on track at traction current gaps, adjacent to live roads in depots and sidings and at complex junctions.
- Permanent Current Rail Indicator Devices (PCRIDs): development and installation of PCRIDS at platforms and traction current gaps across the London Underground network.
- Protecting Workers on Track (PWT) Safe Access System: development of mobile application used by the PWTs that provides additional safety information when accessing track.
- PWT Competency Management System (CMS) : review the current processes for assessing PWT competence to ensure that these staff members, who play an important role in track safety, have the right training and knowledge to carry out their role, and that we have reliable information about their competence which will help us drive further improvements in track safety.

2. Culture and Behaviour:

A continuous improvement programme, based on understanding the drivers of culture and behaviour when our colleagues and contractors are on the track, to reduce the number of serious incidents. This workstream includes:

- Listening sessions with our PWT staff: three night sessions were carried out in December where Directors and other members of our senior team listened to our PWT staff to understand their perspectives on safety. Action is being taken as a result of these sessions and further sessions are planned for Quarter 4.
- A regular communication programme with our PWT staff to ensure that significant incidents are shared with them and that they receive regular updates on the actions we are taking to improve track safety.
- Working with Network Rail to learn from their Track Safety Task Force.

- Improving our data and reporting systems – encouraging greater reporting of incidents and using this data to drive more focused action.
- Improved fair and just investigations – we introduced a new approach to investigations into high potential safe track access incidents in Quarter 3 and are now using it to ensure we carry out fair and robust investigations into all high potential safe track access incidents.

Suicide Prevention Programme

Year-on-year data comparison tells us that since 2018, our Suicide Prevention Programme has helped reduce the number of suicides by 44 per cent across the network.

We have trained 90 per cent of LU station staff in suicide prevention so far. In Quarter 3, we made 100 life-saving interventions, bringing the total over the last few years up to 1,700.

Capital delivery safety performance

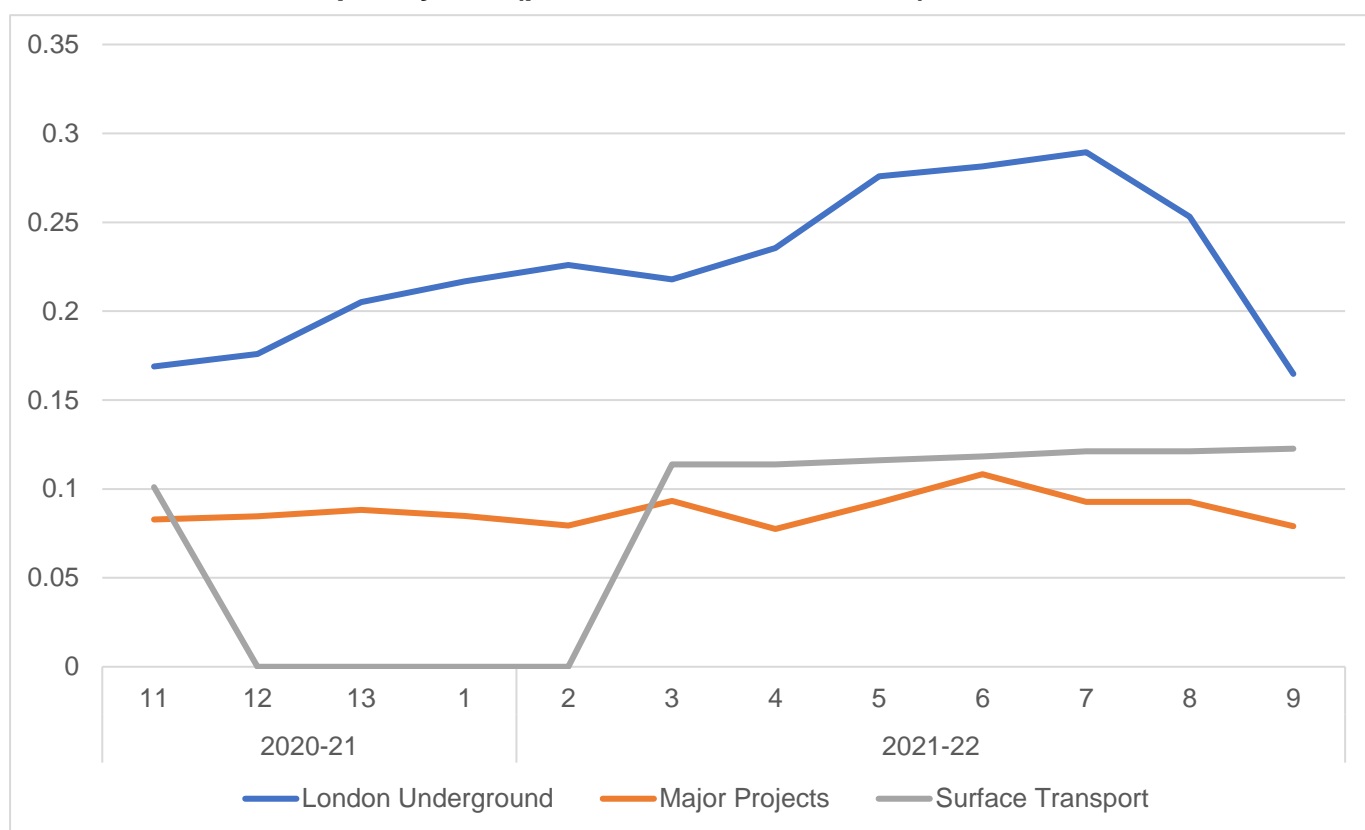
Within TfL, Capital Delivery works cover a broad range of activities across the Major Projects Directorate, London Underground Capital Delivery and Surface Transport Project and Programme Delivery. Some are essential asset renewals and maintenance to keep our frontline service operating efficiently. Other activities represent new and significant investments to improve existing infrastructure. Within the Capital Delivery area, teams comprise employees from both TfL and supplier organisations. Likewise, worksites may be managed by TfL or by suppliers acting as our Principal Contractor. We do not distinguish between TfL or supplier hours worked or incidents within this section of the report.

During Quarter 3, the capital projects area workforce completed 2.2 million hours of work. Whilst this is slightly below the previous quarter, hours worked are now beginning to stabilise as our sites return to a greater level of normality. Furthermore, COVID-19 risk reduction measures continue to be deployed across our sites. While the Government's Plan B guidance was in place, we limited visits to those that were essential only, such as those required for core SHE and assurance activities. In addition, enhanced virtual visits and monitoring provision were implemented to ensure our workforce remain supported.

Quarterly performance

To enable accurate analysis of data, some of our key measurables are quoted as a frequency rate per 100,000 hours worked. Frequency rates are calculated using a moving annual average based on performance over the previous 13 periods.

RIDDOR accident frequency rate (per 100,000 hours worked)



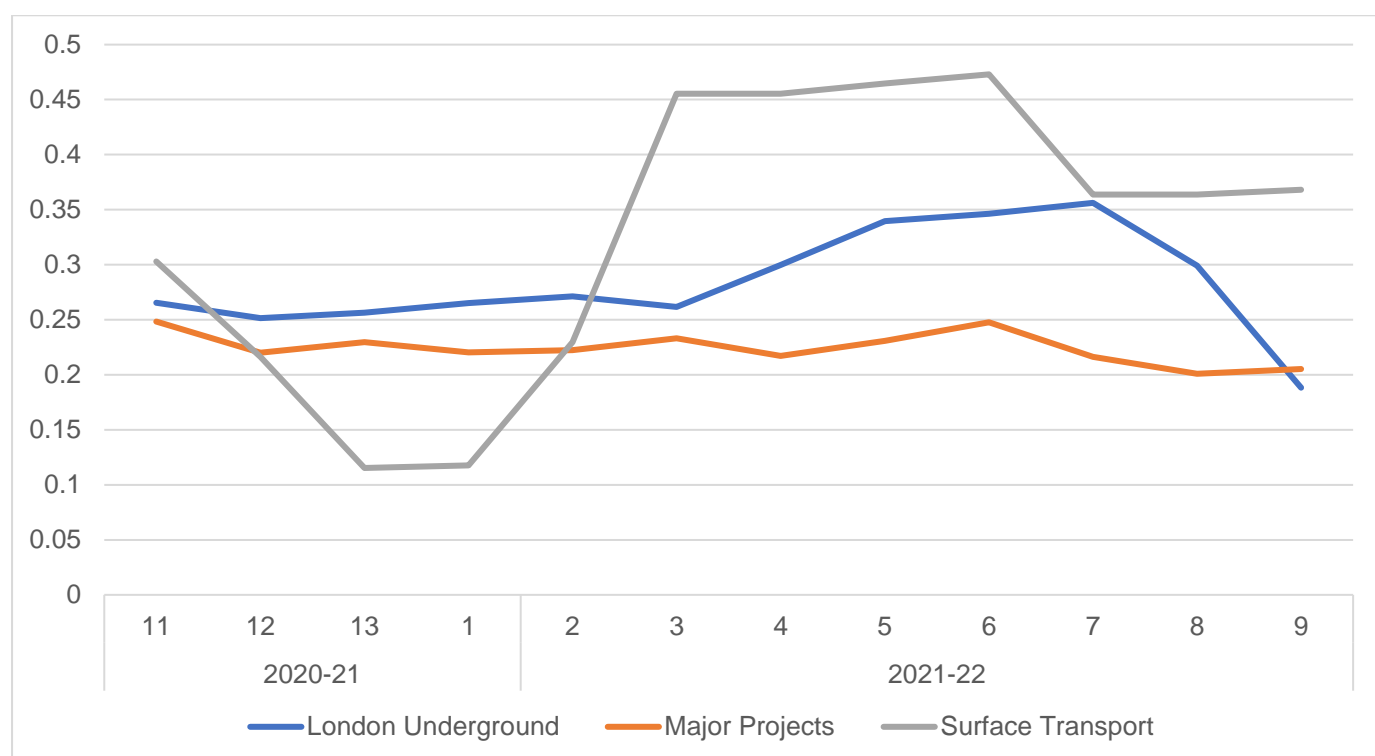
In Quarter 3, there were no accidents or incidents reported under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) in our Capital Delivery teams. As a result, the accident frequency rate fell sharply within London Underground (LU) to end the quarter at 0.17, slightly above the floor target (threshold) of 0.15. Surface Transport and Major Projects saw performance remain relatively stable and both with their respective floor targets (thresholds) of 0.15 and 0.10.

The significant reduction in RIDDOR reportable accidents not only demonstrates an improvement on previous quarters during 2021/22, but also a marked improvement on last year's performance where there were eight RIDDOR reportable accidents across our Capital Delivery teams during Quarter 3. A notable highlight has been the achievement of 4 million hours worked on the Four Lines Modernisation Programme without a RIDDOR reportable incident and 1.5 million hours worked without a Lost Time Incident (LTI).

Whilst hours worked were around 35 per cent higher in Quarter 3 2020/21, there have been a number of successful mitigations and interventions put in place this year to avoid the recurrence of similar incidents, with a broadly increased focus on site-level controls during the pandemic. It is also important to recognise the greater level of stability in 2021/22 in terms of the number of people on site compared with 2020/21, and in terms of the progress of some of our capital projects which are now in full flight and benefitting from the detailed level of planning, design and risk-mitigation that took place during their early stages.

The reduction in RIDDORs in our Capital Delivery teams is positive news in terms of progress towards our long-term ambitions, but there were several significant near misses during Quarter 3 that had the potential to result in serious harm to our colleagues. These included two incidents involving the incorrect use of telehandlers and another involving the incorrect erection of a mobile scaffold tower, influenced by failures to follow safe instructions and correct procedure. Close attention is also being paid to address recent increases in incidents caused by attempted violence and assault on colleagues. High potential or significant near misses are treated in the same way as serious injuries, with full investigations completed, findings shared between across TfL Capital teams (and wider industry where appropriate) and mitigations put in place to prevent harm from occurring.

Lost time injury frequency rate (per 100,000 hours worked)

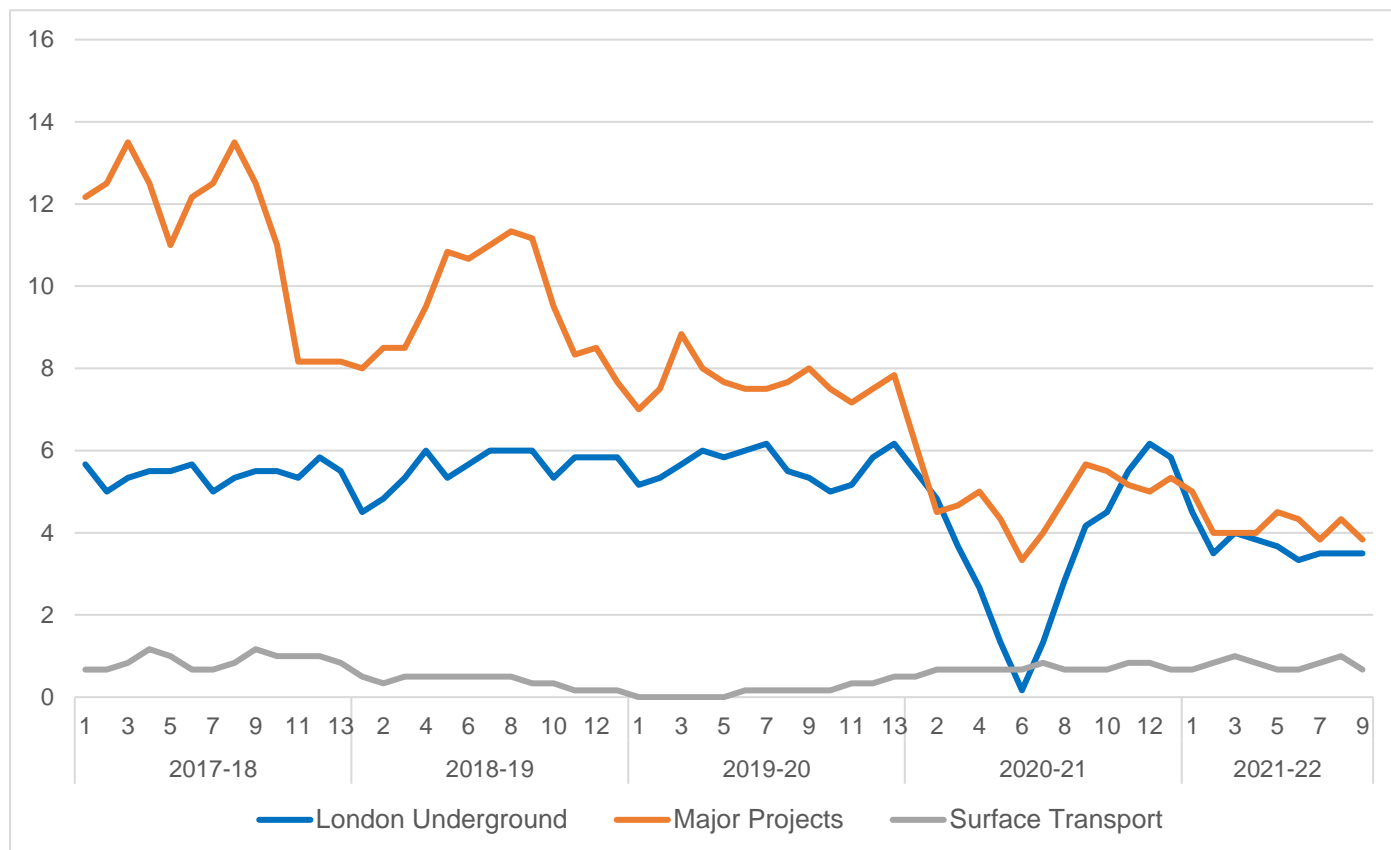


Lost time injuries (LTIs) are injuries which cause an employee to be absent for one or more shifts. There was only one LTI reported in our Capital Delivery teams during Quarter 3, a significant decrease on the previous quarter. Consequently, the lost time injury frequency rates fell across London Underground, Major Projects and Surface Transport against floor targets (thresholds) of 0.20. However, annual performance remains above the floor targets (thresholds) and will continue to be closely managed during Quarter 4 as we approach the end of the financial year.

The LTI that occurred resulted from a contractor spraining their ankle while working on the Bank Station Capacity Upgrade within our Major Projects team.

Long-term trend

Total capital delivery workforce injuries (six-period average since 2017/18)



There were 22 injuries across our Capital Delivery teams during Quarter 3, demonstrating a slight decrease on the previous quarter, in-line with the reduction in hours worked. Injuries across our Capital Delivery teams remain well below pre-pandemic levels and continue the overall trend of long-term decline since 2017/18. This remains the case when hours worked are taken into context, which have seen a lesser decline over the same period.

We are now seeing signs that the number of injuries is beginning to plateau. This trend is likely to continue over coming quarters, as hours worked on site stabilise.

We will closely monitor our safety performance data and adapt our risk management approach accordingly.

Capital Delivery SHE Improvement Initiatives

SHE Capital Delivery & Maintenance Strategy

To improve performance, we continue to deliver the Safety, Health & Environment (SHE) Capital Delivery and Maintenance Strategy which launched earlier this year. In Quarter 3, we published detailed plans and programmes for each of the strategy's workstreams, outlining the improvements we will be making over the next five years.

This includes a roadmap to improving our data and reporting, which enable us to more closely monitor and improve our safety, health and environment performance. In Quarter 4, we will develop our pan-Capital improvement plan which will provide a basis for consistent and strategic improvement plans to be established across our capital delivery teams ahead of the new financial year.

Piccadilly Line Upgrade

The Piccadilly Line Upgrade programme is the first within TfL to adopt a Carbon Dashboard, to not only quantify baseline carbon emissions, but also identify and measure whole life carbon reduction savings in areas such as Materials, Transport to Site, Construction Activities, Operational Material Replacement, and Operational Energy.

Sharing Lessons with our Suppliers

We held a Zero Harm “Sharing Event” on 11 November 2021. These are a new series of quarterly events to support the annual Zero Harm conference and keep our SHE conversations focused all year round.

Facilitated by us, these events provide a platform for our supplier community to share lessons from incidents and good practices. Each event is themed dependant on the performance trends of the quarter and comprised of an information share followed by discussion and an opportunity for a question and answer session.

Our first session focused on people and plant interface and lifting operations due to high potential near misses experienced in the quarter.

The next Zero Harm conference will take place in February 2022 and places carbon, the environment and sustainability at the forefront of our desire to support our suppliers to share their sustainable innovations.

Shining a Light on Dark Corners

Asset Performance and Capital Delivery (APCD) introduced a "dark corners" survey in order to identify things that may not be immediately obvious as a safety risk, but could turn into one; or work areas or departments where safety control checks are not conducted or addressed regularly. The survey remains open and results are reviewed every four weeks by the dedicated Dark Corners team that works with the appropriate leadership teams to address concerns raised and provide feedback on actions taken.

Pathway and CDM Compliance

An internal audit was undertaken of our Project and Programme Delivery (PPD) team’s compliance with Pathway, our project management methodology, and the Construction Design and Management Regulations (CDM) 2015.

One of the projects audited that performed well was the A40 Westway flyover, with Costain commencing works on site during Quarter 3. The project is part of the Major Asset Renewal Programme and concerns 21 bridges over 4.5km, with its main objectives to:

- Maintain safe and operable assets on the TLRN.
- Bring the structure's critical elements up to a state of good repair.
- Minimise disruption during the works.
- Reduce- as low as reasonably practicable- the risks associated with the asset functionality, operation, safety, and environmental impacts.
- Optimise whole life costs within current our current asset renewals strategy, which requires assets to be safe and operable on the surface network”.

Work-related violence and aggression

Work-related violence and aggression (WVA) towards our people and those of our operators and contractors is unacceptable. Concerted action is underway to tackle it.

Triggers of WVA incidents

Fare evasion remained the biggest trigger for WVA during Quarter 3, resulting in 28 per cent of all WVA incidents on London Underground (LU) and 39 per cent on the Surface transport network. This is a slight increase of 4 per cent on the Surface network.

This Quarter, we have seen an increase in WVA triggered by customers behaving in an antisocial or disruptive manner. On the LU network this has risen from 10 per cent of all incidents in Quarter 2 to 19 per cent in Quarter 3, and on the Surface network from 20 per cent of all incidents in Quarter 2 to 32 per cent in Quarter 3. These incidents are often fuelled by intoxication or young people travelling in groups.

There has also been a rise in the number of WVA incidents on the LU network involving a customer with an e-scooter, from seven in Quarter 2 to 13 in Quarter 3. A ban on e-scooter use due to fire risk was introduced at the very end of Quarter 3, and operational officers and frontline staff are educating customers. Initial feedback from operational teams suggests that compliance is improving.

Hate crime incidents have decreased on both modes. On the Surface network they have reduced from 91 in Quarter 2 to 80 in Quarter 3 and account for 7.2 per cent of all reported incidents. On the LU network they have reduced from 90 in Quarter 2 to 75 in Quarter 3 and account for 6.9 per cent of all reported incidents.

Overview of risk and harm

As part of the WVA strategy, we have improved the way we analyse incident data from across TfL, our operators and policing partners to better understand the scale and nature of WVA incidents.

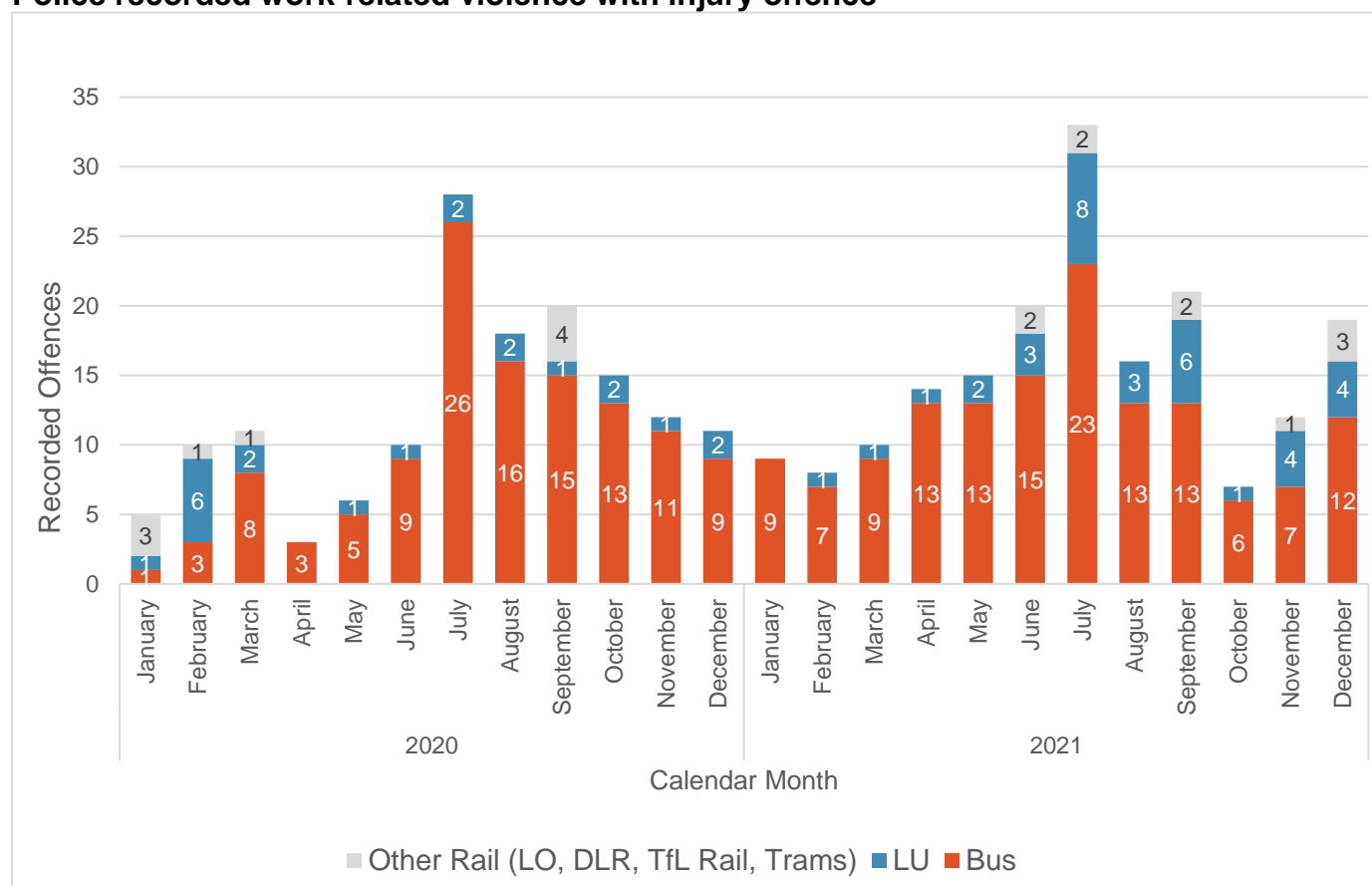
This change in the way we analyse data from different data sets was introduced in April 2020. As a result, we are unable to compare levels and trends before this date. This analysis compares data from different timeframes in 2020/21 and 2021/22. Due to the effect that reduced customer numbers had on WVA incidents, drawing comparisons and conclusions between the sets of data is difficult.

Volume of incidents in Quarter 3

In Quarter 3 2021/22, there were 1,078 incidents of WVA on the LU network. This is an 11 per cent increase compared to the previous Quarter (106 additional incidents). This is a similar percentage increase to the rise between Quarter 1 to Quarter 2.

In Quarter 3 2021/22, there were 1,017 incidents of WVA on the Surface networks (including Buses, roads, London Overground (LO), Docklands Light Railway (DLR), TfL Rail and Trams). This represents a small decrease of 2.4 per cent from Quarter 2 (26 fewer incidents).

Police recorded work-related violence with injury offence



We know from feedback from our workforce and trade unions that WVA is underreported, particularly verbal abuse. Changes in the reporting of incidents, compounded by the impact of coronavirus on overall crime levels, makes it difficult to draw clear conclusions about trends in offending. Our assumption is that violent offences that result in injury (actual bodily harm or grievous bodily harm) are more likely to be reported given that the staff member may require support, treatment or

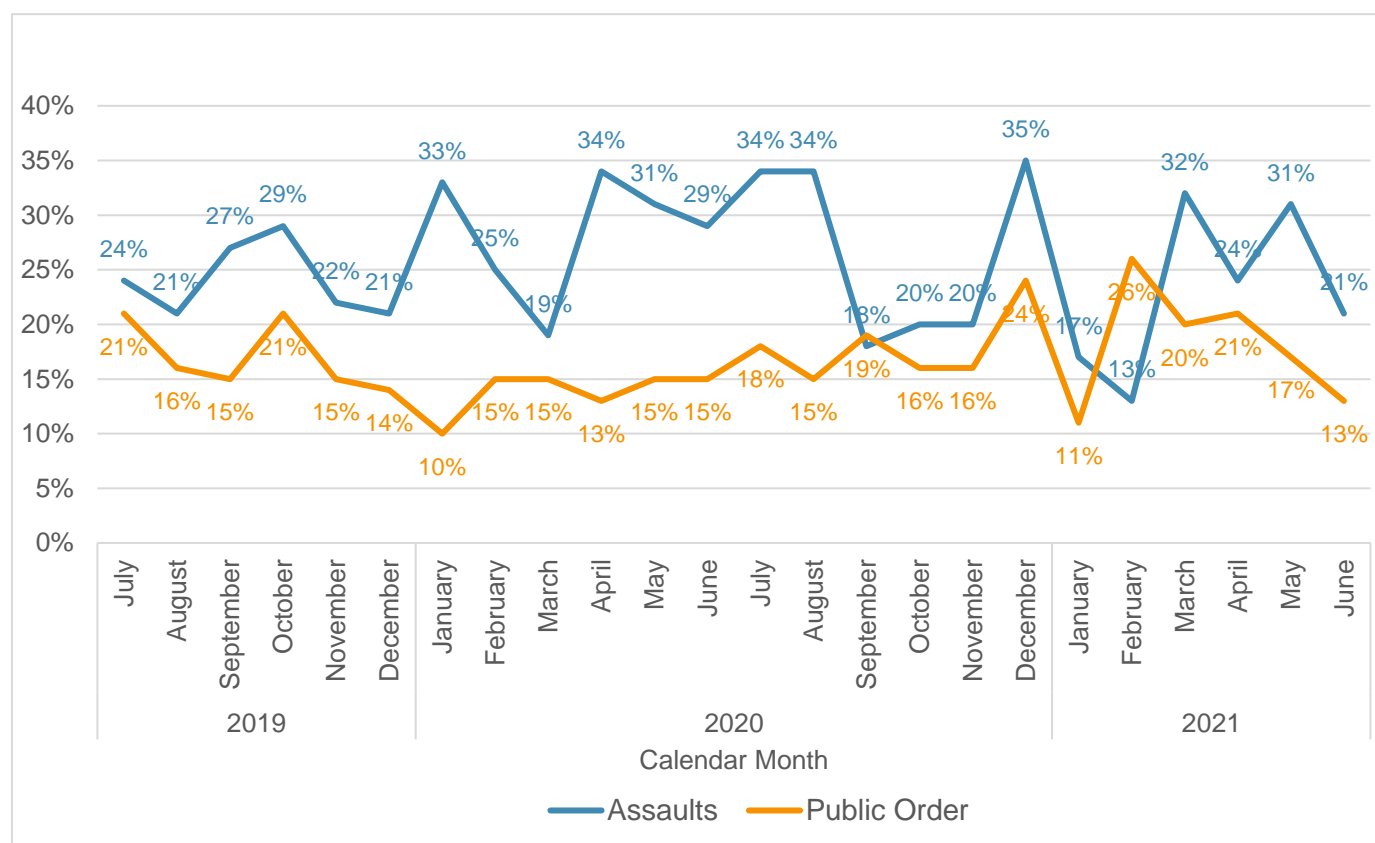
time off. Police data for violence with injury offences is a more reliable data source for monitoring trends. We have started a project to improve reporting of workplace related violence incidents to help our workforce stay safe.

The level of bus-related violence with injury offences was seven per cent higher when comparing April to December 2021 (115 offences) with the same nine months in 2020 (107 offences). In the same time period in 2021, crime levels increased in line with more passengers returning to the network.

Where contributory factors are recorded, 42 per cent of bus-related physical assaults (including spitting) reported to the police are linked to road rage. Road rage volumes were lower in 2020/21 due to lockdown and fewer road users (28 offences in 2020 Year-To-Date, 52 offences 2021).

Police data for LU and other rail modes (LO, DLR, TfL Rail and Trams) combined shows there were 42 violence with injury offences between April and August 2021, compared with just 16 for the same nine months in 2020. The lower offence numbers on the rail network in 2020 may reflect the lower levels of passenger journeys at this time.

Solved rate for WVA offences investigated by the police



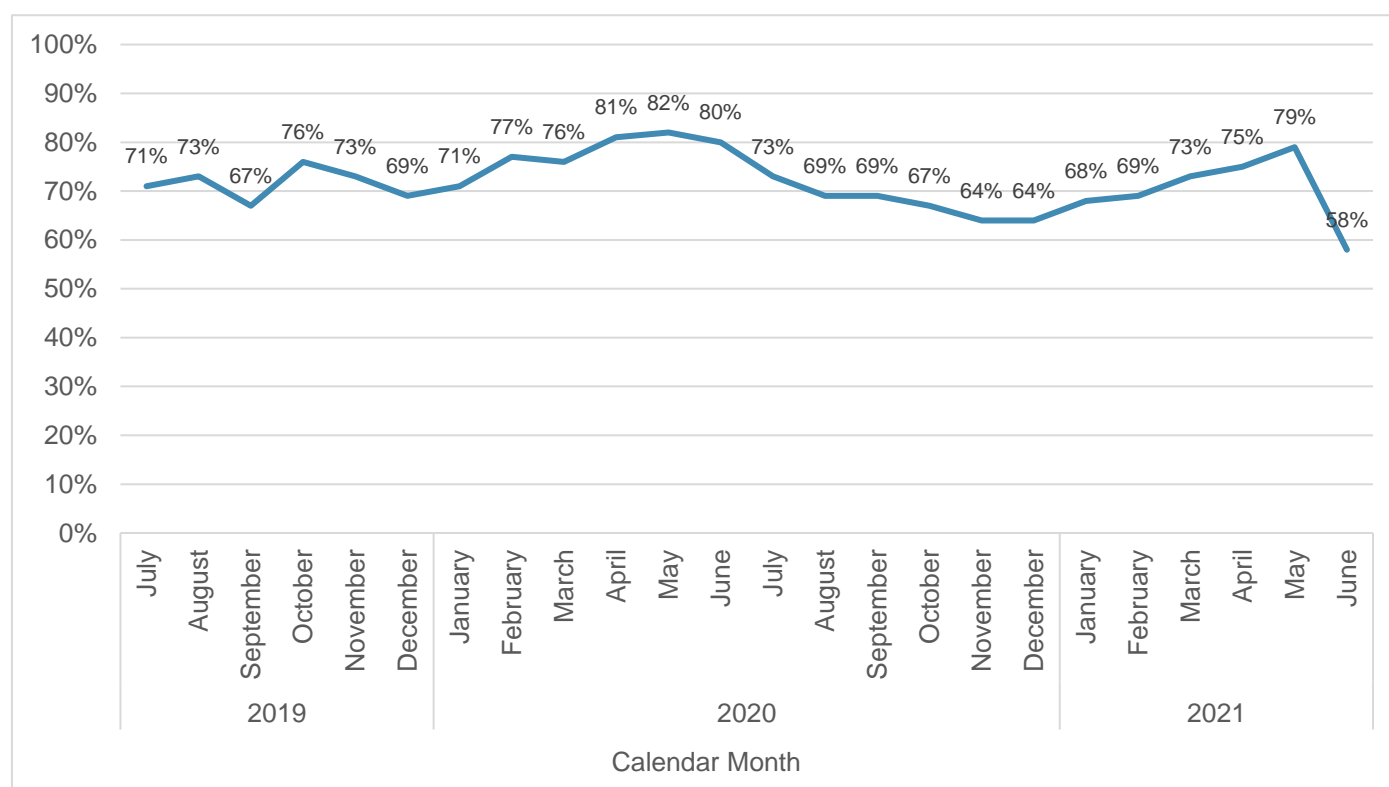
We are working closely with the police to improve the solved rate of offences. This includes prioritising the investigation of WVA incidents, rolling out body-worn video cameras and continuing to support police investigations by providing Oyster card and CCTV information and victim and witness statements.

The solved rate is the percentage of offences being investigated by the police that have resulted in action against the suspect e.g. charged with the offence, summonsed to attend court or a restorative justice outcome. Figures are reported six months in arrears to allow time for the police investigation to conclude and for cases to progress through the criminal justice process. This section compares figures for the 12-month periods, July 2020 to June 2021 (current), with July 2019 to June 2020 (previous).

During the current period the combined solved rate was 21 per cent for violence and public order recorded offences against our workforce – the same as the previous 12-month period.

The solved rate varied by mode during the current period, with a solved rate of 22 per cent for bus-related offences, 23 per cent for LU, and 15 per cent for all other rail modes combined. Across all modes, the solved rates increase in line with severity of incident. The solved rate is higher for violent offences (with or without injury) compared to public order (e.g. verbal abuse or threatening behaviour) as the police will allocate more resource to identifying and apprehending offenders for the former e.g. media appeals for information for violent incidents. The solved rate in the current 12-month period for violence (with/without injury) offences was 26 per cent compared with 18 per cent for public order offences respectively.

Percentage of Staff Willing to Support (all violence and public order offences)



A key factor in being able to bring offenders to justice is staff support for and consent to partake in the criminal justice process. As part of our strategy, we are working closely with the police to address staff concerns and improve the support that we collectively provide to them throughout the process.

Figures are reported six months in arrears to allow time for the police investigation to conclude and for cases to progress through the criminal justice process. This section compares figures for the 12-month periods, July 2020 to June 2021 (current), with July 2019 to June 2020 (previous).

During the current period, the percentage of staff willing to support a police investigation was 69 per cent for violence and public order recorded offences against staff, down from 75 per cent compared to the previous 12-month period. Due to changing customer numbers, bus drivers make up a greater proportion of staff victims and they are less likely to support police investigations, particularly public order offences. We are working to address this.

Progress against the 2021/22 annual action plan

The Safety, Sustainability & HR Panel (SSHRP) reports now include updates against actions within the WVA annual action plan. The plan was approved by the SSHRP on 30 June 2021.

Wherever staff are on our network, we are committed to their safety and preventing violence and aggression, tackling the causes and providing support to those who experience it. We operate across the whole of London, and it is not only those in customer facing roles that can be subject to violent or aggressive incidents. While incidents like these are rare, they happen. To tackle this, we have developed a new Urban Safety training course to keep our workforce who are working out and about in London safe.

Staff can complete the course on ezone, our internal training platform. The focus is on human behaviours and consists of four interactive modules and specially commissioned scenario-based films. It provides useful tools and insights on managing conflict and staying safe and we are recommending any of our workforce to complete it, if they are in a role that could bring them into contact with members of the public. Conflict management training is already in place for our other frontline, customer-facing teams which is relevant to their roles.

Tackling the key triggers is essential if we are to eliminate WVA against our staff. Fare evasion remains the biggest trigger for WVA and as part of our strategy we are recruiting 60 new Revenue Control Officers (RCOs) to help tackle fare evasion on the LU network. We started to recruit RCOs in Quarter 3. We are aiming to have 12 RCOs start per period and have this complete by April 2022.

We continue to work with our partners on targeted policing activity.

We are working with both the Metropolitan Police Service and the British Transport Police (BTP) to tackle specific issues at WVA hotspot locations. Although we have not had a serious WVA incident at Turnpike Lane, serious crime, including gang

activity, is a known issue in the local area and causing concerns for staff safety at the LU and bus stations. We are working closely with the local borough, Haringey Council, the new Metropolitan Police Wood Green Town Centre Team and the BTP on collaborative enforcement activity, alongside looking at our own safety equipment and procedures.

As part of our work at Turnpike Lane, we have included the station as a location for the BTP's Operation Steed. This ongoing operation aims to increase both staff and public confidence, improve feelings of safety, and bring offenders to justice. The BTP have been using several tactics to prevent and detect crime in the area, including the use of knife arches, drugs dogs, revenue operations, targeting prolific offenders, high visibility and plain clothes patrols. So far, six planned operations have resulted in two arrests, five reports, 58 stop searches, 47 stop and accounts, eight Community Resolutions and six intel reports.

Operation Steed deployments have also continued at East Ham, Upton Park, West Ham and Canning Town stations and a new priority location, Camden Town.

Examples of Successful Prosecutions in Quarter 3

Route W9

In May 2021, a driver of a route W9 bus operated by Sullivan's Buses was assaulted as he was about to exit the bus. Police were called and the suspect was arrested and charged with violent conduct. The suspect was found guilty, remanded on unconditional bail, given a community order, paid £150 compensation to the victim and ordered to attend a rehabilitation centre.

Route 427

In July 2021, a driver of a route 427 bus operated by Abellio was assaulted after a fare dispute. The suspect was charged with common assault and after being found guilty, was ordered to pay £100 compensation, given a community order, a rehabilitation order of 25 days and ordered to do unpaid community work for 100 hours.

Route 253

In August 2021, a driver of a route 253 bus operated by Arriva was assaulted over a fare dispute. The suspect spat at the driver and was arrested at the scene and charged with common assault and violent conduct. The suspect was found guilty and ordered to pay £234 compensation.

Vauxhall London Underground Station

In March 2021, an LU staff member informed a member of the public that Vauxhall LU station was closed. The LU member of staff was punched in the face causing him to fall down the stairs. Other members of LU staff detained the suspect and he was later arrested by the police for actual bodily harm. The suspect pleaded guilty and was sentenced to 12 weeks in prison, suspended for 18 months, and ordered to pay £600 compensation.

Hainault LU Station

In June 2021, a customer was asked to stop smoking in the station by LU staff. The suspect grabbed the body-worn camera of the LU member of staff and spat in their face. The suspect was identified, pleaded guilty and was ordered to pay £150 compensation and £85 towards Crown Prosecution Service (CPS) costs.

Whitechapel LU Station

In July 2021, a female customer was being assaulted on the platform. Three members of LU staff went to assist, one was pushed to the floor and all three were threatened with violence. The suspect was arrested and charged with breaching a restraining order, four assaults and a public order offence. They were found guilty and sentenced to 44 weeks imprisonment and ordered to pay a victim surcharge of £156.

Waterloo LU Station

In August 2021, a customer approached a LU member of staff and spat at him. The suspect was arrested for common assault. The suspect entered a “guilty” plea and was sentenced to prison for 18 weeks suspended for 24 months and ordered to pay a surcharge to victim services of £128 and CPS costs of £85.

Significant incidents

This section outlines significant incidents that have occurred during Quarter 3 and since the last report. It also provides an update to significant incidents of note.

Significant London Underground incidents

There were no Rail Accident Investigation Branch (RAIB) reports pertaining to LU published in Quarter 3.

RAIB report: Fatal accident at Waterloo Underground station – Published September 2021

On 26 May 2020, at Waterloo London Underground station, a passenger fell into the gap between the northbound Bakerloo line platform and the train from which he had just alighted.

The RAIB made three recommendations to LU. The first relates to the need to recognise and assess location-specific risks so they can be properly managed. The second recommends that LU review its quantified risk assessment. The third recommendation relates to the need for effective delivery of actions proposed by internal investigation recommendations.

We carried out an internal Formal Investigation into this accident which was published in January 2021. Many of the issues identified by the RAIB were addressed in the LU Formal Investigation Report (FIR) and in actions taken by LU

after the accident. The Office of Rail and Road (ORR) monitors the completion of the RAIB recommendations by TfL.

We wrote to the ORR in November 2021 setting out the action taken, and action planned, in relation to all the recommendations in the RAIB report. This includes installing new One Person Operation (OPO) cameras which are closer to the platform edge, providing clearer views of the train doors and platforms for the Train Operator. We will continue to update the ORR regularly to ensure it is satisfied that we are addressing the recommendations in the RAIB report.

An inquest into this incident has been listed to take place before a jury between 19 and 28 September 2022. We are assisting the Coroner.

TfL FIR: Monument Signalling Near Miss (19 March 2021)

The final Formal Investigation Report (FIR) has now been published, relating to the integration of a new signalling system alongside an existing legacy system, which led to the potential in certain very limited circumstances to increase the risk of a collision between Monument and Cannon Street if a signal had been passed at danger. Although the risk was quickly mitigated, the investigation examined a range of issues at the design, test and assurance stages. Recommendations range from the clarity of roles and responsibilities, to the technical design assurance required of such systems when being integrated during their introduction to the LU network. There has also been consideration of the possible impact of timescales and workload.

TfL FIR: Hammersmith Service Control Centre: UPS Failure (22 December 2020)

The final Formal Investigation Report has been published for an incident at Hammersmith where a complete power distribution failure affected all facilities at the Control Centre and caused major disruption to services on the Metropolitan, Hammersmith & City, Circle, District and Piccadilly lines. The five recommendations made in the FIR are aimed at addressing a broad range of topics: highlighting human factors, design processes, standards and supply-chain performance as contributory causes.

Significant incidents on the Surface transport network

London Overground Collision with Buffer Stop (12 October 2021)

On 12 October 2021 a London Overground train hit the buffer stops at Enfield Town at slow speed causing damage to the infrastructure and the first carriage of the train to partially derail.

The driver of the train was treated for shock and one passenger for minor injuries, neither of which required hospital treatment. Arriva Rail operates the London Overground services. The RAIB and the Office of Rail and Road (ORR) were notified

by Arriva Rail of the incident, and we worked closely with Arriva Rail and Network Rail (who is responsible for the track infrastructure) throughout the investigation, whilst having an ongoing dialogue with the ORR.

An investigation was completed by Arriva Rail on 22 December 2021 with a review panel consisting of all key stakeholders (including TfL and Network Rail) agreeing nine recommendations for action to be taken to prevent similar incidents occurring again. The RAIB has begun an investigation into this incident.

Sandilands Tram Derailment (9 November 2016)

Our thoughts remain with those who lost their lives, their family and friends, and all the other people affected by this incident, and we continue to offer support to those people directly affected as well as the wider community.

As reported previously, we received a Prevention of Future Deaths report from the Senior Coroner in respect of current tram stock and the risk of passengers falling through tram doors. We provided our response on 16 November 2021 in which we confirmed that we have been working with Alstom (formally Bombardier) to commission a fresh engineering study to look at whether it is possible to strengthen the existing door mechanisms on the CR4000 fleet. Alstom presented their report to us at the end of January 2022 for review, and we are working together to consider the next steps.

Since the conclusion of the Inquests, five of the families of those who lost their lives have written to the Attorney General to request that she considers using powers under section 13 of the Coroner's Act 1988 to apply to the High Court for an order seeking fresh Inquests. The Senior Coroner provided submissions to the Attorney General and we are awaiting the outcome of the request.

Engagement with regulators

This section looks at how we have engaged with our regulators on safety issues over the past Quarter.

Engagement with the Environment Agency

We report our progress on environmental issues to the Environment Agency. Polychlorinated biphenyls (PCBs) are substances that are toxic to humans and animals. There is legislation in England and Wales, as well as an international agreement, which bans their use. Some of the thousands of different types of electrical capacitor used in signalling, power, fleet and tunnel telephone systems on LU predate this legislation and therefore sometimes contain PCBs. LU's programmes for identification, replacement and removal of components that may contain PCBs continued in Quarter 3.

Engagement with London Fire Brigade

We meet the London Fire Brigade (LFB) every month to share progress of our Fire Safety Programme and to discuss any significant fire incidents in the previous months. As well as a joined-up response to incidents on our network, the LFB carry out a number of detailed inspection visits to review our approach to fire safety. These collaborative discussions have allowed us to share the detail of our fire risk assessment programme and training with the LFB, as well as sharing detail on how we manage and maintain our fire assets with the LFB inspectors. It has also allowed us to identify areas where we can work more closely together to ensure that we manage the risk of fire on our network.

In Quarter 3, we remembered the devastating King's Cross fire, which happened on the evening of 18 November 1987, tragically killing 31 people and injuring 100. Since both the King's Cross fire and the Grenfell Tower disaster in 2017, we have worked closely with the LFB, which has increased its levels of intervention on buildings – including ours – and we have worked on all its recommendations.

Engagement with the Office of Rail and Road

We continue to work closely with the ORR to ensure we manage health and safety effectively across our railway networks. We have regular discussions around our ongoing response to the coronavirus pandemic, as well as constructive open and honest discussions about any incidents on our network and our plans for improving how we manage safety and health on our railways. We continue to work closely with them to identify opportunities for improving how we manage health and safety. During Quarter 3, we had a number of constructive discussions with the ORR on how we manage issues such as long-term capital investment and asset management, our SHE Management System, fire safety and customer and workforce safety.

Health

COVID-19

Since the start of the coronavirus pandemic, our focus has been to protect the safety and health of our customers and workforce.

Deaths in service

Our sincere condolences remain with the families and loved ones of the 105 members of our workforce who have sadly passed away from COVID-19 as of 27 January 2022. Everyone at TfL pays tribute to the vital role they played in our fight against the pandemic.

The safety of all our staff and customers continues to be our top priority, and we are absolutely committed to doing everything in our power to keep everyone safe on our network.

Through articles on the intranet, we publicised the change in self-isolation rules to our workforce, as well as encouraging people to get their COVID-19 booster dose.

Face coverings on public transport

We welcomed the Government's decision to reintroduce national regulations making it a legal requirement to wear face coverings on public transport and other public places from 30 November 2021. Since the original national regulations ended on 19 July 2021, we continued to mandate face coverings under our Conditions of Carriage although our ability to enforce was limited as we could not prevent people who were not wearing a face covering from travelling on our network. The change to government regulations from 30 November 2021 meant that our enforcement teams, as well as our police partners, could once again issue Fixed Penalty Notices of £200 (first offence) or prosecute those who refuse to comply.

Between 30 November 2021 and 6 January 2022, our enforcement officers intervened with over 43,000 customers who were not wearing a face covering, prevented 2,195 people from travelling, directed 906 people to leave our services and reported 1,575 people for a Fixed Penalty Notice.

As part of the plan B COVID restrictions ending in England, the Government announced that it would no longer be compulsory for people to wear a mask on public transport and in shops from 27 January 2022. We have retained the requirement for face coverings under our Conditions of Carriage, which means customers will continue to be required to wear a mask when using our network.

COVID-19 testing schemes

We continue to offer employees our rapid COVID-19 testing services at our Palestra head office building. By mid-December 2021 we had carried out more than 7,700 tests, with the number of people testing positive averaging less than 0.6 per cent.

We have also taken action to ensure our staff have access to lateral flow tests. On 1 November 2021, we introduced a new 'mobile test assistants' initiative to enable the team to reach as many of our workforce as possible. The team are visiting depots, stations across all modes and remote offices with COVID-19 home testing kits, encouraging our staff to test regularly to help us ensure workforce safety.

We have also introduced a service to offer staff the ability to order a test kit for delivery to their work location or home, with more than 6,500 home test kits issued so far.

Together with Westminster City Council, we are continuing to offer Pfizer vaccinations to our staff through a series of pop-up clinics. Since 28 July 2021, six clinics have taken place at Victoria and Baker Street London Underground stations and our Palestra head office building. Those who attend can receive either a first or second dose of the vaccine.

Imperial College London sampling

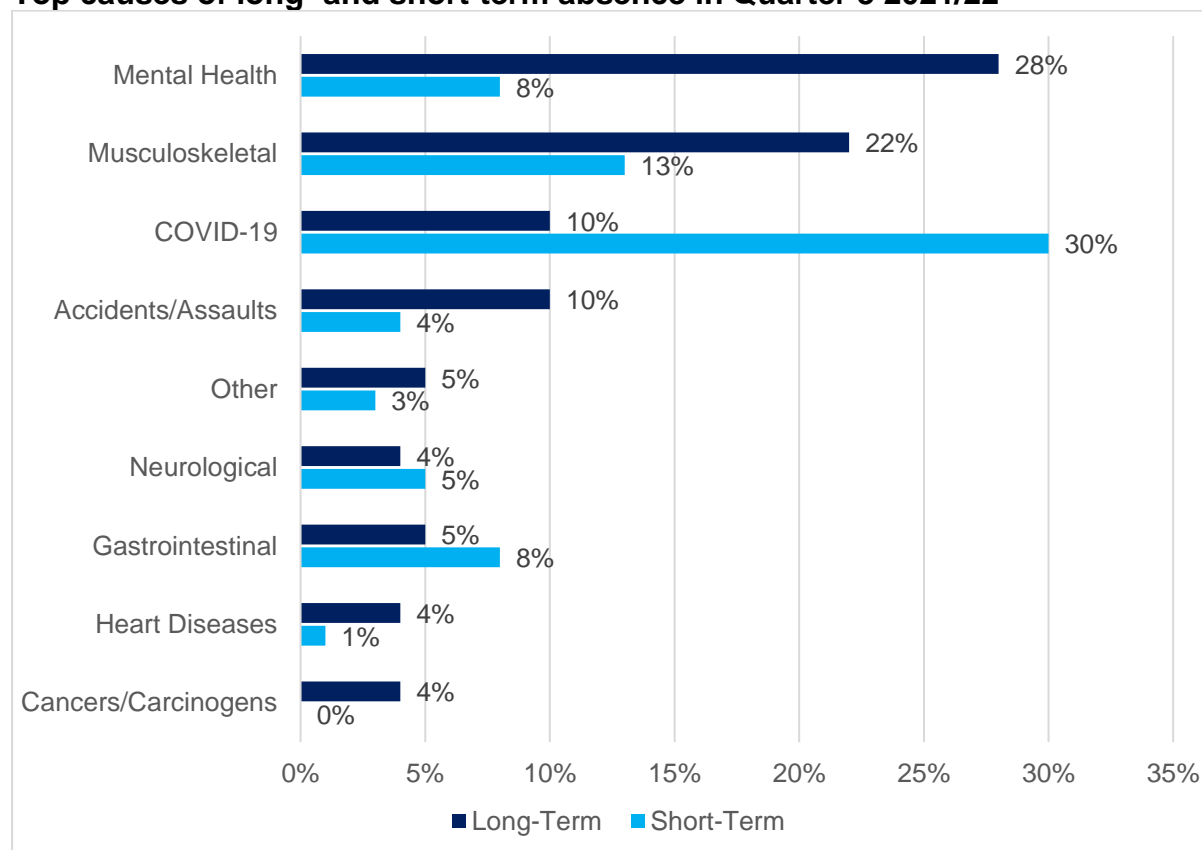
Air and surface sampling of customer areas by Imperial College London continues, with no trace of coronavirus found on the public transport network. This remains the case after the most recent testing was carried out in December 2021. Our Occupational Health team continues to liaise with academic institutions to ensure our approach to safety remains at the cutting edge.

Sickness absence data

When looking at our sickness absence data, short-term absence is any absence of less than 28 days and long-term absence is of 28 days or more duration.

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

Top causes of long- and short-term absence in Quarter 3 2021/22



In Quarter 3 of 2021/22, mental health remained the top cause of long-term absence, accounting for 28 per cent of all long-term absences. Musculoskeletal-related absence was again the second highest cause at 22 per cent. These two categories typically account for the majority of long-term sickness absence in the UK. Our Occupational Health team has several initiatives aimed at prevention of ill health but also to support those who become unwell, to return to work earlier.

In Quarter 3 of 2021/22, coronavirus remained the top cause of short-term absence at 30 per cent, a significant decrease from the previous Quarter (43 per cent). As with pre-pandemic, we are now seeing an increase in coughs and colds, with these making up 19 per cent of short-term absence, as would normally be expected for this time of year. All other absence types are holding fairly stable and are now close to the pre-pandemic rates.

Looking ahead, at the beginning of Quarter 4, the Government implemented plan B measures to curb the spread of the Omicron variant of COVID-19, which included the guidance to work from home where possible. Although the work from home instruction ended on 19 January 2022, this may still reduce the impact of COVID-19 on short-term absences.

Health updates

Health and Wellbeing Index

Our Occupational Health team are working closely with the Rail Safety and Standards Board (RSSB) to support the development of a cross industry health dashboard and a health and wellbeing index (HWI). This will allow benchmarking of health data across the transport sector. This is important as we know our employees are more likely to experience work-related ill health than work-related injuries. Reporting on safety has led to year-on-year improvements and cross-industry reporting on health should lead to similar improvements.

Well@TfL

Well@TfL Acton Pilot Project:

The first phase of the Acton pilot project has concluded, with over 100 staff taking up the offer to attend a 30-minute mini-health check. Staff could book themselves in for an appointment on a day or night shift, which gave them an overview of their health and wellbeing. These mainly looked at metabolic risk factors, such as cholesterol profile, blood glucose, body composition, blood pressure and QRISK3, which is the risk of a cardiac event in the next 10 years.

Each individual received a record card to keep track of their results and advice during the health check, as well as the option of a bespoke health report support their health goals. We will then be offering everyone that attended a three-month follow-up phone consultation to offer further support them and finally a six-month follow-up appointment to remeasure all their results. The response from the pilot project has been positive.

The team are currently reviewing the pilot project data. This data will help drive bespoke wellbeing initiatives to support our workforce's wellbeing, as well as to explore ways to move the project forward in the coming year.

Well@TfL Mobile Health Checks:

Since the Well@TfL project first launched in September 2021, 370 members of staff have received bespoke wellbeing support onsite and of those, 67 have received GP referrals based on their health metrics, which is a referral rate of 18.1 per cent. The mobile health checks are fully booked until the end of April 2022.

Research into operational staff's health and wellbeing needs

We have been awarded a grant from the Employer Health Innovation Fund to invest in staff health and wellbeing. We are currently working with the Design Council to understand and overcome the barriers operational staff have in engaging with technological health and wellbeing tools. The Fund will be used to implement solutions based on the research findings and recommendations.

RESET Health

Our Occupational Health & Wellbeing team has partnered with RESET Health to provide 50 staff members access to an individualised programme to provide support for those living with pre-diabetes, type 2 diabetes, or obesity. RESET Health is a 12-month programme, divided into 12-week cycles. It combines the concept of time-restricted eating, intermittent fasting and low carbohydrate diet regimes to support individuals to reset their metabolism. It provides 24/7 coaching and support by a multidisciplinary team of doctors, nurses, nutritionists, and mentors to help those taking part adapt to a healthier way of living. This is initially a pilot, and data will help us better understand the demands for this type of service.

Mini Health Checks for New Ways of Working Roadshows

To support the New Ways of Working initiative, on the 1, 9 and 14 December the Occupational Health (OH) Physiologist visited our three head office buildings at Palestra, Endeavour Square and Pier Walk to offer mini 'health checks'. A total of 36 staff signed up for the 15-minute health checks which included cholesterol, blood glucose and blood pressure checks, as well as height, weight, Body Mass Index, waist circumference measurements. The feedback was excellent.

World Aids Day

Our Occupational Health & Wellbeing team, in conjunction with the Outbound Staff Network Group, promoted World Aids day (1 December 2021) by sharing a candid anonymous blog from a member of staff on their experience of HIV/AIDS. A new [SharePoint page](#) was also launched to provide information on the support available within the organisation to those living with HIV and to those managing a colleague with HIV/AIDS.

Bus Driver Fatigue and Health and Wellbeing Challenge

The combined Fatigue, Health and Wellbeing Innovation Challenge was launched in late spring 2021 and over 50 companies responded with solutions. The challenge will enable us to trial a number of measures across eight London bus operators that will help to reduce fatigue and improve health and wellbeing of bus drivers. There was a total of ten successful bids, with eight London bus operators benefitting which includes three bids from partnerships between operators.

The projects will provide TfL and bus operators with:

- Independent evaluation of leading market innovations and how they can help the London bus industry.
- Evidence of whether specific measures can help to reduce bus driver fatigue and/or improve bus driver health and wellbeing.
- Guidance on how to roll out the measures where suitable, and any risks, issues, and opportunities in deployment.
- Tangible benefits and results for the drivers included in the trials.

The process for the Fatigue, Health and Wellbeing Innovation Challenge has been paused due to funding uncertainty. We continue to work with bus operators and suppliers of the successful bids to ensure robust project management of the bids and programme management of the whole Innovation Challenge is ready once funding is released.

Bus Driver Health Kiosks

We will support bus drivers through the provision of self-service health assessment kiosks or comparable health assessment across all ten bus operating companies. The rollout of these health assessments to bus drivers began during winter 2021/22. We will collect aggregated data to define and inform further activities for the Bus Driver Health and Wellbeing Programme.

Employer Health Innovation Fund

The Impact on Urban Health and Design Council have offered us a grant to deliver health and wellbeing assessments of bus drivers. The Fund will be used to identify user insights and opportunities for bus operator companies to meet the health and wellbeing needs of drivers and provide recommendations to improve or enhance existing standardised health assessment offers and initiatives. The study began in September 2021 and as part of this, interviews with individual drivers and bus operator staff across four companies have been conducted. The Employer Health Innovation Fund is funded by Impact on Urban Health and delivered by Design Council.

We will continue working with the Design Councils and Bus Operators to deliver health assessments to operators that currently do not use them. This will involve

utilising insight gathered from the research exercise for their implementation and management. A broader piece of work will concurrently begin on researching the broader non-clinical services to establish a working definition for 'assessments' and 'wellbeing checks'.

Environment

COP26

In November 2021, the UK hosted the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow. The COP26 summit brought parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. It is essential that governments deliver on the Paris Agreement with robust and tangible plans and COPs are critical focal points for that on-going effort.

We supported Mayoral participation in COP26 through briefings and by taking part in several events, meetings and roundtables related to the discussions. We also undertook a range of internal and external comms activity related to the event, including a [promotional video](#) conveying the importance of London's transport and how we can play a leading role in helping the UK address the climate emergency. Additionally, we put in place management plans to support travel to and from the conference via London's rail terminals and our new all electric double decker buses designed for London were launched at the event and used to transport VIPs to the venues.

Ultra Low Emission Zone Expansion

On 25 October 2021, the Ultra Low Emission Zone (ULEZ) expanded to cover the area within the North and South Circular Roads. The newly expanded ULEZ is 18 times the size of the original central London zone, which the Mayor introduced in April 2019, and now covers almost four million people. It will bring the health benefits of cleaner air to millions more Londoners, both inside and outside the zone. The scheme operates 24 hours a day, every day of the year except Christmas Day (when there is no public transport). The ULEZ requires motorcycles, cars, vans and minibuses to meet strict emission standards or pay a daily £12.50 charge to travel in the zone. Heavy goods vehicles, buses and coaches must meet the same emission standards across Greater London under the Low Emission Zone.

In the first month of operation of the expanded zone, the compliance rate (percentage of vehicles detected in the zone that meet the strict emissions standards) was 92 per cent, more than doubling the 39 per cent compliance levels in 2017, when plans for ULEZ expansion were first announced.

On an average weekday, there were 47,000 fewer non-compliant vehicles detected in the expanded zone in the first month of operation, compared to the two weeks before the scheme was introduced. This is a 37 per cent reduction in non-compliant

vehicles. On an average weekday there were also 11,000 fewer vehicles driving each day in the zone. This is a one per cent reduction, although it will take more time for traffic patterns post launch to fully emerge. Initial monitoring suggests that total traffic on the boundary has also slightly decreased since the scheme expanded.

To support the transition to cleaner vehicles the Mayor invested £61 million in scrappage schemes to help low income and disabled Londoners as well as charities and small businesses to prepare for the ULEZ. Between them the scrappage schemes have so far helped remove over 14,800 older, more polluting vehicles from London's roads.

Adaptation Reporting Power

At the end of December 2021, we provided our third Adaptation Reporting Power submission to the Department for the Environment, Food and Rural Affairs (Defra). This preliminary report sets out our main climate risk governance, strategy and approach to risk management. The final report will be submitted later this year and will include a high-level asset climate risk assessment.

Sustainable Drainage at Elspeth Road raingarden



In November 2021, a raingarden capturing 500m² of surface water run-off was installed on the TLRN at Elspeth Road in Wandsworth, as part of our commitment to installing Sustainable Drainage Systems (SuDS) on London's road network. Water enters the SuDS from the footway via a perimeter kerb with drainage slots, and from the carriageway via three gullies connected to a perforated pipe in the foundation of

the SuDS. In addition to improving the visual amenity of the area, the raingarden planting will also help support local biodiversity. The raingarden installation is part of our scheme to improve safety for all road users at the junction of Lavender Hill and Elspeth Road.

TfL Sustainable Development Framework

Launched on 22 November 2021, the [TfL Sustainable Development Framework](#) (SDF) Handbook is our Property Development's approach to delivering social impact, driving economic development, and embodying environmental stewardship in all our projects. It sits alongside our [Design Principles](#) along with the following internal documents: the Community Engagement Handbook, Heritage Best Practice Note and Design Review Protocol to reinforce the quality and excellence of our work.

Covering the three pillars of sustainability (social, environmental and economic), the nine dimensions of the SDF form a holistic tool to measure and seek the continual improvement to the sustainability of current and future projects. Detailed guidance on the 97 Key Performance Indicators (KPIs) was shared on 3 December 2021 for external feedback in preparation for an open source Spring 2022 launch. It is currently on TfL's website and we also sent it directly to our development partners, industry peers, environmental organisations and the local authorities whose jurisdictions we are currently working in.

SDF and the London Recovery Programme

All nine dimensions support the missions of the London Recovery Programme. Three Health and Wellbeing KPIs measure air quality improvement and are supported by Climate and Ecological Resilience KPIs promoting green infrastructure. Additionally, Neighbourhood Investment KPIs focus on active travel, Electric Vehicle charging and reduced car use.

Local Prosperity KPIs set targets for apprenticeships, local jobs and work placements along with support for creative and cultural industries, local business, Small- and Medium-sized Enterprises, Social Enterprises and Start Ups.

Vibrant Places KPIs encourage design teams to score projects on Child and Age Friendly Design. There is specific emphasis on engagement with Seldom Heard Groups - including young people - in the design of play space which is designed for teenagers of all genders.

KPIs setting targets for healthy streets, active travel improvements and child friendly design recognise the disproportionate road danger and injuries that London's deprived communities and some ethnic groups can suffer. Neighbourhood Investment KPIs promoting community initiatives grants and community volunteering along with Social Cohesion KPIs promoting active public space support strong communities.

An 'Excellent' CEEQUAL award for the Northern Line Extension

The Northern Line Extension (NLE) project has been awarded 'Excellent' for Civil Engineering Environmental Quality Assessment & Award Scheme (CEEQUAL). This award was achieved by the hard work and commitment of the TfL and Ferrovial Laing O'Rourke teams, with the support from the many suppliers and sub-contractors involved.

CEEQUAL is a sustainability assessment awarded by the Building Research Establishment (BRE). The tool is used on Civil Engineering and Infrastructure projects to assess, improve and verify sustainability performance. Sustainability is at the heart of the Mayor of London's Transport and Environmental Strategies and the CEEQUAL assessment scheme ensures that we are delivering projects that align with this.

The NLE was a major project that involved the construction of two new Underground stations, two ventilation shafts and two 3.2km-long tunnels extending the existing Northern line to Battersea. The CEEQUAL framework was used to drive sustainable design and construction, and resulted in the following:

- Transporting more than 845,000 tonnes of excavated material by barge, from Battersea to Goshems Farm, where it was used to restore a Victorian landfill to useful arable land. This meant 46,965 wagons were taken off the streets and resulted in over 2,000 tonnes of CO₂ savings.
- Measures to reduce the energy consumption of the tunnel boring machine, such as reducing the thickness of tunnel linings and reducing the length of launch tunnels.
- Maximising offsite manufacturing of components such as concrete platforms, columns, beams, stairs, where possible, which helped minimise excess waste associated with in-situ concreting.
- Reducing packaging where possible, with reusable stillages and only high-quality pallets permitted, which were then collected for reuse.
- Selling the temporary infrastructure to other construction projects such as the Thames Tideway project.
- Offering surplus materials to local charities or returning them to the suppliers.
- Using local and recycled materials, and less than one per cent of waste going to landfill.
- Using another construction project's excavated material to fill voids around the new Battersea Power Station structure.

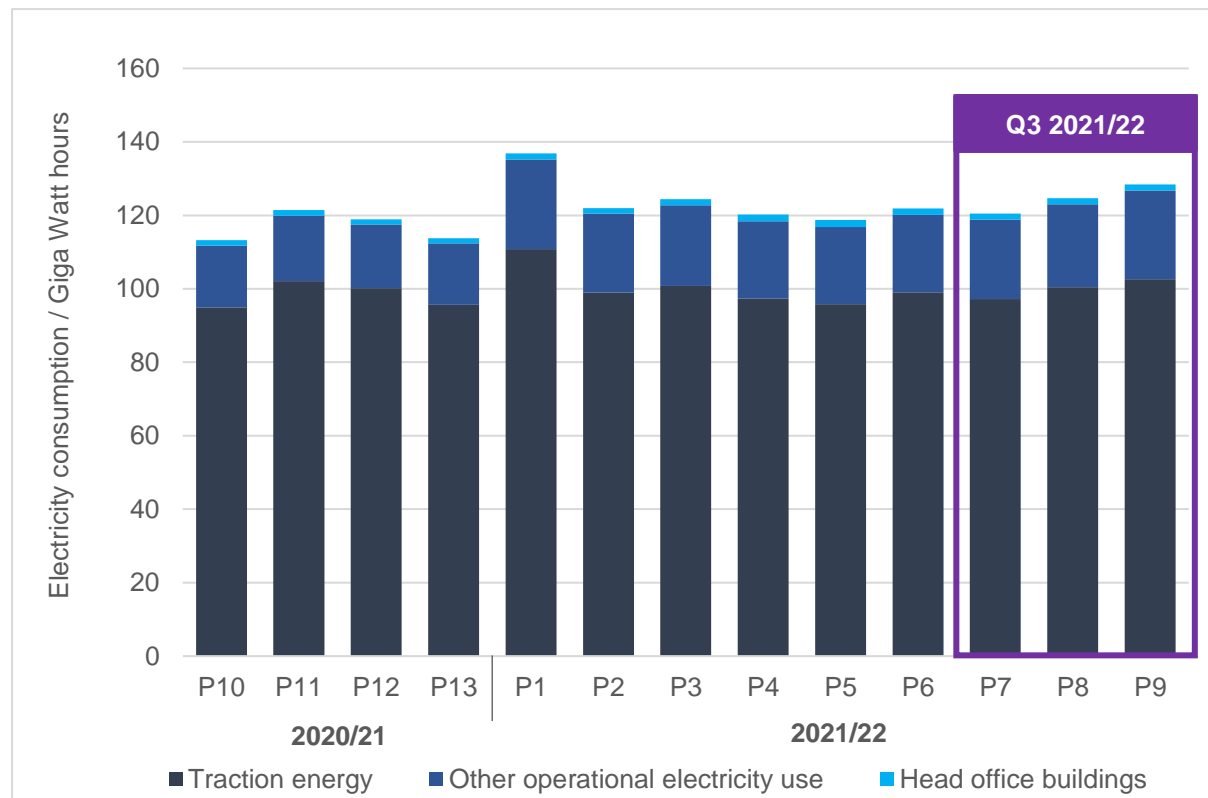
Energy consumption and carbon emissions from our operations

The coming years are crucial in our fight to prevent devastating climate change. The UK must make significant reductions in its carbon emissions if it is to meet its legally

binding goal of reaching net-zero carbon by 2050. The Mayor has set an ambitious goal of London becoming carbon neutral by 2030.

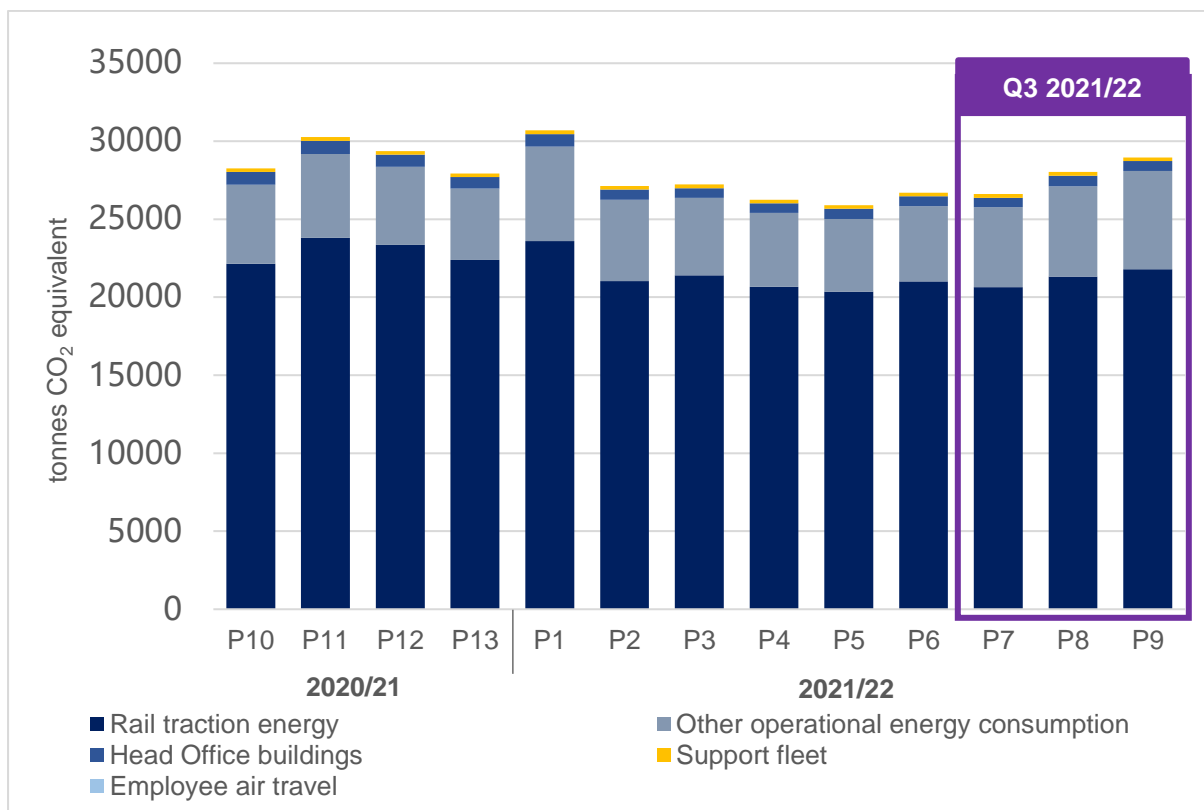
Transport is responsible for more than a quarter of London's carbon emissions, and this share is increasing as other sectors decarbonise. We play a vital role in providing low carbon public transport to Londoners and in promoting walking and cycling. However, we must also lead by example and reduce carbon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

Electricity consumption - provisional (giga watt hours)



Electricity consumption in Quarter 3 saw a return to near pre-pandemic levels, being within one per cent of Quarter 3 2019/20, but a 5 per cent increase on last year, which is attributable to reduced service levels at that time.

CO₂ emissions, excluding buses (tonnes)



Carbon dioxide emissions from operations, excluding buses, track closely to electricity consumption. Despite overall electricity consumption increasing by five per cent compared to the Quarter 3 2020/21, carbon emissions reduced by four per cent as a result of grid decarbonisation.

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Safety, Sustainability and Human Resources Panel



Date: 24 February 2022

Item: Safety, Health and Environment Assurance Report

This paper will be considered in public

1 Summary

- 1.1 The purpose of this report is to give the Panel an overview of the effectiveness of the risk controls for Enterprise Risk 1 – Major safety, health or environmental incident or crisis (ER1) based on second line of defence audit work by the Integrated Assurance team.
- 1.2 The appendices provide a list of audits undertaken in the last quarter as part of the second line of defence. Audits against Enterprise Risks 12 – Asset Condition unable to support TfL outcomes (ER12) have been included as they correlate to ER1. Audit reports issued are given a conclusion of 'well controlled, adequately controlled, requires improvement or poorly controlled'. Individual findings within audit reports are rated as high, medium or low priority.
- 1.3 Performance data is provided on progress against the audit plan, audit ratings, rating trends by Enterprise Risk and business unit and progress against actions.

2 Recommendation

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

3 Annual Integrated Assurance Audit Plan

- 2.1 The annual Integrated Assurance audit plan contains a series of second line of defence audits that address ER1 and ER12. Audits against both risks have been included as there is a correlation between risks ER1 and ER12.
- 2.2 The audit plan is developed in consultation with the Safety, Health and Environment (SHE), Operational and Engineering Directorates and Security teams to identify where assurance is required or where there are performance or compliance concerns. Each of the audits is sponsored by the relevant risk or management system owner, to whom assurance will be provided. The SHE section of the audit plan includes audits of SHE management system compliance within a defined team or audits that assess a specific procedure within the SHE management system.

3 Work of Note this Quarter

- 3.1 It has been agreed that in Quarter 4 of 2021/22 (Q4) the Integrated Assurance team will change its name to 'Quality, Safety and Security Assurance'. Feedback from stakeholders was that 'Integrated Assurance' was not self-explanatory and not understood across the business, the team therefore did not identify with and take ownership of the team name. 'Quality, Safety and Security Assurance' provides a more accurate description of the work the team does, the subjects addressed and the key stakeholders we work with. The name change does not alter the work the team does, the methodology or the standards to which they work.
- 3.2 Risk and Assurance has revised one of the team roles to have greater focus on data analytics, using the output from the new audit database and complementary software such as 'Power BI'. This work will provide more sophisticated graphical displays of performance trends and analysis as requested at the meeting of the Panel in December 2021. The initial work is looking at audit conclusion by department, strategic risk and audit findings with analysis of trends over time.
- 3.3 Ten topic audits and nine Integrated Systems audits were completed in Quarter 3 of 2021/22 (Q3): of the 10 topic audits one audit was concluded as 'poorly controlled':
- (a) 21 735 – Surface Transport Electrical Inspections: We were requested to undertake this audit by the team responsible for electrical testing to test the robustness of their inspection and monitoring arrangements. Compliance with the requirements of British Standard 7671 (Requirements for Electrical Installations) could not be fully demonstrated. There was a gap across the asset areas in data collection, information, recording, storage and document management of reports/certificates.
- 3.4 Four audits were concluded as requires improvement:
- (a) 21 741 – Management of Dockland Light Railway (DLR) Rolling Stock Assets and Configuration: There was one high priority finding relating to the absence of a configuration management process for fleet assets and their associated systems. Medium priority findings included no records for a six monthly 'first in first out' stock rotation and incomplete paperwork. These controls are required to ensure that assets are fit for purpose and remain compatible with other assets and systems following changes in design.
 - (b) 21 744 – London Underground (LU) Service Control Training and Competence: The findings related to an absence of risk-based training needs analysis and there were gaps in the assurance of assessor competence and assurance activities. There were no issues directly concerning control room employee competence.

- (c) 21 748 – LU Track Drainage Management: Evidence was available to show that inspection and maintenance of assets was being undertaken and recorded, although not all parts of the standard were complied with. Data gaps were identified within the track drainage asset area, these gaps were known to the business and an action plan was already in place to address these.
- (d) 21 763 – LU Rolling Stock Competence Management. Elements of Competence Management System reference document R0623 and the associated London Underground Skills Development management documents had not been fully implemented.

All 'poorly controlled' and 'requires improvement' audits have agreed actions that are in progress and being tracked by the team. See Appendix 1 for the full detail of audits completed in Q3.

- 3.5 The Integrated Assurance team undertook a consultancy assignment for the Compliance, Policing, Operations and Security (CPOS) Directorate to provide assurance in relation to the Local Security Action plans (LSAPs) to determine if the preventative security measures designed by CPOS had been effectively implemented across TfL. The report considered the roll out of the LSAPs and provided quantitative and qualitative analysis of the results of interviews undertaken as part of the LSAP process and interviews conducted in the fieldwork for the report. The report concluded that the roll out had been successful and there were agreed logical next steps to further mature the TfL security culture. Consultancy reports are not given a conclusion as they are not compliance orientated. A briefing on the report and next steps for action were presented and agreed at the TfL Executive Security Group.
- 3.6 Integrated Systems audits assess compliance against a range of key requirements of the TfL management systems including SHE, competence, security, finance and operational rules. These audits are not given an overall conclusion given the range of subjects, risks and findings covered. These audits were developed with subject matter experts from SHE, Security, Finance and Revenue and LU Customer Operations teams and audit Station, Train and Service Control teams. They are also undertaken on LU Asset Performance and Capital Delivery maintenance teams (e.g. track, rolling stock depots and signals teams). Feedback on Integrated Systems audits is provided quarterly to LU Senior Management.
- 3.7 In Q3, nine integrated systems were delivered providing assurance of key management system requirements addressing local SHE, security, assets, competence and finance controls. The full list of Integrated Systems audits conducted in Q3 is provided in Appendix 1.

4 Cancelled and Deferred Work

- 4.1 Audits are only cancelled or deferred at the request of, or in agreement with the audit sponsor or risk owner with the decision rationale recorded in the audit database. In Q3 nine audits were cancelled and two deferred. For transparency these are summarised below.

Title	Reference	Comment
LU Operations Integrated Systems Audits – five in total	711, 712, 713, 721 722 (C)	Cancelled due to Covid-19 restrictions in place at the time of the audits preventing site visits.
LU Earth Structures Inspector Competence	21 750 (D)	Deferred to enable the Inspectors to complete the required training in Q4.
Transfer of Dial-a-Ride, Victoria Coach Station and Woolwich Ferry Premises to Surface Transport (ST) Asset Operations	21 756 (D)	Deferred to Quarter 1 of 2022/23 due to other audits of the same team planned at the same time.
LU Handover of track asset data from projects to maintenance teams	21 757 (C)	Cancelled as no longer required following the co-location of the two teams into one Directorate.
Approval of project technical specifications by Rolling Stock Engineering	21 768 (C)	Cancelled following a change in Engineering Professional Head and no longer consider a priority.
TfL Asbestos Management	21 770 (C)	Cancelled to allow implementation of a new hazardous materials standard due in March 2022. To be audited as part of the 2022/23 programme.
Handover of ST Highways assets and asset data	21 775 (C)	Cancelled as the scope of audit 21 747 was expanded to provide assurance of this subject.

5 Performance and Trends

- 5.1 At the end of Q3 progress through the Integrated Assurance audit plan stood at 50 per cent (see Appendix 2). Whilst this is still behind schedule, there has been significant progress in Q3 compared with the end of Quarter 2 when progress stood at 25 per cent. The combination of successful recruitment and a back loaded audit plan is delivering the required improvement in performance for Q3 and Q4.
- 5.2 Across the last six periods there has been a steady trend of 64 per cent of actions closed on time. Seventeen per cent of actions were granted an extension (in compliance with our procedure), this is a decreasing trend. The combination of these two trends means there has been an increase in the number of overdue actions. There are currently 53 overdue actions out of a total of 85. It is noted that the actions from five audits make up a significant proportion of the total number of overdue actions (36 out of 53). Actionees receive routine reminders from the audit team and overdue actions are escalated to the applicable management teams.

6 Improving SHE Assurance Tools and Processes

- 6.1 Progress in digitising SHE assurance continues in Q3, with the SHE Directorate starting the procurement process for a digital assurance solution. This solution will enable local management teams to confirm compliance with the SHE management system easily and systematically, highlighting areas for improvement. This self-assurance capability ('first line assurance') will give senior officers in TfL greater visibility of how well the SHE management system is being implemented in their areas of accountability. It will also provide a valuable leading indicator (an indicator of potential SHE risk before it manifests as harm) that can inform decision making. The timeline for completion of the procurement process is early Quarter 1 of 2022/23.
- 6.2 In Q3 the SHE Assurance Forum completed its work to establish a document that outlines roles and responsibilities for TfL assurance on SHE risks. This is part of an effort by forum members to establish a collaborative, co-ordinated approach to providing SHE assurance. The RACI document will serve as a communication tool for inclusion within the revised SHE management system.
- 6.3 Following the SHE assurance RACI work, the audit planning for 2022/23 has commenced with the SHE Assurance team co-ordinating and undertaking the initial intelligence gathering. This is the first time the audit planning has been undertaken in this way and is an important step towards SHE providing the data and intelligence driven centralised focal point for SHE assurance.
- 6.4 The review of SHE assurance procedures in the SHE management system progressed in Q3. An initial exercise to identify all SHE assurance related processes and procedures in the organisation was completed in Q3. In Q4 SHE will begin the review of requirements outlined in the identified material as part of a 'start, stop, continue (with/without amendments)' exercise. The aim is to complete that exercise by end of Quarter 1 of 2022/23.

List of appendices:

Appendix 1 – Integrated Assurance Audits Completed in Q3 against ER1 and ER12

Appendix 2 – Integrated Assurance Audit Data

List of Background Papers:

None

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Appendix 1 – Integrated Assurance Audits Completed in Q3 against ER1 and ER12

Enterprise Risk	Directorate	Ref.	Audit Title	Objective	Conclusion	Priority Rating			Summary of Findings
						H	M	L	
ER01 Major health, safety or environmental incident or crisis	Surface Transport	21 735	ST Electrical Inspections	To assess whether inspection of electrical assets is in accordance with external requirements and guidance	PC	3	4	0	Compliance with the BS7671 requirements could not be fully demonstrated. There is a gap across the asset areas in data collection, information, recording, storage, and document management of reports/certificates. This could result in poor asset condition impacting on the safety and operability of the network.
ER12 Asset condition unable to support TfL outcomes	London Underground	21 748	LU Track Drainage Management	To examine compliance with the LU standard on track drainage management (S1502)	RI	1	4	2	Evidence was available to show that inspection and maintenance of known assets are being undertaken and recorded, although not all parts of the standard were complied with. Data gaps were identified within the track drainage asset area, but it was noted that these are known to the business and an action plan is already in place to address these.
ER01 Major health, safety or environmental incident or crisis	Surface Transport	21 741	Management of DLR Rolling Stock Assets and Configuration	To seek assurance that DLR Rolling Stock spares stores, are managed by Keolis Amey Docklands in accordance with the requirements in Beckton Stores Manual, using DLR METRO (MAXIMO) management system	RI	2	3	1	There is a high priority finding relating to the absence of a configuration management process for fleet assets and their associated systems. Medium priority findings included no records for a 6-monthly First-In-First Out stock rotation, and incomplete paperwork.
ER01 Major health, safety or environmental incident or crisis	London Underground	21 763	LU Rolling Stock Competence Management	To seek assurance that rolling stock maintainers are demonstrably competent through the application of a robust competent management system	RI	0	7	5	Elements of Ro623 Competence Management System and associated London Underground Skills Development management documents had not been fully implemented.

Enterprise Risk	Directorate	Ref.	Audit Title	Objective	Conclusion	Priority Rating			Summary of Findings
						H	M	L	
ER01 Major health, safety or environmental incident or crisis	London Underground	21 744	LU Service Control Training and Competence	To assess compliance with training and competence requirements	RI	1	2	1	Requires Improvement - There are no Risk Based Training Needs Analysis documents in place for safety-critical service control staff, and there is a significant gap in the assurance of assessor competence. These are significant control gaps which could impact on the competency of service control staff. Medium priority issues were identified with management assurance activities and competence development plans.
ER12 Asset condition unable to support TfL outcomes	London Underground	21 743	LU Vegetation Management	To verify that the actions from the previous poorly controlled audits have been implemented	AC	0	1	0	This follow up audit identified an overall improvement on inspection reporting and the management of vegetation work orders.
ER01 Major health, safety or environmental incident or crisis	Surface Transport	21 746	Trams Infrastructure SHE Compliance	To assess compliance with HSE legislation and Trams SHE management system procedures	AC	0	4	1	Although several issues have been identified, the core risk management requirements of this audit have been satisfied. It is acknowledged that past/current COVID-19 and staffing issues have made compliance in some lower priority areas more challenging.
ER12 Asset condition unable to support TfL outcomes	London Underground	21 745	Fleet Heavy Overhaul Team process and procedures	To provide assurance that the fleet heavy overhaul has suitable and sufficient process and procedures to ensure asset quality	AC	0	0	1	Adequately Controlled – Engineering Changes of Fleet Heavy Overhaul assets were defined in management systems and records well maintained.
ER01 Major health, safety or environmental incident or crisis	Finance	21 771	Commercial Development Skills Centre SHE Compliance	To seek assurance that the Skills Centres are SHE compliant	WC	0	0	0	The roles and responsibilities of the various partners involved in supporting this construction skills initiative were clearly defined and compliant with SHE requirements.

Integrated Systems Audits

Enterprise Risk	Directorate	Ref.	Audit Title	Objective	Conclusion	Priority Rating			Summary of Findings
						H	M	L	
ER01 Major health, safety or environmental incident or crisis	London Underground	21 704	Russell Square Area Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	1	0	0	Conformance rate 72% - Significant issues related to DSE, lone working, system checks programme, planned general inspections (PGIs), asset checks, Fire Risk Assessment actions, evacuation drills, fire call point tests, control of keys, security checks, digital CCTV checks, night worker questionnaires, communications of rule book changes.
ER01 Major health, safety or environmental incident or crisis	London Underground	21 705	Marylebone Area Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	1	0	0	Conformance rate 90% - Significant issues related to lone working, secure room checks, COVID-19 Assurance Checks, evacuation training and cleaners' key control.
ER01 Major health, safety or environmental incident or crisis	London Underground	21 707	Blackfriars Area Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	1	0	0	Conformance Rate 65% - Issues related to risk assessments for medically restricted staff, lone working controls, systems check programme, PGI checklists, asset checks, platform edge camera checks, lift and escalator checks, COVID-19 Assurance Checks, Station Information Files, Track Layout Diagram Checks, DNA Swab Kits availability, station familiarisation, fire call point regimes, security checks, competence assurance, night worker health questionnaires.
ER01 Major health, safety or environmental incident or crisis	London Underground	21 726	LU Stonebridge Park Depot Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	1	0	0	Conformance rate 75% - Significant issues related to chemicals, manual handling, vibration, PGIs, COVID-19 Checks, Night Worker Questionnaires, Fire Risk Assessments, Fire Drills, Pollution Prevention toolbox talks.

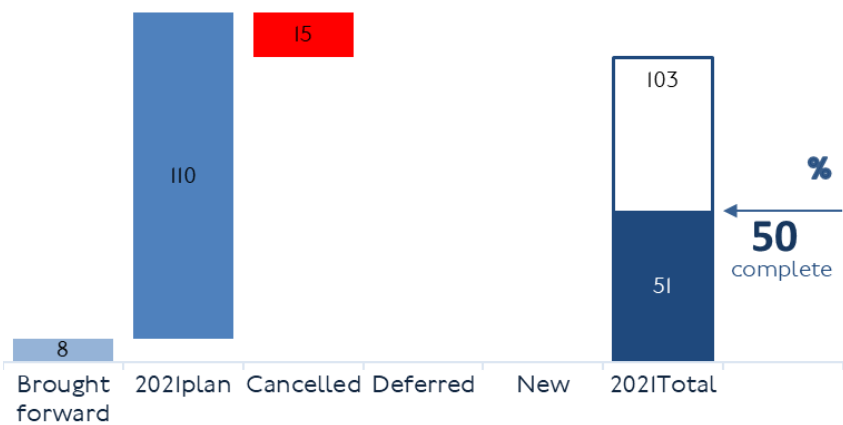
Enterprise Risk	Directorate	Ref.	Audit Title	Objective	Conclusion	Priority Rating			Summary of Findings
						H	M	L	
ERo1 Major health, safety or environmental incident or crisis	London Underground	21 719	Jubilee Service Control Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	0	1	0	Conformance Rate 68% - Issues related to Display Screen Equipment (DSE), medical restrictions risk assessments, PGI checklists, fire risk assessments actions and drills, emergency equipment checks and checks of the back up control room, night worker health questionnaires, communication of rule book changes, authorisation of shift plans in advance and quarterly financial systems checks.
ERo1 Major health, safety or environmental incident or crisis	London Underground	21 720	Stratford Traincrew Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	0	0	1	Conformance rate 76% - Significant issues related to DSE, medical restrictions risk assessments, first aid boxes, traffic controller diagrams, Train Managers expired competence development plans, monitoring of periodic medicals, maintenance of notices cases and quarterly financial system checks.
ERo1 Major health, safety or environmental incident or crisis	London Underground	21 708	Westminster Area Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	0	0	1	Conformance rate 73% - Significant issues related to overdue risk assessments, medical restriction risk assessments, lone working arrangements, PGI checklists, lift communications tests, station information files, checking of track layout diagrams, tenants familiarisation, digital CCTV logs, expired competence development plans, night worker health questionnaires.

Enterprise Risk	Directorate	Ref.	Audit Title	Objective	Conclusion	Priority Rating			Summary of Findings
						H	M	L	
ERo1 Major health, safety or environmental incident or crisis	London Underground	21 709	Vauxhall Area Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	0	0	1	Conformance rate 74% - Significant issues related to expired workplace risk assessments, DSE, medical restrictions risk assessments, lone working arrangements, checks on secure rooms, lift comms tests, out of date Station Information files, station familiarisation, digital CCTV data logs, providing an assurance of competence, night worker health questionnaires, communication of rule book changes, ticketing and revenue controlled stationery.
ERo1 Major health, safety or environmental incident or crisis	London Underground	21 727	LU Track District Integrated Systems Audit	To provide assurance that key requirements contained in the management system are being met	Not Rated	1	0	0	Conformance rate 58% - Significant issues related to medical restrictions risk assessments, PGI action tracking, COVID-19 assurance checks, approved driver training. There were a number of on site issues related to the competence file not being up to date, worksite briefings, checking of competencies and checks of vehicles. The Patrol Route Plans and prompt lists had not been reviewed annually and there was no process for the briefing of the plans to patrollers to be recorded.

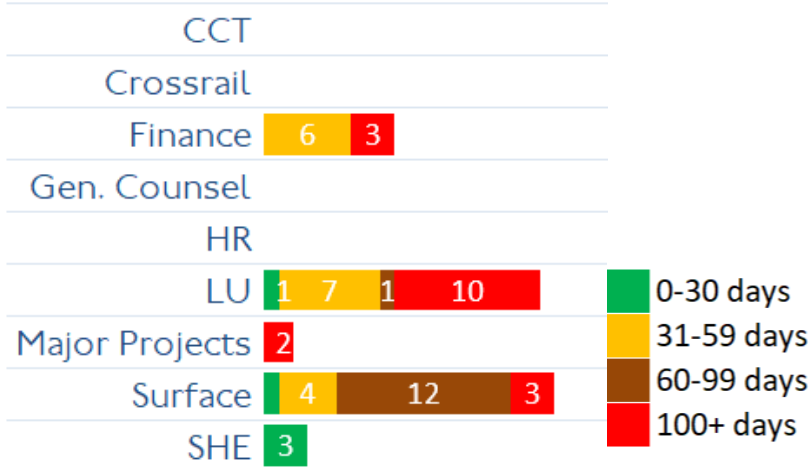
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Appendix 2 – Integrated Assurance Audit Data

Audit progress against the 2021/22 plan in Q3



Overdue

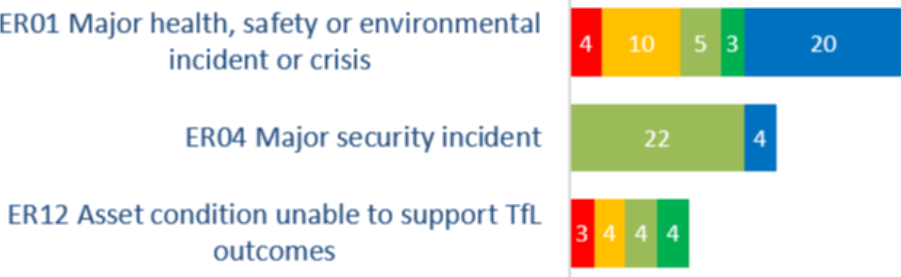


Audit ratings by Directorate - last 4 Quarters

	PC	RI	AC	WC	M/C
CCT			10		3
Finance	2		2	1	
LU	3	10	7	4	20
MPD				1	
Pan TfL			1		1
Surface	3	4	10	1	
Total	9.6%	16.9%	36.1%	8.4%	28.9%

- PC Poorly Controlled
- RI Requires Improvement
- AC Adequately Controlled
- WC Well Controlled
- M/C Memo/Consultancy

Audit Conclusion by Enterprise Risk - last 4 quarters



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Date: 24 February 2022

Item: Pan-TfL Fatigue Management Programme

This paper will be considered in public

1 Purpose

- 1.1 This paper presents an overview of the progress and next steps for the pan-TfL Fatigue Management Programme. It sets out the progress to date in identifying and managing fatigue risks for TfL employees. It also sets out the approach we are taking to delivering the TfL Vision and Values Colleague Roadmap commitment to have a pan-TfL Fatigue Management Plan in place in 2023/24.

2 Recommendation

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

3 Summary and Background

Fatigue Risk

- 3.1 Fatigue is a known risk across transport operations, resulting in slower reaction times, reduced ability to process information and a greater chance of memory lapses. It may also result in decreased spatial awareness, a lack of attention and contribute to an underestimation of risk as well as precipitating microsleeps. Fatigue has the potential to be a contributory factor in incident and near miss data across TfL operations. Moreover, fatigue may have a significant effect on individual health and wellbeing.
- 3.2 The risks outlined above could be realised by any TfL employee regardless of role or function. As such, fatigue is one of pan-TfL Safety Health and Environment (SHE) risks, requiring a holistic view and management as part of a risk-based approach to incident prevention.
- 3.3 Fatigue risk has been exacerbated by COVID-19 and its impact. In December 2021, the rail industry's Passenger Operators Safety Group found that some industry directors have been working 90-hour weeks.
- 3.4 Not only are the direct impacts of COVID-19 related fatigue likely to increase risk but managing and working in the context of the pandemic is likely to have an indirect negative impact on the health and wellbeing of individuals at all levels. We have been taking active steps in TfL throughout this period to manage the risk of fatigue and to promote wellbeing at work.

Pan-TfL Fatigue Management Programme

- 3.5 In October 2020, the TfL Executive Committee endorsed the approach of a pan-TfL Fatigue Management Programme, with the following objectives:
- (a) **Increase awareness of fatigue issues** and establish and maintain a holistic, coordinated approach to fatigue management across TfL, aligned with existing systems and processes;
 - (b) **Identify fatigue risk across TfL and priority areas for improvement** and ensure appropriate accountabilities are established across business areas;
 - (c) **Improve overall management of fatigue and wellbeing across TfL** via development and delivery of robust Fatigue Risk Management Systems/Plans, and tools and guidance to support their delivery;
 - (d) **Develop awareness of and embed an open, fair and just culture** around the discussion and management of fatigue, health and wellbeing across TfL aligned to wider SHE Culture programme(s); and
 - (e) **Encourage adoption and development of evidence based best practice** in managing fatigue and wellbeing across all parts of TfL through the trial, development, evaluation and sharing and learning from best practices across TfL and wider industry(ies).
- 3.6 The programme is delivered through three workstreams, structured to provide TfL businesses with the tools needed to identify and manage the risk of fatigue among employees and continually improve.
- (a) **Workstream 1:** Increasing understanding, awareness & effective management of fatigue risk, through risk and sleep health screening.
 - (b) **Workstream 2:** Developing and implementing effective, evidence-based tools and guidance to support risk management and plans.
 - (c) **Workstream 3:** Widening the adoption of good practice across the organisation.
- 3.7 The Programme structure reflects a unified approach to better understanding and managing fatigue. The pan-TfL programme acts to provide central direction and the overall framework. It brings all our fatigue related knowledge, tools, guidance and other activities together, maximising benefit pan-TfL while allowing individual business areas to tailor approaches to specific operational model.
- 3.8 In 2021 we published our organisational Vision and Values, detailing our ambition to have a Fatigue Management Plan in place pan-TfL in 2023/24. This commitment relates to our employees within the business areas we operate directly.
- 3.9 The fatigue programme workstreams work in a logical and cyclical way. The approach to understand and assess fatigue risk, plan and implement effective evidence-based actions has been developed, tried and tested across 11 different TfL departments covering London Underground, Surface Transport, Major

Projects Directorate, General Counsel and Professional Services (see Appendix 1 for breakdown). We are now able to progress the next phases:

- (a) Expanding our screening of business areas to ensure we have good coverage and understanding of risk and executive level visibility;
- (b) Embed fatigue improvement actions and activity within business area SHE Improvement Plans and associated documents such as people plans; and
- (c) Consolidate the work into a Fatigue Management Plan pan-TfL, covering direct employees.

4 Progress to date

- 4.1 Our Fatigue Management approach operates in accordance with the widely recognised 'Plan, Do, Check, Act' principles set out in ISO Management System Standards. Figure 1 illustrates the programme in action.

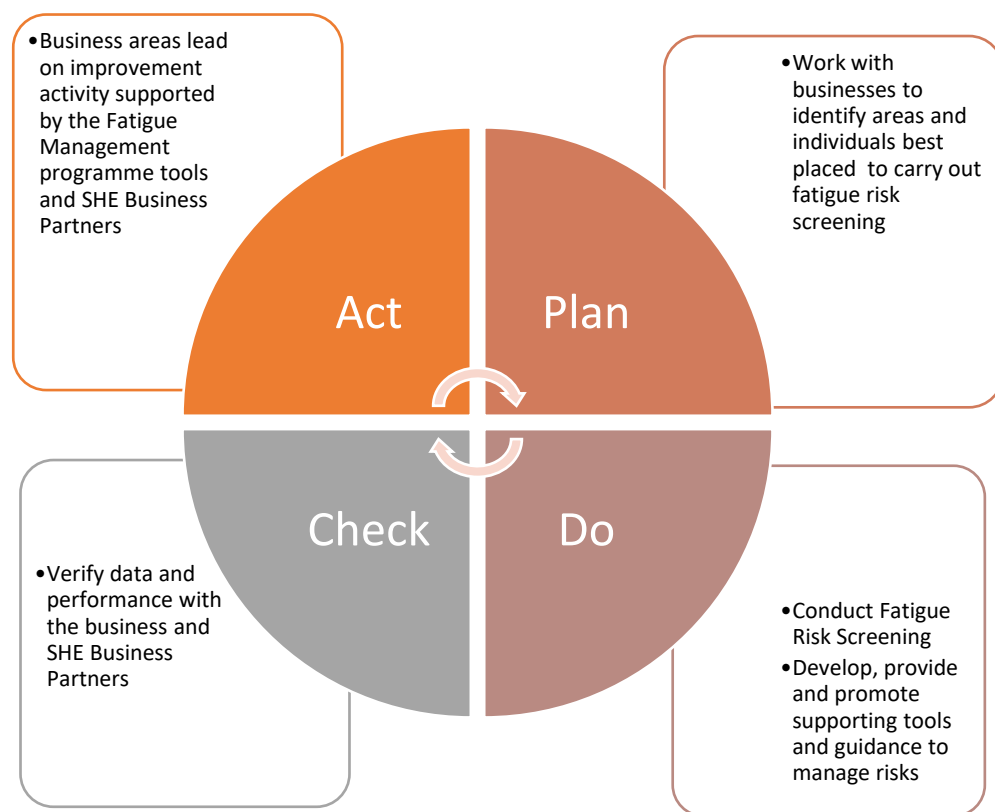


Figure 1: 'Plan Do Check Act' Principles applied to TfL Fatigue Programme

- 4.2 Lessons continue to be learned and improvements identified through following this approach, enabling continuous review and improvement. Whilst there is much more to do, significant progress has been made under each of the workstreams since October 2020 and is detailed under each of the workstreams.

Workstream 1: Increasing understanding, awareness, and effective management of fatigue risk

- 4.3 We have developed a digital Fatigue Risk Screening Questionnaire that can be used by all TfL business areas. Each area is different in terms of its operation and function. Fatigue risk screening underpins the efforts of the whole programme through understanding what the key fatigue risks are in any given business area. The questionnaire uses objective criteria to identify aspects of specific area operations that may contribute to increased risk of fatigue among the workforce, enabling understanding and targeted mitigating actions to be taken.
- 4.4 Eleven business areas covering approximately 2,000 staff have been risk screened and provided with recommendations for further fatigue management. Business areas were included from across London Underground, Surface Transport, Major Projects Directorate, General Counsel and Professional Services.
- 4.5 In some areas, such as rail, the regulations distinguish between either 'Safety Critical' (e.g. Train Operators) or 'Non-Safety Critical' (e.g. office-based staff). Our risk screening applies to all our direct employees, but results broken down by these categories to support assessment of risk, consequences and priorities as these differ depending on the individual roles of staff.
- 4.6 Objective risk screening is accompanied by provision of a Sleep Tool Self-Assessment Survey. This tool enables colleagues to gain insight into how to improve their sleep and screen for impairing sleep disorders, including insomnia, Obstructive Sleep Apnoea (OSA) and Restless Leg Syndrome (RLS). The Sleep Tool Assessment has been recently modified to better understand the impact of fatigue concerns from COVID-19 and/or working from home.
- 4.7 Upon completion of fatigue risk screening and informed by anonymised results from the Sleep Tool Assessment, business areas work with SHE colleagues to review results and identify appropriate mitigating activities, using the tools, guidance and controls developed within Workstream 2. Examples include fatigue awareness training, fatigue reporting forms, roster reviews and on-call and shift swap policies.
- 4.8 We are now concentrating on scaling up the delivery so that fatigue risk management screening process and action planning can be rolled out pan-TfL.

Workstream 2: Development of effective, evidence-based fatigue management tools, controls, and guidance

- 4.9 Tools, controls, and guidance for managing fatigue have been identified through TfL risk screening, employee engagement and review of industry good practice.
- 4.10 A good understanding of fatigue issues is needed to support an open culture and enable meaningful action to be taken. We are developing a new and refreshed suite of bespoke fatigue awareness content and training aimed at all TfL employees, including managers, senior managers and content for Trade Unions, friends and family. The first new course provides the foundational awareness applicable to all our staff. This is planned to be launched in Spring 2022 to

coincide with setting of staff objectives and annual improvement planning and tracking.

- 4.11 Supporting information has been brought together and made available to all staff in one place via the pan-TfL Fatigue Management internal SharePoint site. As well as links to training, the site includes TfL and wider industry resources covering sleep and general health, scheduling, shift work, driver fatigue tool kits, process for reporting and managing fatigue at work and links to information on innovative trials or opportunities to participate in research initiatives.
- 4.12 As business areas act or develop tools to meet needs of specific roles in their areas and respond to departmental risk screening results, they are added to the dedicated fatigue site. Examples includes Fatigue Reporting Forms and processes and on-call policies. This approach enables greater transparency of the issues, collaboration, sharing of good practice and lessons learned.
- 4.13 Specific support is provided to individuals who complete the Sleep Assessment Tool by our Occupational Health and Wellbeing department and Employee Assistance Programmes.
- 4.14 The programme is actively encouraging, supporting, and understanding forward thinking research technology trials and innovation. This is a vital part of ensuring we are aware of emerging best practice and further opportunities to introduce fatigue mitigation measures. We take part in and review trials of innovative fatigue, health or wellbeing related research and equipment.
- 4.14 In May 2019, Loughborough University and the Swedish Road Safety Institute published a report into bus driver fatigue. This research was commissioned by TfL to understand fatigue risk among bus drivers. This project sought to understand the extent and nature of fatigue, the contributing factors, and what solutions could be implemented. The research provided recommendations for potential solutions and areas for further focus.
- 4.16 We have since developed Fatigue Awareness Training for Bus Operators; this has been rolled out to around 1,800 individuals across all ten bus operators. This training is to upskill first line managers/supervisors to enable them to have open and honest discussions around fatigue with their staff.
- 4.17 Subject to funding, we intend to fit around 450 buses with fatigue detection technology across all ten bus operators this calendar year. The aim being to assist bus operators developing practices and a more supportive culture in which bus drivers would feel confident in reporting when they are not fit to drive. Should the funding be released, the trial will operate for up to 18 months with a full evaluation undertaken and results shared when available.
- 4.18 Each bus operator has developed a Fatigue Risk Management System (FRMS) and Plan, following good practice, adapted for bus operations. The plans detail how each operator will manage fatigue, using tools including training, roster assessment, best practice in investigation and innovative technologies.
- 4.19 We continue to participate in development of fatigue research and innovation. Working with Surrey University and bus operators, we are conducting research into how biomathematical models can be used to predict the likelihood of an

individual feeling fatigued during their time at work. The aim of this research is to inform improvements of rostering practices used by bus operators.

- 4.20 London Trams Maintenance is also active in progressing innovation and are procuring a trial of a Dynamic Risk Assessment Tool. This will allow managers to assess the actual impacts of working hours on individual's fatigue risk levels.
- 4.21 We are also participating in a research trial with Cambridge Brain Sciences to better understand the impact of different shift lengths on an individuals' cognitive performance. Three short cognitive assessments are undertaken at the beginning and end of their working day to assess changes in cognitive ability. Understanding these impacts will support identification of evidence and science-based mitigations and future evaluation of such measures.
- 4.22 The approach to the pan-TfL Fatigue Management Programme, enables information and learning from all activity to be shared across the business.
- 4.23 We have come a long way in terms of providing mitigations, but still have work to do in adapting fatigue tools, controls, and guidance so as to be suitable and applicable for our variable operations, and in identifying and embedding further good practice.

Workstream 3: Encouraging continued adoption of best practice engagement

- 4.24 The programme is supported by a communications strategy, using internal channels to continually engage colleagues and reinforce messages, leading to more open dialogue on the issue.
- 4.25 Individuals are coming forward with personal stories in raising awareness. A recent colleague blog on living with Fibromyalgia-related fatigue achieved 762 views. A further colleague blog will detail how completing the Sleep Tool Self-Assessment Survey led to his diagnosis of Obstructive Sleep Apnoea and the 'life changing' support he received as a result.

5 Developing a pan-TfL Fatigue Management Plan

- 5.1 Given the progress, tested approach and understanding from our learning, we are now able to expand the programme to meet our Vision and Values colleague roadmap milestone of delivering a Fatigue Management Plan pan-TfL in 2023/24.
- 5.2 The challenge is to develop an approach to Fatigue Management that applies to all of TfL at the same time as enabling specific adaptation and application for specific areas and their specific fatigue risks and needs
- 5.3 Some areas of TfL are subject to specific regulations or standards relating to fatigue management. The Health and Safety at Work etc Act 1974 applies to all of our employees. For some modes, such as rail and river, there may be specific regulatory requirements that apply to their operations. The Health and Safety Executive (HSE), Office of Rail and Road (ORR), Maritime and Coastguard Agency are responsible for enforcement, issuing guidance, standards and codes of practice.

- 5.4 Furthermore, beyond any minimum regulatory requirements, several guidance frameworks detailing good practice or in fatigue management exist, developed by industry bodies and organisations such as the HSE and ORR.
- 5.5 Our proposed approach aims to ensure that all our business areas know about and meet the desired minimum standard for fatigue risk management, while also identifying, enabling, and encouraging opportunities for continued progression and maturity in fatigue risk management.
- 5.6 The model is set out in Figure 2. Applicable regulations, codes of practice, standards and guidance relating to fatigue will be captured and provided in a central Fatigue Risk Management System Framework. Business areas will be able to review the system and requirements applicable to them to develop a tailored Fatigue Management Plan for their areas.

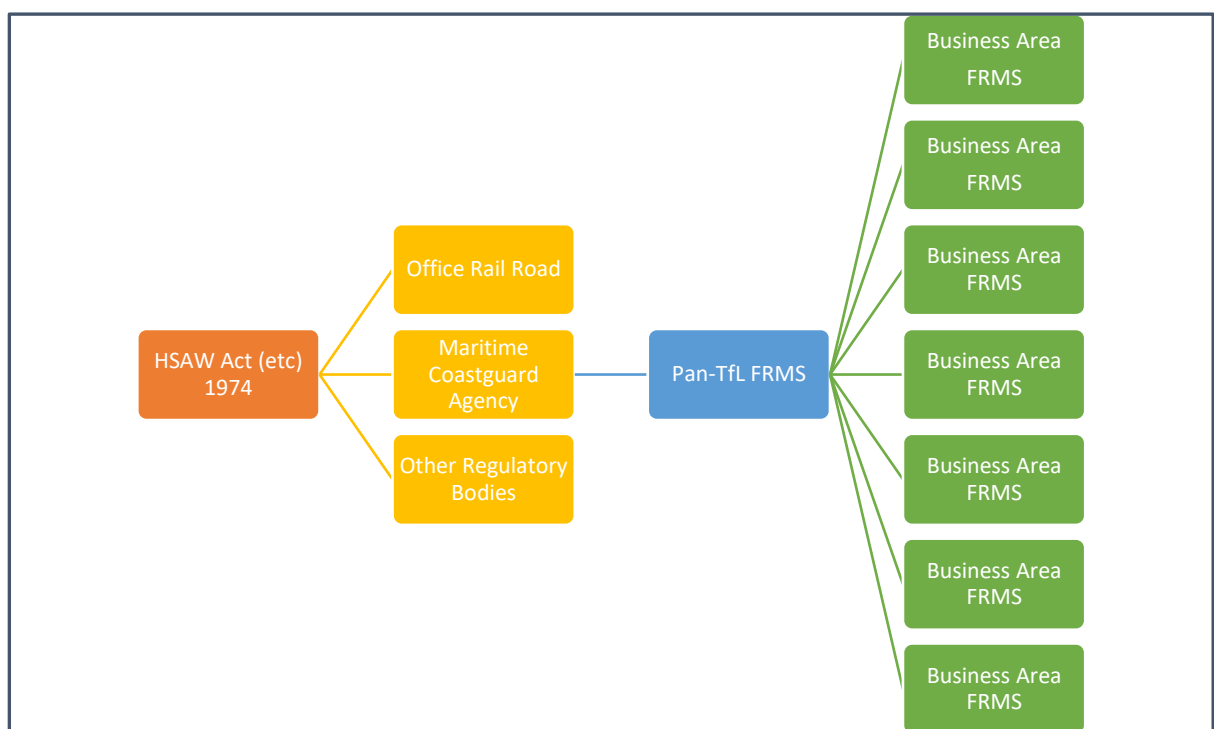


Figure 2: Proposed TfL Fatigue Risk Management System Framework

- 5.7 The Framework will identify ‘what good looks like’ and is proposed to include progressive requirements in terms of fatigue management including what:
- (a) **Must** be done (based on legal and regulatory requirements);
 - (b) **Should** be done (existing good practice, based on known standards, guidance); and
 - (c) **Could** be done (emerging best practice, trials and innovation).
- 5.8 At the very minimum, all business areas must meet the regulatory requirements for fatigue management. Setting out good practice ‘Shoulds’ and the options for

innovation 'Could's' provides a progressive framework with several benefits including:

- (a) enables measurement of fatigue management maturity in different areas;
- (b) sets out requirements in a way that supports and encourages progression and continual improvement;
- (c) acknowledgement of what has already been done or is in progress;
- (d) enables identification and recognition of more mature areas from which others may learn;
- (e) supports setting of objectives and targets; and
- (f) provides a framework against which progress can be monitored and the pan-TfL Fatigue Management Plan audited.

5.9 The aspirations of the 'shoulds' and 'coulds' can become the 'Business as Usual' 'musts' and 'minimums' see of the future.

5.10 The existing pan-TfL Fatigue Management Programme structure will support businesses in these endeavours. Requirements and guidance on how to demonstrate meeting requirements will be developed through continued engagement with business areas, governed by the Fatigue Management Steering Group.

5.11 The pan-TfL Fatigue Management Plan process will be embedded within our SHE Management System. This will also ensure that we are able to assure and audit business areas against the requirement in line with existing audit cycles.

6 Governance and Programme

6.1 The delivery of the pan-TfL Fatigue Management Plan is be overseen by the Fatigue Management Steering Group, made up of representatives from across business areas and supporting functions. We also liaise directly with Human Resources on culture and leadership. Our proposed approach to taking rolling he programme out across the organisation has been agreed by this group.

List of appendices to this report

Appendix 1: TfL Departments that have undertaken pilot on risk screening

List of Background papers

None

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Appendix 1: TfL Departments that have undertaken pilot on risk screening

- Bus Service Delivery
- Compliance, Policing, Operations and Security
- Docklands Light Railway
- London River Services
- London Trams
- London Underground (2 areas of Asset Performance and Capital Delivery)
- London Underground (1 area of Network Operations)
- Professional Services (Safety, Health and Environment Business Partners)
- Taxi, Private Hire
- Victoria Coach Station
- Four Lines Modernisation Programme (Testing and Commissioning)

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Safety, Sustainability and Human Resources Panel



Date: 24 February 2022

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 delivery of the Bus Safety Programme.

2 Recommendation

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

3 Background

- 3.1 The Mayor and TfL have 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 The number of people killed or seriously injured in or by a bus fell by 37 per cent to 132 people between 2019 and 2020, which is the lowest number on record. This is 78 per cent down on the 2005-09 baseline. This means that we met our 2022 target two years early. However, this achievement should be considered in light of the changes to travel patterns, fewer bus journeys and bus patronage as a result of the coronavirus pandemic restrictions. The injury risk rate for injuries arising from collisions involving buses has risen during 2021, so it is unlikely that this reduction in casualties will have been maintained in 2021, as London continues to recover from the effects of the pandemic. There is also some uncertainty about residual or permanent travel pattern and behaviour change as we go forwards, that may impact upon our continual improvement in bus safety and there is still more to do if we are going to reach our 2030 target.

- 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 in this paper.

4 Safe Speeds

Intelligent Speed Assistance (ISA)

- 4.1 Intelligent Speed Assistance (ISA) technology, which ensures compliance with speed limits, is a key part of the Bus Safety Standard (BSS). 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 under 1,900 ISA enabled buses out of a total fleet of 9,000 in London, including 634 new vehicles that also meet the 2019 BSS.

ISA Retrofit

- 4.2 The retrofit roll-out of ISA began in summer 2021, after delays due to the coronavirus pandemic. In total around 3,000 buses are in scope for the retrofit programme and to date around 500 have been retrofitted. However, owing to funding uncertainties the ISA retrofit programme currently only has funding for a further 700 buses, after which the programme will be paused. Once funding is released this programme can re-start but completion will be delayed reflecting the impact of funding uncertainty on the supply chain and the necessary pre-ordering of parts. The widely reported global issues of electronics component supply has also impacted on this workstream.

Speed Compliance Tool

- 4.3 As an interim solution to reducing London bus speeds while ISA is rolled out, a Speed Compliance Tool has been developed which monitors bus speeds across London. The Tool has been provided to all bus operators and is being used proactively to analyse the performance of their bus routes and as supporting evidence when concerns around speeding vehicles are raised.
- 4.4 The Speed Compliance Tool has received positive feedback from bus operators in relation to the accuracy of recorded speeding events. This means that bus operators can confidently use the Tool to proactively address speed compliance within their operations. We are currently further developing the Tool to enable more proactive analysis of trends and to identify hotspot locations on the network where buses are driving in excess of the speed limit, and provide that data to the relevant bus operator to take action.

Benefits Realisation

- 4.5 There is an increasing number of BSS compliant buses in the fleet, with over 600 buses that now meet the 2019 or 2021 BSS requirements. With this increasing number of BSS compliant buses, benefits realisation work is underway to understand the effectiveness of BSS measures in achieving the forecast safety benefits. For instance, whether the fitment of ISA has reduced speeding and the number of incidents where speed is a factor, and whether buses with Camera Monitoring Systems (CMS) in place of conventional wing mirrors are involved in fewer collisions with vehicles/objects to the side of the bus.

- 4.6 The benefits realisation work will include the development of a central database to track and review incidents with buses that meet the BSS requirements compared with buses without.

5 Safe Streets

Pedestrian behaviour and risk management

- 5.1 In 2019, TfL appointed Integrated Transport Planning Limited (ITP) to conduct research into pedestrian behaviour and risk management. Unfortunately, most deaths and serious injuries arising from collisions involving buses are caused to pedestrians. Therefore, looking at ways to reduce collisions with pedestrians is a priority for the Bus Safety Programme. The research aimed to help better understand pedestrian behaviour in relation to specific types of street infrastructure and the potential for light-touch engineering and technological solutions to help prompt people to reduce their exposure to road danger while walking in London. The final report was completed in March 2020.
- 5.2 A technical research group is being established to take forward the findings in the report. This group will further examine the report's findings for opportunities to improve processes and guidance and will aim to develop interventions to trial on street, including interventions to improve safety at contraflow bus lanes.
- 5.3 We are continuing to look for opportunities to enhance the knowledge base of infrastructure scheme development teams to prioritise bus safety considerations in early scheme development.

6 Safe Behaviour

Destination Zero 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 on the training course can experience a wide range of scenarios that drivers in London may encounter. The training covers hazard perception, hazard prediction, judgement, and driver wellbeing.
- 6.2 Training delivery has been severely impacted by the coronavirus pandemic with suspensions during all lockdowns and time taken to ensure COVID-safe delivery, including the procurement of surgical-grade cleaning equipment for the virtual reality headsets.
- 6.3 As of December 2021, 11,067 drivers had been trained. Of this number, 94 per cent of delegates have rated the course as good or excellent, with 98 per cent of drivers rating it as 'useful' or 'extremely useful' in their day-to-day role. In addition, 94 per cent would recommend Destination Zero to a colleague.
- 6.4 Three operators have completed the training. However, overall completion remains low due to driver availability, coronavirus restrictions and training regulations that have impacted the number of courses that operators have

capacity to deliver. We will investigate potential solutions with bus operators with the aim of increasing delegate numbers and ensuring we maximise the number of drivers completing the course this year.

- 6.5 We have commissioned an independent evaluation of the long-term impact of the training.

Fatigue Risk Management Systems

- 6.6 All ten operators have a Fatigue Risk Management System (FRMS) which follow good practice. These detail how each operator will manage fatigue, using tools including training, roster assessment, best practice in investigation and innovative technologies. These documents should be viewed as 'live' documents that evolve and are regularly reviewed in conjunction with TfL as we learn more about managing fatigue and introduce new measures to the fatigue management programme. The latest updates on the programme are below.

Fatigue Management Awareness Training for Managers

- 6.7 Fatigue Management Awareness Training for Bus Operators has been completed by around 1,800 managers and supervisors across all ten bus operators. This training aimed to upskill front line managers and supervisors to provide the information and tools managers need to promote an open culture and have open and honest discussions around fatigue with their staff.
- 6.8 Actions committed to by delegates at the end of the training were recorded and included in an evaluation of the training. Most actions were centred around communication and management including actions to support an open culture, being more observant, asking more questions, raising awareness and sharing information. The training evaluation found that most people felt that after completing the training their understanding of fatigue management had improved and that they felt more confident to investigate incidents that may be related to fatigue.
- 6.9 The Fatigue Working Group which includes representatives from bus operators are now developing a follow up plan to further strengthen training and communication of fatigue.

Fatigue Detection Technology

- 6.10 Subject to funding, TfL will be working with all ten bus operating companies, their drivers and local union representatives to fit around 450 buses with fatigue detection technology. This will support the bus operators in understanding the scale of the fatigue problem within their own operations, and to develop their company culture and processes further to successfully manage bus driver fatigue. Once fitted, there will be a 12-18 month period of data collection and analysis which will further inform the wider bus driver fatigue programme and any further roll out of fatigue detection technology. However the installation has been paused (at the time of writing) due to the current funding position.
- 6.11 This project is ready to commission independent consultancy support to assist bus operators in technology fitment, analyse the data collected for trends through

which recommendations can be actioned, gather technical and operational data on the range of currently available fatigue detection tools, and to build a business case for the potential future roll out of this technology onto London's bus fleet.

Fatigue Risk Assessment Tool

- 6.12 One of our commitments to address fatigue amongst bus drivers was to review available roster tools that purport to identify higher risk shift patterns and therefore make changes to drivers shift allocation. In July 2021, we commissioned the University of Surrey to undertake this work. The main aim of this research is to support TfL and bus operators in understanding the suitability, limitations and potential for using existing fatigue and/or risk assessment scheduling and rostering tools. It also provides an opportunity to develop improved guidance for the use of such tools within the bus industry and across other TfL operational areas.
- 6.13 The University of Surrey has engaged with bus operators to better understand their requirements for a Fatigue Risk Assessment Tool. It researched available tools across the industry in order to determine whether there was a solution readily available on the market, or one that could be adapted in order to have the potential to meet bus operator requirements. The University of Surrey is now carrying out validation checks using real world data from known fatigue incidents identified through fatigue detection technology installed on a small number of buses. This is due to be completed in February 2022 and the outcome will determine the next steps of this workstream.

7 Safe Vehicles

Bus Safety Standard

- 7.1 The BSS is being rolled out against the published Roadmap. Around 630 new buses meet the standard. The focus is on supporting the delivery of new buses that meet our standard and looking ahead at changes from 2024 onwards, either adding to the existing roadmap or stretching the roadmap to encompass 2027 and 2030. Any changes or additions to the roadmap will be evidence-based, take account of the projected benefits from the existing measures included, take account of regulatory changes, and will include issues arising among bus occupants resulting in slight injuries.
- 7.2 The roll out of these features is driven primarily by new buses. Our modelling has been based on a maintained fleet size of about 9,000 buses being renewed on an ongoing basis. Scenarios where the fleet size reduces will slow the numbers of new buses entering the fleet, which will delay the benefits of those features. Whilst retrofitting is possible (see paragraph 7.16), it is not always as effective as installation at new, and is typically more expensive.

Bus Safety Standard 2019

- 7.3 Since May 2019, new buses entering the fleet must meet the requirements of the Bus Safety Standard (2019). Safety measures include ISA technology to limit the buses speed to the posted speed limit, Acoustic Vehicle Alerting Systems (AVAS) for quiet-running buses only (around 500 buses to date) to alert vulnerable road

users to the bus, blind spot wing mirrors to improve visibility in known blind spots, and non-slip flooring of a higher resistance than is usually required to reflect the additional risk of being on a moving vehicle.

Bus Safety Standard 2021

- 7.4 Since last summer, new buses must also meet the requirements of the Bus Safety Standard 2021 roadmap (which are additional to those required in 2019). Safety measures include CMS replacing wing mirrors, improvements to the internal design of buses to reduce risk factors for passengers, changes to the braking system to prevent buses from rolling away without drivers in the cab, and 'brake toggling' to reassert good driver position and pedal awareness to reduce incidents of pedal confusion.

Bus Safety Standard 2024

- 7.5 From 2024, all new buses entering the London bus fleet must have additional safety features to those required under BSS 2019 and BSS 2021. The requirements for new buses in 2024 are: Advanced Emergency Braking (AEB); enhanced indirect vision/ the Bus Vision Standard; front and nearside vulnerable road user (VRU) detection systems; optimised geometry and energy absorption; (redesigning the front of the bus to reduce the severity of an impact); Level 2 occupant friendly interiors.
- 7.6 Work is currently underway to help bus manufacturers achieve these ambitious safety measures, including on AEB, front and nearside vulnerable road user detection systems and energy absorption of the front of the bus to mitigate the severity of injury should pedestrians or cyclists be in a collision with the bus. AEB is the most challenging safety measure to introduce on buses and TfL has dedicated resource to focus on getting it right.

BSS Development

Advanced Emergency Braking (AEB)

- 7.7 AEB is a driver assist system intended to help a driver avoid or mitigate the severity of collisions. The system works by initially warning the driver of a risk of collision and giving the driver the opportunity to respond. In the situation where the driver does not react, or the time to collision is too short, the brakes are then automatically applied to reduce speed. AEB is the single biggest bus vehicle technology contributor to achieving vision zero, with potential to prevent up to around 25 per cent of pedestrian fatalities from collisions involving buses. AEB is a requirement for new London buses entering the fleet in 2024 as part of the Bus Safety Standard.
- 7.8 Work is underway to ensure that AEB systems can be developed for London buses by 2024 that deliver the expected strong safety benefits. This work has included a Bus Braking Analysis Research project, engagement with the bus industry, development of options for TfL to help support delivery of AEB, cost benefit analysis and an updated Business Case. The current TfL funding position means that we have had to pause the next stages of research and development

of AEB, and unless funding is approved this month it is very likely that introduction of AEB will have to be delayed beyond 2024.

Vulnerable Road User (VRU) Detection Technology

- 7.9 TfL and its stakeholders seek to understand the benefits of VRU detection technology as a solution for use by London bus operators across the TfL bus fleet. An independent evaluation of a trial of VRU detection technology was commissioned by TfL in August 2021, with the aim of better understanding the technology limitations, and whether these systems act purely as a preventative measure or also act as a bus driver coaching tool. The results of the trial are expected later in 2022.

Bus Driver Collision Restraint Systems

- 7.10 Following the Orpington bus collision on October 2019 (in which a bus driver tragically died whilst driving his bus in a multiple vehicle accident), TfL has commissioned work to understand the evidence-base for introducing driver collision restraint systems, such as seat belts, to the BSS. This project will analyse collision data from the Metropolitan Police, and from our IRIS database, to understand and prioritise opportunities for the implementation of driver restraint systems relative to relevant bus collision scenarios.

BSS Compliance Monitoring

- 7.11 A programme of independent checks, Engineering Quality Management (EQM), are randomly undertaken on a proportion of buses in the London bus fleet throughout the year. When issues are found these are reported back to the bus operator and TfL for remedial action and oversight. Recently work has completed to extend this existing process to include the safety measures specified in the BSS into this rolling programme of compliance and assurance monitoring. These additional checks will be included in the EQM, subject to available funding.

AVAS

- 7.12 TfL developed an AVAS for its buses that goes above the requirements of UN Economic Commission for Europe Regulation 138, which requires AVAS on all new vehicles. This included developing a bespoke AVAS sound, the Urban Bus Sound, which is licensed for use outside London but is restricted to being used only on buses.
- 7.13 In the spirit of achieving Vision Zero, TfL's bus AVAS includes extra features to achieve maximum safety benefits, given a bus service is very different from other vehicles that the generic legislation included. TfL bus AVAS requires the use of the Urban Bus Sound to ensure all buses in London use the same consistent sound to assist identification of a vehicle being a bus, includes the sound being played when the bus is stationary (such as at a bus stop or waiting in traffic), and a directionality feature within the sound to assist vision-impaired people in locating and understanding how the bus is moving.
- 7.14 Despite significant delays due to coronavirus restrictions, TfL's bus AVAS has been further developed to create 'responsive AVAS'. Responsive AVAS enables

the volume of the Urban Bus Sound to change in response to ambient noise levels using pre-determined levels that are combined with the TfL Digital Speed Limit Map to allow geolocation of the bus. For example, the volume increases when travelling through busy areas and reduces when travelling through quiet residential areas. Bus route 100 and a small number of buses across three other bus routes have been upgraded to responsive AVAS for the trial. This work will be completed by March 2022 and next steps will be determined for the roll out of responsive AVAS on both new and retrofitted vehicles.

Pedal Confusion

- 7.15 Pedal confusion research continues to progress, and a draft report is being reviewed. Next steps will involve putting together a prioritised list of practical solutions and actions based upon recommendations from the report, which will be explored in conjunction with TfL Engineering to determine validity and complexion of implementation. An action plan will be developed and managed by a Pedal Confusion working group, which will launch once the report had been finalised.

Bus Safety Standard Retrofit Projects

- 7.16 The roll out of the BSS through new buses is limited to the bus renewal cycle. While the push for electrification of the bus fleet may escalate this renewal, there is more we can do to improve safety now and in the shorter-term. Retrofitting selected safety measures will bring quicker benefit realisation and means that it is possible to target safety measures more quickly to those buses or routes that need them.
- 7.17 In addition to ISA, there are three further safety measures that are being explored for potential retrofit programmes – AVAS, CMS and fatigue detection technology.
- 7.18 Currently, there are around 500 new buses with AVAS, but TfL has many electric, hydrogen and hybrid vehicles in the fleet that could also have the benefit of AVAS. Buses in London are expected to remain in the fleet for approximately 14 years meaning that, without action to retrofit AVAS to all pre-BSS 2019 buses, it could take to 2034 for buses without AVAS to be replaced. Feasibility work is currently underway to finalise the buses in scope to be retrofitted. This has included a Market Sounding Questionnaire (MSQ) to suppliers of AVAS systems to inform a procurement strategy and cost benefit analysis. This work will be completed in the spring but the project has now been paused due to funding uncertainty. Once funding is released the rollout of retrofitted AVAS could be expected from 2023.
- 7.19 CMS improve direct and indirect vision for the driver by reducing blind spots and improving hazard perception. All new buses entering our contracts from 2021 are required to have CMS. Some manufacturers are already able to offer this as an option to bus operators and currently around 540 new buses have CMS fitted. Outcome definition work has been completed but owing to pandemic-related financial pressures bus operators have not been able to commit their own funds to retrofitting CMS with match funding from TfL as originally envisioned. An alternative strategy is now being developed for the roll out of retrofitted CMS, however owing to funding uncertainties for the operators and TfL no retrofitting can be committed to at the present time.

- 7.20 Fatigue detection technology is the last opportunity for intervention before a fatigue-induced collision may occur. On its own it does not solve bus driver fatigue, but it forms a key part of TfL's and bus operator's fatigue management programme. Any further roll out of this technology will be informed by the 12-18-month cross-operator project referred to in Paragraph 6.10.

8 Driver Health and Wellbeing

- 8.1 The University College London research into bus driver Covid-19 deaths highlighted the need to be more proactive in understanding existing health conditions of bus drivers, supporting better health and identifying those most at risk. The findings were:
- (a) Many bus drivers were at increased risk of COVID-19 due to their older age profile, male sex, and higher proportion of employees of Black and Asian minority ethnicity, residence in more deprived areas and pre-existing health conditions such as hypertension, diabetes and cardiovascular disease.
 - (b) 31 per cent of drivers who took part in the study aged 20 to 44 are overweight.
 - (c) Drivers in the study were more likely to be obese at a younger age than the general population.
 - (d) There is some evidence of earlier onset of some pre-existing conditions.
- 8.2 A bus driver Health and Wellbeing Programme is being developed by the Health and Wellbeing Working Group, which includes representatives from London bus operators and TfL's Occupational Health team. The initial priority of the working group has been to establish a health assessment offering for bus drivers based on bus operator organisational requirements. The high-level data collected will be routinely evaluated through established methodologies to identify any trends and allow targeted interventions to be put in place.

Health Kiosks

- 8.3 TfL will support bus drivers through the provision of self-service health assessment kiosks or comparable health assessment across all ten bus operating companies. The rollout of these health assessments to bus drivers began during winter 2021/22. TfL will collect aggregated data to define and inform further activities for the Bus Driver Health and Wellbeing Programme.

Employer Health Innovation Fund

- 8.4 The Impact on Urban Health and Design Council have offered TfL a grant of £110,000 to deliver health and wellbeing assessments of bus drivers. The Fund will be used to identify user insights and opportunities for bus operators to meet the health and wellbeing needs of drivers and provide recommendations to improve or enhance existing standardised health assessment offers and initiatives. The study began in September 2021 and, as part of this, individual interviews with drivers and bus operator staff across four companies have been

conducted. The Employer Health Innovation Fund is funded by Impact on Urban Health and delivered by Design Council.

- 8.5 TfL will continue working with the Design Councils and bus operators to deliver health assessments to operators that currently don't use them. This will involve utilising insight gathered from the research exercise for their implementation and management. A broader piece of work will concurrently begin on researching the broader non-clinical services to establish a working definition for 'assessments' and 'wellbeing checks'.

Fatigue, Health and Wellbeing Innovation Challenge

- 8.6 The combined Fatigue, Health and Wellbeing Innovation Challenge was launched in late spring 2021 and over 50 companies responded with solutions. The challenge will enable us to trial a number of measures across London bus operators that will help to reduce fatigue and improve health and wellbeing of bus drivers. There was a total of ten successful bids with eight London bus operators benefitting which includes three bids from partnerships between operators.
- 8.7 The projects will provide TfL and bus operators with:
- (a) independent evaluation of leading market innovations and how they can help the London bus industry;
 - (b) evidence of whether specific measures can help to reduce bus driver fatigue and/or improve bus driver health and wellbeing;
 - (c) guidance on how to roll out the measures, where suitable, and any risks, issues, and opportunities in deployment; and
 - (d) tangible benefits and results for the drivers included in the trials.
- 8.8 The process for the Fatigue, Health and Wellbeing Innovation Challenge has been paused at the time of writing due to funding uncertainty. We continue to work with bus operators and suppliers of the successful bids to ensure robust project management of the bids and programme management of the whole Innovation Challenge is ready once funding is released.

9 Emerging Issues

Slips, Trips and Falls

- 9.1 Non-collision incidents are often defined as events where either the bus is stationary and bus passengers slip, trip or fall whilst boarding or alighting the bus, or when a bus is moving and bus passengers on board slip, trip or fall, often as a result of acceleration, braking or manoeuvres. Whilst slips, trips and falls are often, but not always, less severe in their consequences than collisions, there are a large number of non-collision events on public buses. TfL has been analysing the data on slips, trips and falls, taking a holistic and strategic view of what we know about slips, trips and falls, target improvements to prevent them and identify what more we could do.

9.2 The coronavirus pandemic has also had a more recent impact on the customer injury rate on buses, for which slips, trips and falls account for a large proportion. Potential contributory factors driving this increased risk include:

- (a) our customers' pandemic-related behaviours and attitudes around not holding onto bus fixtures and fittings such as handrails remain in place;
- (b) growing confidence amongst older customers to return to the bus network, who we know are more likely to be involved in fall events and are more vulnerable to serious injury;
- (c) re-opening of hospitality means more people travelling to restaurants, pubs and bars which are now open, we are likely to see more intoxicated customers on our network, compared to mostly essential travel purposes during the pandemic. It is noted however, that this may have a greater effect on other modes such as London Underground;
- (d) growth in people walking and cycling as a result of the coronavirus pandemic may be creating more interactions between buses and other road users, and therefore more incidents of harsh braking, where preventing injury to another road user may have a knock-on impact to customers travelling on the bus; and
- (e) car-led recovery and mode switch from public transport to car, means there are likely to be new drivers less used to driving in London. Some bus operators have suggested this could be leading to increased conflict between third-party drivers and buses.

9.3 Further analysis is still underway and existing and new measures are being identified to address the problem of slips, trips and falls. There are measures already included in the BSS which will help, such as:

- (a) higher grade of slip resistant flooring;
- (b) occupant-friendly interiors (BSS 2021 and 2024) requirements;
- (c) AVAS, which should reduce the need for sudden evasive action by bus drivers, such as harsh braking, to avoid collisions with other road users;
- (d) ISA, which will prevent bus speeding incidents and therefore reduce the impact of slips, trips and falls caused by harsh acceleration, braking or other manoeuvres at higher speed;
- (e) Direct and Indirect Vision requirements to improve bus drivers' awareness of surrounding to help them anticipate other road users' movements;
- (f) collision avoidance technology, which help to reinforce good driving behaviours, such as anticipating the conditions ahead and allowing sufficient space to brake smoothly; and
- (g) VRU alerting systems which alert the bus driver to the presence of vulnerable road users which may help reduce sudden braking events.

9.4 Additional work has commenced on further improvements that may prevent slips, trips and falls. For example, the provision of CCTV images to drivers has been identified as a possible safety intervention that could reduce the incidence of passengers injured through a number of specific scenarios, including falls on the

stairs and middle door entrapments. This project will investigate the advantages and disadvantages of different bus driver CCTV Human Machine Interface (HMI) parameters relating to the provision of images to the driver and the recommendation of evidence-based requirements.

Bus Safety Programme Strategy

- 9.5 An independent programme assurance group has recommended that an overarching strategy for achieving Bus Vision Zero is established. TfL has committed to producing a strategy document that will set out the approach to achieving Vision Zero for buses, the alignment with Vision Zero as a whole and the role played by the specific projects in TfL's investment programme. This will be completed in summer 2022.

10 Summary

- 10.1 TfL is committed to continual improvement of the safety of London's buses and bus network, and the health and wellbeing of bus drivers. There is clear evidence that our overarching Bus Safety Programme has improved safety whilst there is more that is being and can be done.
- 10.2 However, TfL's funding uncertainties have already impacted upon our ability to deliver some key existing projects and to commit to new projects that require funding beyond March 2022. The impact of two years of slowed development and research (due initially to coronavirus pandemic and now TfL's funding uncertainty) is that it is increasingly likely that TfL may be unable to achieve its Vision Zero targets for the bus network in the current timeframes set.

List of appendices to this report:

None

List of Background Papers:

Measuring and Improving Employee Health: Safety, Sustainability and Human Resources (SSHR) Panel, 14 September 2021

Bus Safety Programme and Driver Health and Well Being: SSHR Panel, 10 February 2021

Bus Safety Programme: SSHR Panel, 12 February 2020, 4 September 2019, 27 September 2018 and 23 January 2017

Bus Safety Programme: former Safety, Accessibility and Sustainability Panel, 30 June 2016 and 10 March 2016

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Date: 24 February 2022

Item: Bus Driver Welfare

This paper will be considered in public

1 Summary

- 1.1 This paper provides an update on workstreams in progress to improve bus driver welfare including the provision of toilets and bus driver welfare facilities (mess rooms).
- 1.2 Providing good bus driver facilities aligns with the Mayor's Transport Strategy by ensuring the bus network is operationally efficient and reliable and therefore meets customer expectations (A Good Public Transport Experience: R2, Public transport reliability and performance). It is a commitment the Mayor reiterated in his recent election Manifesto. Fundamentally it is a basic human right that drivers should have access to toilets and welfare facilities to carry out their crucial role. Providing good quality facilities also helps support bus driver retention. We are committed to ensuring this is addressed.
- 1.3 Good progress has been made in recent years, particularly to provide toilet access on bus routes, however the importance of continuing to improve driver welfare is a key priority and plans are being developed to meet this objective.

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 changes to the bus network to ensure drivers have access to a toilet.
- 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 bus drivers' union recognised by the bus operators.

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.

Bus driver mess room relief facilities

- 3.3 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.
- 3.4 There are 58 relief facilities that we provide for bus drivers across the network. We ensure these facilities are well maintained and renewed on a regular basis. However, many are now becoming life expired, or require capacity improvements, and action is required. We have therefore developed a prioritised forward programme of renewals, including capacity improvements, for locations where relief facilities are currently provided. We also ensure opportunities to provide new facilities are maximised through third party development obligations.
- 3.5 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 since 2018

- 4.1 Since 2018, there has been a step change in the delivery of bus driver toilets. A total of 62 bus routes have had new toilets installed. Fifty of these are on priority routes and a further 12 have been provided to support service changes. This is an unprecedented improvement – at the previous delivery rate it would have taken nine years to achieve. A list of the sites and routes is included in Appendix 1.

- 4.2 In 2020/21 we significantly improved the provision of bus driver mess rooms, including capacity improvements, to support bus drivers during the coronavirus pandemic, this included:
- (a) a total of 39 bus driver mess rooms were improved either by reconfiguration of the existing facility to better improve social distancing, or through providing new cabins to increase the available capacity. See Appendix 2 for a full list of sites; and
 - (b) targeted renewals of bus driver mess rooms to address condition issues were completed at five locations.

5 Current Programme

- 5.1 Progress since 2018 has been significant but we recognise the importance of continued investment in bus driver welfare. We plan to build on the good work of previous years to further improve the provision of bus driver welfare with a focus on making sure our assets are in good condition, are fit for purpose and have the capacity required to meet demand of all users (including female drivers).
- 5.2 We have developed a long-term prioritised plan to support these objectives. The locations have been prioritised based on known defects, condition and required capacity.
- 5.3 In 2021/22 we have:
- (a) completed the procurement for eight targeted toilet renewals to address condition issues at busy locations. We are in the process of finalising the appointment of the contractor and will commence the first builds in March 2022. A list of these sites is included in Appendix 3.
 - (b) completed the design and planning work to install four new toilets on our network. Two of these (route 33 and route 440) have been built and are in operation. We plan to complete the build on two further routes before the end of March 2022;
 - (c) completed 20 feasibilities for bus driver welfare improvements. We plan to have completed a total of 28 feasibilities by the end of March 2022 allowing us to make informed decisions on investment priorities and plan the delivery to achieve best value for money; and
 - (d) following on from our feasibility work, identified four quick win locations. One of these, at Peckham bus station, has been delivered providing space for an additional 24 bus drivers. The remaining three sites are due to be completed before the end of March 2022. Further details of these projects are included in Appendix 4.

Future Investment and delivery

- 5.4 Our priority this financial year is to complete the feasibility work that will allow us to make informed decisions about the forward programme and confirm the delivery plan. Delivery of these projects will require planning consents, building

regulations approval and, in some instances, lease negotiations. However, where we identify opportunities for work to be expedited, we will seek to maximise these.

5.5 While the focus of our investment is on existing assets, we are also carrying out planning work to identify locations where new infrastructure could be provided to improve bus driver mess room availability. We have drafted a strategic business case to set out the case for this investment and, subject to budgets, plan to deliver a new mess room for bus driver use as a trial. Once this is delivered, we will review the case for other opportunities and the required investment.

5.6 All work is however subject to achieving clearer financial certainty.

6 Ongoing Activity

6.1 We will continue to engage with bus drivers, operators and Unite 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.

6.2 We will continue to identify opportunities for developers to provide facilities for bus drivers as part of Section 106 contributions (planning obligations) and other negotiated agreements.

6.3 We will continue to identify driver relief facilities in need of renewal and progress projects to ensure facilities meet the needs of drivers.

6.4 We have received the TfL commissioned independent report into Remote Sign On. There are a series of recommendations which we are discussing and working through with Unite the union and the bus operators and we expect to publish the report alongside the next steps in the spring. The bus operators have voluntarily agreed to pause any further roll out of remote sign on whilst these discussions continue.

List of appendices to this report:

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

Appendix 2: List of bus driver mess room improvements in 2020/21

Appendix 3: Targeted toilet renewals

Appendix 4: Driver welfare projects planned for 2021/22

List of Background Papers:

None.

Contact Officer: Louise Cheeseman, Director of Bus Operations
Email: LouiseCheeseman@tfl.gov.uk

Appendix 1: New toilets provided since 2018

Count	Bus route	Bus Stand
Numbers 1 to 50 below are priority routes where toilets have been provided:		
1	370	Lakeside
2	271	Moorgate, Finsbury Square.
3	214	Moorgate, Finsbury Square
4	274	Lancaster Gate
5	H13	Ruislip Lido
6	393	Clapton Pond
7	345	Natural History Museum
8	263	Highbury and Islington Station
9	W8	Chase Farm Hospital
10	455	Wallington Station
11	U7	Uxbridge LUL Station
12	N8	Hainault the Lowe
13	H20	Hounslow Civic Centre
14	287	Barking Station
15	196	Norwood Junction
16	291	Queen Elizabeth Hospital
17	281	Tolworth Ewell Road
18	163	Morden LUL Station
19	273	Petts Wood Station
20	W14	Woodford Bridge
21	K5	Ham, Dukes Avenue
22	415	Tulse Hill Stn

23	174	Harold Hill
24	368	Barking Hart Estate
25	E5	Toplocks Estate
26	130	New Addington, Vulcan Way
27	G1	Hermitage Lane, Norbury
28	R68	Kew Retail Park
29	78	Nunhead, St Mary's Road
30	W15	Cogan Avenue Estate, Folly Lane
31	121	Enfield Lock, Island Village
32	K3	Roehampton Asda
33	292	Colindale Asda
34	234	Barnet The Spires
35	321	Foots Cray Tesco
36	499	Gallows Corner Tesco
37	H28	Syon Lane Tesco, Osterley
38	88	Clapham Common, Old Town
39	232	St Raphael's Estate
40	R1	St Paul's Cray
41	288	Queensbury Morrison's
42	430	Roehampton, Danbury Avenue
43	290	Staines Bus Station
44	42	Liverpool St / Worship St
45	414	Maida Hill Chippenham Gardens
46	343	South Kensington
47	96	Bluewater

48	R7	Chelsfield
49	126	Eltham High Street
50	124	Eltham High Street
Toilets were provided on the below routes to support service changes:		
51	27	Glenthorne Road, Hammersmith
52	100	St Paul's Station
53	224	Pitfield Way, St Raphael's Estate (covered by route 232 facility above)
54	341	Waterloo Road, Lambeth
55	386	Woolwich Arsenal DLR
56	S1	Banstead High Street
57	306	Acton Vale Bromyard Avenue
58	483	Windmill Lane, Greenford
59	404	Cane Hill
60	278	Ruislip Station
61	33	Lonsdale Road, Richmond
62	440	Wembley Eastern Lands (note: this is a temporary location and will be relocated when local developments are progressed)

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Appendix 2: Mess room improvements in 2020/21

No.	Location
1	Walthamstow Central
2	Tottenham Hale
3	Hammersmith (Lower)
4	Hammersmith (Upper)
5	Becontree Heath
6	Stratford Regional Bus Station
7	Kingston, Cromwell Road
8	West Croydon
9	Bromley North Station
10	Atlanta Boulevard
11	Stratford City Bus Station
12	Ilford
13	Crystal Palace
14	Aldgate Bus Station
15	Peckham
16	Kensal Rise
17	Beckton, District Centre (Asda)
18	Hatton Cross
19	Romford Queens Hospital
20	Turnpike Lane
21	Hampstead Heath
22	Crossharbour, East Ferry road
23	Mitcham Fair Green
24	Barnet Hospital (Kingston, Fairfield North)
25	Brent Cross
26	Eltham
27	Edmonton Green
28	Vauxhall Cross
29	Clapham Junction, Grant Road
30	Dalston Junction, Dalston
31	Chiswick Park, Gunnersbury
32	Canada Water
33	Finsbury Park, Station Place
34	North Greenwich
35	Hackney Wick Bus Stand
36	Harrow on the Hill
37	Canning Town
38	Finsbury Park, Wells Terrace
39	Victoria

Appendix 3: Targeted toilet renewals

No.	Location
1	Chingford Bus Station Toilet Refurbishment
2	Clapham Junction Grant Road Bus Station Toilet Refurbishment.
3	North Finchley Bus Station Toilet Refurbishment
4	Peckham Bus Station Toilet Refurbishment
5	Ilford Hainault Street Toilet Refurbishment
6	Canada Water Bus Station Toilet Refurbishment
7	Bexleyheath Bus Station Toilet Refurbishment
8	Kingston Fairfield Bus Station Toilet Refurbishment

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Appendix 4: Driver welfare projects planned for 2021/22

No.	Location
1	Peckham Bus Station
2	Vauxhall Bus Station
3	Romford Brewery Bus Stand
4	North Greenwich Bus Station

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Safety, Sustainability and Human Resources Panel



Date: 24 February 2022

Item: 2030 Net Zero Modelling

This paper will be considered in public

1 Summary

- 1.1 The purpose of this item is to provide an update to the Panel on the work that the Greater London Authority (GLA) commissioned, which sets out the scale of the action required to reach net zero carbon in London by 2030.
- 1.2 The item sets out the four potential pathways outlined in the report, the Mayor's preferred pathway, and the key actions and policies likely to be required. It also discusses the GLA's response which was published alongside the report on the 18 January 2022, and the next steps.

2 Recommendation

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

List of appendices to this report:

Appendix 1 – 2030 Net Zero Modelling presentation

List of Background Papers:

None

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MAYOR OF LONDON



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2030 Net Zero Modelling

Safety, Sustainability and Human Resources Panel, TfL

24 February 2022

CONTEXT

We have updated modelling for the 1.5°C Climate Action Plan (now based on a 2030 zero target, previously 2050)

The new analysis identifies:

- Potential pathways for meeting net zero by 2030
- Key actions and policies likely needed for each pathway
- Indicative costs and benefits (emissions savings, jobs)

This analysis and the GLA's response was published on 18 January 2022. The GLA's response:

- Outlines key issues, benefits and challenges with bringing the target forward
- Explains the importance of indicating a preferred route as we have only 8 years to deliver
- Explains that the preferred route replaces the previous net zero pathway in the 1.5°C Compatible Climate Action Plan

The Mayor is indicating a **preferred pathway 'Accelerated Green'** based on feasibility, behaviour change required, and level of powers.

PATHWAYS

We asked Element Energy to model 4 pathways:

No Constraints (14% residual emissions in 2030)

- Requires immediate actions not feasible in the current national context:
 - E.g. requires scrappage of rigid diesel HGVs more than 15 years old from this year, scrappage of cars more than 10 years old from this year, scrappage of boilers more than ten years old from 2024
 - Pushing for these policies immediately would make it more difficult to shield lower income Londoners from the disproportionate costs of the transition

Accelerated Green – preferred pathway (22% residual emissions in 2030)

- Balances urgency and ambition with social justice and deliverability
- Gives more time to influence national policies and does not require the more extreme scrappage policies
- Will require co-ordinated action from Mayor, boroughs, communities, businesses, finance sector and public sector.
- National government will need to play a major role e.g. greater investment in local public transport and its electrification, further funding schemes for retrofit, tighter standards on energy efficiency and funding for enforcement

High Hydrogen (30% residual emissions) and **High Electrification** (27% residual emissions in 2030):

- Do not go fast enough given the urgency of the challenge

KEY METRICS FOR ACCELERATED GREEN

To achieve the Accelerated Green pathway it would require:

Car vkm: 27% reduction in car vkm between 2018-30, compared to 12% in line with the MTS and previous 2050 pathway

Retrofit

- 37% reduction in heat demand of domestic buildings by 2030, relative to 2020
- 39% reduction in heat demand of non-domestic buildings by 2030, relative to 2020
- 210,000 homes and 26,500 non-domestic buildings retrofitted each year between now and 2030 (previous 2050 pathway required a peak of 160,000 homes retrofitted in mid 2020s)

Heat pumps: 2.2m heat pumps in domestic and non-domestic buildings by 2030 (previous pathway required 0.9m heat pumps by 2030)

Heat networks: 460k heat network connections in domestic buildings by 2030 (previous pathway required 340k connections by 2030)

Solar: 1.5 GW of solar required by 2030 and 3.9 GW required by 2050 (previous pathway required 0.8 GW by 2030 and 2 GW by 2050)

EMISSIONS, COSTS AND JOBS FOR CHOSEN PATHWAY

Switching from the previous 2050 net zero pathway to Accelerated Green cumulatively **saves 30 MtCO₂e by 2030 and 151MtCO₂e by 2050**.

Residual emissions are **22% of 1990 levels by 2030**.

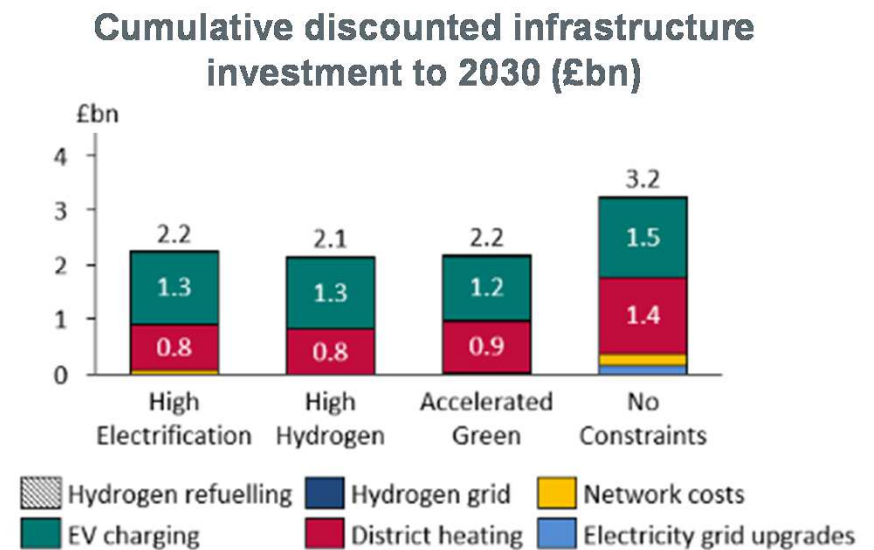
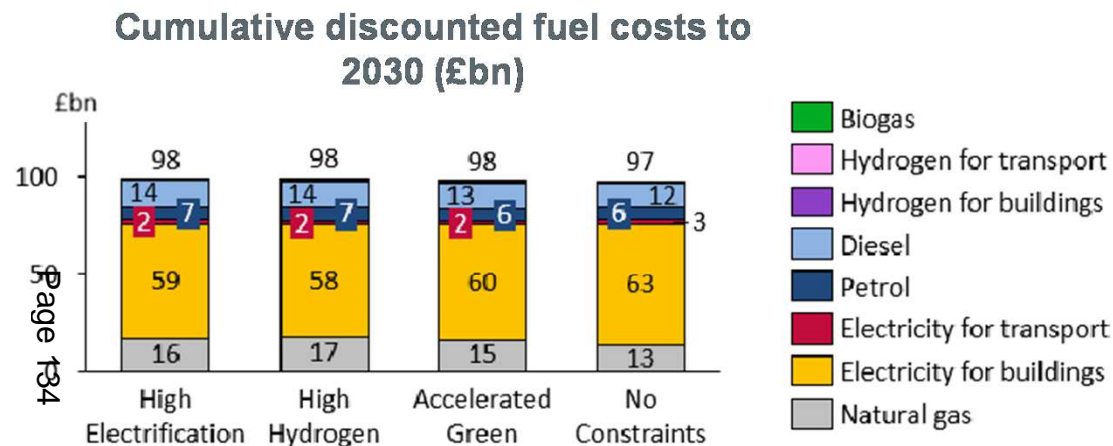
- The pathway reaches 10% residual emissions (equivalent to the residual emissions in 2050 in the 2018 1.5°C Plan) by 2037, and 5.5% emissions by 2050.
- Offsetting of residual emissions could cost between **£0.6bn and £4.2bn in 2030**. This provides additional impetus to decarbonise as much as possible in the next 10 years.

Cumulative discounted costs of investment in buildings, infrastructure and fuel totals **£173bn by 2030 and £294bn by 2050**. This is comparable with our previous estimates of cumulative costs by 2050 (£288bn) but the costs are now more front loaded.

A conservative estimate of between **49-73k jobs** would be supported in the peak year of delivery next decade from the scenarios. On average across the decade the scenarios could support between **34-46k direct jobs a year**. This represents jobs in selected sectors only (excludes transport sector) and does not include indirect jobs associated with the supply chain.

RESULTS: FUEL AND INFRASTRUCTURE COSTS

Cumulative investment in fuel, infrastructure and buildings is estimated for each pathway to 2050. Transport investment is within the fuel and infrastructure costs and is shown below to 2030:



Wider infrastructure changes to deliver behaviour change (including bus priority lanes, cycling infrastructure, rail capacity upgrades) were outside the scope of this analysis, so will be in addition to the above investment.

TfL have previously estimated the cost of these improvements needed to meet the MTS ambition at **£2.9 bn per year** (£58 bn between 2021-2041). In the Accelerated Green pathway, the total cost could remain the same but investment would need to be brought forward and increased to **£6.4 bn per year to 2030**.

LIKELY TRANSPORT POLICIES & ACTIONS REQUIRED

The majority of likely policies and actions required are in line with the MTS but need to be accelerated. Some of these include:

- London-wide road user charging by mid-late 2020s
- Traffic and parking control measures, such as changes to parking supply and pricing, in line with MTS but accelerated by 10 years – meeting the majority of Mayor’s Transport Strategy aims by 2030
- Co-location of services, housing and employment in selected areas to reduce travel need by 2030
- Measures meeting Transport Strategy aims for road space reallocation to public, shared and active travel infrastructure, accelerated by 10 years
- Support consolidation of freight and make use of sustainable solutions for last mile deliveries in selected areas, such as through funding, financing and working with freight operators
- Emission zones ramped up post-2030
- Measures to encourage uptake in high mileage vehicles such as enhanced licensing requirements for taxis, PHVs and car clubs, and encouraging company car EV adoption
- Accelerate deployment of public EV charging network (34,000 EVCPs by 2030)
- Lobby for national public HGV charging/refuelling infrastructure by 2040
- End of sales of new ICE cars and vans from 2030

NEXT STEPS

- Use the analysis to help inform the GLA and the GLA Group's work programmes and prioritise activities
- Discuss implications with key stakeholders
- Use this analysis to work with others to inform their detailed delivery planning
- Build public consensus around the urgent changes needed to tackle climate change

Questions

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Date: 24 February 2022

Item: Climate Change Adaptation Update

This paper will be considered in public

1 Purpose

- 1.1 This paper provides the Panel with an update on TfL's progress on climate change adaptation since the last paper in November 2020. It summarises where action is required as a priority to reduce and avoid safety, financial, legal and reputational impacts from future extreme weather events.

2 Recommendation

- 2.1 **That the Panel discuss the actions set out in this paper and accompanying slide deck (Appendix 1).**

3 Executive Summary

- 3.1 This paper sets out TfL's existing climate change related risks; the work already underway to mitigate them; activity still to be commissioned or completed on climate change adaptation; and the risk posed to TfL's future work on adaptation if our decision-making processes do not account for the longer term safety and other benefits it brings.

4 Background

- 4.1 The July 2021 flooding events in London shone a spotlight on TfL's climate readiness. They showed that it is good at responding to severe weather events and resuming services quickly after disruption (climate resilience). However, they also showed the critical importance of climate adaptation, i.e. reducing or avoiding those disruptions in the first place.

Climate term	Definition
Mitigation	Reducing greenhouse gas emissions
Resilience	The ability of a system to recover from the effect of extreme weather that may have caused harm
Adaptation	Improvements to the built environment, assets or processes that lead to a reduction in harm or risk of harm, or realisation of benefits associated with climate variability and climate change

5 Key actions

5.1 Appendix 1 sets out proposed key actions on adaptation over the next 12-18 months. In summary:

- (a) Short-term: continued collaboration with the Mayoral roundtables and associated Task & Finish Group following the July 2021 flooding events; identification of the improvements needed to quantify the impacts of weather events;
- (b) Medium-term: development and agreement of the pan-TfL adaptation strategy; enhanced external reporting on climate change adaptation, including as part of the Task Force on Climate-Related Financial Disclosures; and
- (c) Long-term: implementation of the adaptation strategy, incorporation of adaptation considerations in business processes, and monitoring of progress.

6 Conclusions

6.1 TfL has made progress in the last year to understand its current, and plan its future, work on adaptation. However, work remains to be done to match the progress of Network Rail, complete our Adaptation Reporting Power submission to Defra, and to embed adaptation within investment decisions in the context of our current financial position and avoiding higher longer term costs.

List of appendices to this report:

Appendix 1: TfL Climate Change Adaptation Update presentation

List of background papers:

Previous SSHR Panel update on climate change adaptation 4 November 2020

Contact Officer: Alex Williams, Director of City Planning
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Appendix 1: TfL Climate Change Adaptation Update

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SSHR Panel

24 February 2022



Summary and contents

Severe weather events as a result of climate change are a major strategic risk for TfL

This deck:

- summarises TfL's review of the severe surface water flooding events over the summer of 2021
- summarises recent progress on TfL climate change adaptation
- outlines the actions still required to adapt to climate change

Contents

- Slides 3 to 7 – TfL's readiness for current and future severe weather events
- Slides 8 to 10 – Key actions to adapt to future climate change risks
- Slides 11 to 13 – Summary

July 2021 flooding events

- Multiple networks experienced severe disruption during the extreme surface water flooding events on 12 and 25 July 2021. The first pan-TfL review of flooding impacts and response was undertaken.



- Once severe weather alerts were received, TfL reacted quickly. Almost all our services were back to normal the next day.
- As a result of the review, it was highlighted that we must:
 - give higher priority to improving the way climate related risks are considered
 - automate data collection and expand the range of data collected on weather-related impacts to include costs
 - develop more robust measures to tackle the challenges of a constantly changing climate
 - continue to collaborate both within TfL and with external organisations, such as Thames Water, Environment Agency, GLA and London Boroughs

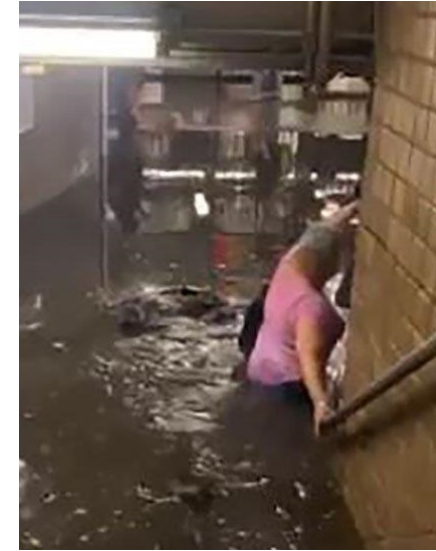
TfL performs well in terms of operational resilience, but needs to focus additional effort on adaptation to reduce the impacts we experience in the first place.

We have been lucky not to be hit by more extreme weather

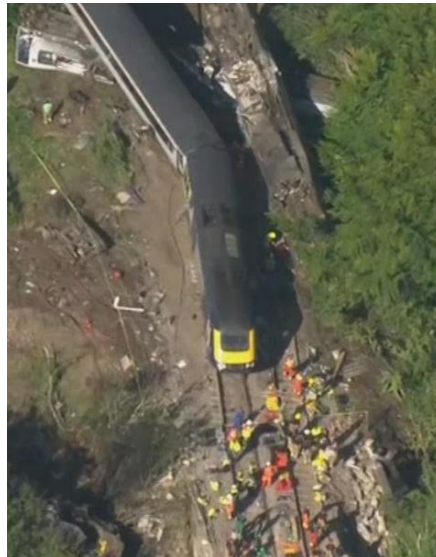
Recent reports by the Environment Agency highlight that 'it is only a matter of time' until such events happen in the UK. Without action, we will see major H&S, financial, legal and reputational impacts.



The costs in Germany of the one flooding event was £10bn and over 90 lives lost. **93 mm of rain** fell in one day, compared to London's **48 mm on 12th of July**.



In New York, **82 mm** of rain fell in **one hour** and 45 people lost their lives in New York area as a result of storm Ida.



The Stonehaven derailment on 12 Aug 2020 happened when a passenger train hit a **landslip following severe rain**. Three of the nine people onboard died.



On the 4th Oct 2021, Rossiglione on northern Italy experienced **740 mm of rain in 12 hours** leading to widespread impacts including a bridge collapse

Flooding is not the only climate impact on London's transport networks

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We need to prepare for all climate hazards and interdependencies that will affect TfL's infrastructure, customers, staff and contractors – not just flooding of our assets.

- Climate hazards also include high temperatures, storms and high winds, drought and water use restrictions. All of these affect London's transport networks:



Harrow-on-the-Hill points failures on 'very hot days', resulting in delays, or even line closure.



Hammersmith Bridge microfractures widened by 2020 heatwave, leading to closure.

Temperatures surpassed 34°C in central London.



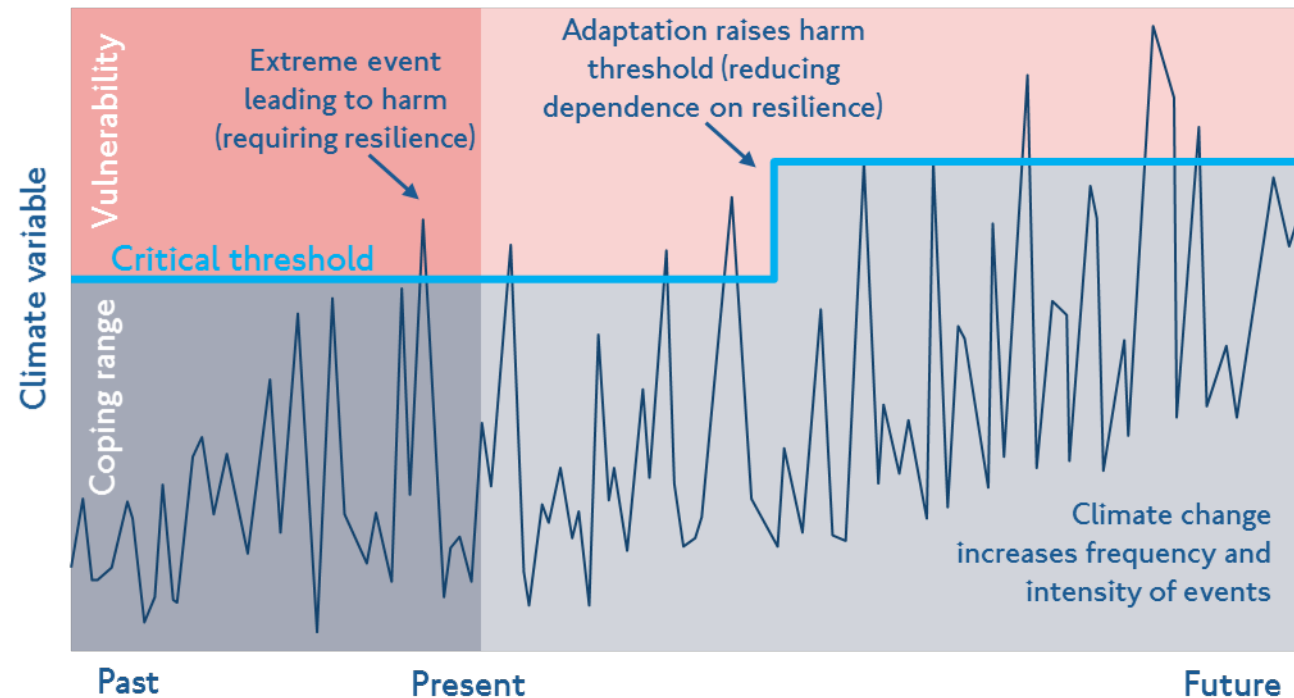
Piccadilly Line wheel flats issue in 2017 was exacerbated by an autumn storm, taking many trains out of service.

- Climate change is a 'threat multiplier', i.e. more than one climate hazard can occur at the same time, and climate hazards can exacerbate other risks. Climate disruption of other key networks, such as power, can cascade to us via interdependencies.

Meeting TfL's long term goals

Without adaptation, we will not be able to meet our mode shift or financial sustainability goals.

- Severe weather events will become more frequent and more intense.
- Resilience alone will no longer be sufficient to maintain asset integrity, safety and service reliability, ultimately affecting our mode shift goal.
- Severe weather events will become an increasing drain on our financial resources, affecting our long term sustainability.
- By reducing / avoiding climate impacts, adaptation contributes to, and reduces our dependence on, resilience.



Adaptation actions to date

We are making progress, but there is more to do to fill the gaps in our knowledge, understand what actions to take based on that, and then implement them.

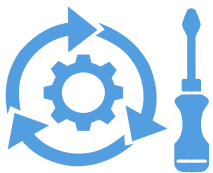
- Existing TfL adaptation actions include:
 - installing green infrastructure and sustainable drainage systems (such as the Elspeth Road raingarden in Wandsworth)
 - managing a research programme to better understand weather impacts
 - collaborating with internal and external stakeholders to better understand, and share knowledge of how best to manage, climate risks
 - working with the Met Office and Network Rail to make their world-leading climate projections data more accessible and usable
- Following the July flooding events, the Mayoral roundtables and associated Task & Finish Group have highlighted London's lack of adaptation to climate change, particularly around:
 - data (TfL's flood review identified this as an issue we need to address)
 - governance (this is complex both in London and TfL, and requires improved internal and external collaboration)
 - funding (TfL's funding situation favours a culture of short-term cost-cutting that jeopardises the realisation of long-term savings)
 - strategy (see slide 9)
 - communications (as per governance)

Our proposed strategic approach

The severity of climate change risk requires the development of a pan-TfL adaptation strategy, covering six main areas of activity.



Research: Using data to understand correlations between weather and impacts, modelling future climate risks, and understanding asset vulnerability



Processes and tools: Embedding improvements to our management system, tools to model risks / benefits, incident / performance reporting and track activity



Reporting: Internal and external reporting on our performance, risks and progress toward improvements informed by our data and research



Communication: Guidance and communication for our customers and colleagues about how to improve their resilience, how to adapt and why adaptation is important



Case making: Informed by our research and data we need to proactively make the case for business area action, funding in the TfL business, communications messaging and funding opportunities



Collaboration & influence: Working with external stakeholders to shape London-wide adaptation activity, and share knowledge and best practice

External scrutiny on TfL's climate risk

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There is intense Government scrutiny of organisations' climate risk and adaptation. To maintain investor confidence in TfL, we must demonstrate effective action on climate risk reduction.

Defra's Adaptation Reporting Power (ARP3)

- Submitted ARP3 reports will be publicly available.
- For the first time, a spreadsheet-based asset climate risk assessment is required. This will form the nucleus of the new TfL adaptation strategy.
- We have agreed with Defra that TfL submit:
 - a [preliminary report](#) (without asset climate risk assessment) in Dec 2021
 - a final report (with the asset climate risk assessment) by April 2022



Taskforce for Climate-Related Financial Disclosures (TCFD)

- TCFD is a finance sector initiative designed to improve investor confidence in organisations' understanding of, and work to reduce, climate risks.
- TfL will be captured by the Government's roadmap for mandatory TCFD reporting in 2022/23.
- TCFD was the subject of a paper to the TfL Audit and Assurance Committee on the 1 Dec 2021 and we are beginning to incorporate it into our approach for the 2021/22 Annual Report, ahead of it being required. We already consider climate change risks in our annual report and statement of accounts; TCFD would involve a more comprehensive approach.

Key messages

- Climate change impacts are already affecting our assets, services, staff, contractors and customers, as well as our ability to meet strategic goals, including mode shift and financial sustainability
- Adaptation is likely to be an area of significant government and investor scrutiny and funding in the future
- We have some good work underway, but there is a lot more still to do



Key actions TfL is taking

Short term

- **External collaboration**, e.g. via Mayoral roundtables and associated Task & Finish Group, to improve data sharing and lobby for action / changes
- Continue identifying opportunities to install **green infrastructure and sustainable drainage systems** as part of TfL and borough projects
- Continue efforts to **quantify severe weather and climate impacts**. Identify required funding for key projects that are essential for cost-effective adaptation planning, e.g.:
 - seed funding for expansion of LUCRFR (London Underground Comprehensive Review of Flood Risk) to include key Surface assets
 - upgrades to existing performance reporting systems to allow for weather attribution

Medium term

- Signalling TfL's climate readiness to government and wider investment market through **ARP3 and TCFD reporting**
- Develop, and agree with business areas, a **pan-TfL Adaptation Strategy** by summer 2022 that is informed by the asset climate risk assessment being conducted for ARP3

Longer term

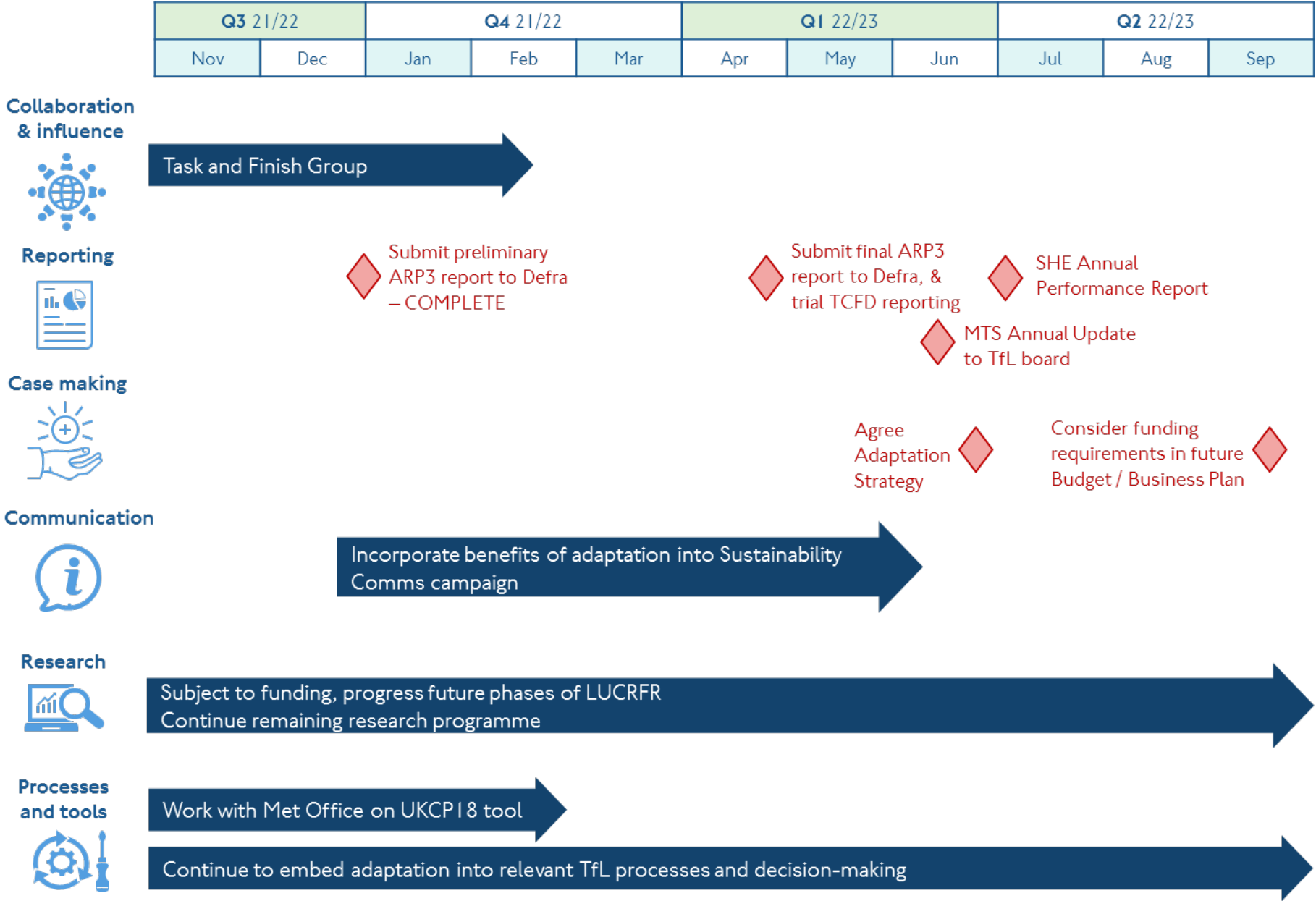
- Implementation of the pan-TfL Adaptation Strategy, incorporation of adaptation into business area decision-making and processes, and monitoring of progress. This will need to be taken into account in future budget discussions



High level programme

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Key

ARP3 – Adaptation Reporting Power
TCFD – Taskforce for Climate-Related Financial Disclosures
UKCP18 – UK climate projections 2018



Safety, Sustainability and Human Resources Panel



Date: 24 February 2022

Item: Human Resources Quarterly Report

This paper will be considered in public

1 Summary

- 1.1 The Quarterly Report is a standing item on the agenda for this Panel. It provides an update on key Human Resources (HR) led activities and performance for the period December 2021 – February 2022.

2 Recommendation

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

List of appendices to this report:

Appendix 1 – HR Quarterly Report

List of Background Papers:

None

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HR Quarterly Report December 2021 - February 2022

24 February 2022



HR Quarterly Report

December 2021 - February 2022

Introduction

This Human Resources (HR) Quarterly Report provides an update on the activity that has taken place to support our colleagues from December 2021 – February 2022, to make Transport for London (TfL) a great place to work, for everyone.

The first section provides an update of our people performance against TfL scorecard measures.

The second section includes detail on our ongoing response to Covid-19, including our move toward office re-occupation and transition to a hybrid way of working.

The final section updates on activity delivered across the HR function aligning to three of our top People Priorities:

1. A More Inclusive and Diverse Organisation
2. An Engaged, Motivated and Healthy Workforce
3. The Right People, Skills and Capacity to Deliver the Business Plan



People Scorecard Measures and Performance 2021/22

Pan-TfL scorecard

Our annual People scorecard measures are focused on improving engagement, embedding an inclusive culture, striving for equality across the organisation and monitoring the health and wellbeing of all our people.

We provided an update on this year's Viewpoint survey results at the TfL Board on the 2 February 2022. Our annual Viewpoint employee survey, which helped us identify our people scorecard measures, ran from the 27 September to the 24 October. This year we received 14,983 responses, representing over 55 per cent of our employees.

Our Total Engagement score for 2021 was 61 per cent, which is down from 63 per cent recorded in 2020, however this is still four per cent higher than in 2019. This score is calculated by averaging the total number of positive responses received to the questions which make up the index.

Our inclusion index was 51 per cent in 2021, down one per cent on 2020, however up from 47 per cent in 2019. Our wellbeing at work index was 57 per cent, down from 59 per cent. 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.

An initial update on work we are doing in response to this year's scores is provided later in this report.

Following feedback received at the recent Board meeting we will now look forward and confirm our targets for these measures in 2022/23. Subsequent updates on how we are acting on this year's results will be provided at each subsequent SS&HR Panel.

Supporting colleagues through Covid-19 recovery

Deaths in Service

We continue to do everything we can to support the families and loved ones of the 105 colleagues who have tragically passed away from Coronavirus. Our Employee Assistance Programme is available to all employees and their dependents and provides support, guidance and information on a range of topics, including bereavement. This includes access to support from a qualified counsellor, bereavement counselling services and access to Cruse, a dedicated bereavement support charity. Bereavement support is also extended to families of the deceased via our Sarah Hope Line.

Returning to the Office

On Wednesday 19 January 2022, the Prime Minister announced an end to Plan B Covid restrictions in England. Colleagues can access our office hubs anytime from now with the expectation that from 28 February, people who have been working from home will once again be attending the office on two occasions per week.

A lot has changed in our head office buildings – new meeting room equipment including booking panels, new technology, we have fewer desk spaces, but new collaboration spaces have been installed.

We continue to monitor and adapt to changing Government guidance. However, we

believe that a hybrid working model is the most appropriate for our business in order to allow for diversity, collaboration, co-operation and learning and development, while remaining alert and responsive to the evolving impact of the virus and changing government advice and guidance.

Best Crisis Management Strategy Award Winners

Our HR team recently won Best Crisis Management Strategy at the HR Excellence Awards 2021. This award, won jointly with the Government of Jersey, recognises the incredible commitment shown by our HR colleagues in responding to the crisis of the COVID-19 pandemic.

The pace of change which we saw during the initial stages of the pandemic was unlike anything we'd seen before. Our HR teams needed to rapidly adapt to a changing situation for which there was no road map or template.

From the outset, we focused on supporting the business through responding to a dramatic loss of revenue, changing policies, developing management guidance and employee communications, implementation of a furlough scheme, and decisions surrounding testing and PPE for our people.

We will now ensure that the recovery from the pandemic retains the learning and improvements that arose during this period and are carried forward into new ways of working and future employment practices.

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This year's theme is 'Fighting for rights in the post-Covid' and celebrates the challenges, barriers and opportunities for people who live with disabilities, in the context of the global pandemic. It's a reminder that we must all together look towards a future where the barriers that stand in people's way - are broken down.



Our Staff Network Group for Disability has been looking into the history of disability and how it's influenced our transport network since the first World War. They've worked with the Corporate Archives team who have compiled two mini virtual exhibitions which show how things have changed over time.

Accessibility Design on London Underground shows how some hidden design features make journeys so much easier for those with accessibility requirements.

Milestones in the History of Disability and Accessibility in Transport for London and its Predecessors looks at the earliest records within the TfL Corporate Archives collection relating to disability.

TfL Celebrate LGBT+ History Month

The 1 February 2022 marked the start of an annual month-long observance of lesbian, gay, bisexual and transgender+ (LGBT+) history in the United Kingdom.

Our Outbound SNG have hosted multiple events throughout the month including the launch of #everystorymatters digital display at the London Transport Museum (LTM) – bringing the Pride 2021 roundels into the LTM in an exciting new installation throughout February and March.

There will also be lunch and learn sessions hosted by Outbound members open to everyone at TfL where we will discuss identities, gender, language (and anything else) to meet our aim to educate our colleagues at TfL.



Interest free citizenship loan

Securing the benefits of British citizenship, that many of us take for granted, can be a costly process. We are now offering our colleagues the opportunity to apply for a loan to support Home Office application fees, in support of the Mayor's commitment to British Citizenship for Londoners.

The loan follows the principles of other Transport for London employee interest free loans and includes:

- Application for British citizenship
- Renewing visa/limited leave
- Application for indefinite leave to remain

An Engaged, Motivated and Healthy Workforce

Acting on Viewpoint

At the recent TfL Board, we presented an update on the results of our 2021 Viewpoint Survey and what this told us about employee engagement across TfL.

In response to the findings, we are in the process of hosting listening sessions with our employees to get a greater understanding of what the results are telling us. This will help us better understand the root cause behind these results, allowing us to better target interventions.

Our People Programme has numerous initiatives either recently launched or in development which will help address some of the key concerns identified by our employees. The main areas of focus and what we are doing in response to these concerns are provided below:

Opportunities to grow and develop

Our new approach to talent prioritises developing everyone to be their best at work, and we have recently introduced key initiatives designed to help support career development and professional growth. These include:

Readiness – A new model for assessing where an individual is in terms of their career journey - whether a person is looking to strengthen in their role, stretch to gain new experiences and skills or is ready to move to

the next challenge. This approach helps us managers better understand the support people will need to achieve their development goals.

Conversation Matters – A suite of tools that support managers and employees to have ability to have career conversations that are continuous, two-way. This is central to how we will make sure everyone has the chance to discuss how they are doing, what drives and motivates them and what support they need to reach their potential.

Performance management - We have introduced a new approach to performance management that focuses on setting clear objectives, consistent feedback and a new ratings model designed to better reflect performance and contribution.

Coaching, Mentoring & Sponsorship - Mentoring, Sponsorship and Coaching can have a profound impact on the career and leadership development of our people. Our aim is to have a more integrated and relevant strategy that links in with our wider strategic objectives aligned to our vision and values, Leadership and Diversity & Inclusion approach.

Considering the work, I do I feel my pay is fair

Our emerging **Reward Strategy** is looking to help modernise our existing pay frameworks to better align to the external market. This will help aid attraction and retention for scarce skill roles.

Alongside this work we have recently reintroduced performance award schemes, specifically tied to the achievement of financial sustainability targets, that will allow

us to reward our employees for the contribution they have made.

I would recommend this as a great place to work

Our ambition is to make TfL a great place to work, where everyone can thrive. We are bringing that ambition to life through the colleague roadmap and our ongoing people programme of work.

In addition to the pieces of work detailed above, over the next 18 months we will also focus on enhancing the relationship between employees and their line managers. This relationship is very important we will invest in making sure these relationships are the best they can be.

In 2022 we are launching a piece of work to grow line manager effectiveness throughout the organisation. We have some brilliant leaders and managers – learning what works well and sharing good practice will inform how we grow capability across the business. This begins with creating a clear & consistent understanding of what it means to be a TfL Leader and Manager and ensuring that people management is central to the skill set of all line managers.

I feel a strong sense of commitment to this organisation

While responses to this question are likely to have been prompted by a number of topics and issues, a strong focus of our recently published equality objectives and forthcoming Action on Inclusion strategy is to create a truly inclusive workplace and a sense of belonging throughout our organisation. We want our colleagues to feel connected to the people they work with and the teams they are

part of. That's means building a culture where everyone feels comfortable to bring their experience and perspectives to be themselves at work. That everyone feels they belong in TfL.

Action on Inclusion, to be published later this year, will set out the priority actions and interventions to build an inclusive workplace.

Make a Difference moving to values

Having established our vision for TfL, and the values which support it, it's important we all adopt these values and live them every day – both in how we approach our work and interact with one another.

To help us recognise these qualities – Caring, Open, Adaptable – in others, we're adapting our recognition scheme, Make a Difference, so our values are integral to how we recognise our colleagues' contributions.

The new values will replace the Behaviours which have underpinned Make a Difference until now. From 25 January 2022, when you nominate an individual or a team for a Make a Difference award, you'll need to select one of our Values.



Caring

about our colleagues,
our customers
and our work



Open

to each other, to
new ideas and to
working together



Adaptable

to diverse needs and
willing to innovate

The Right People, Skills and Capacity to Deliver the Business Plan

Anchor Institute Charter

As part of the Mayor's coronavirus London Recovery Plan, we have committed to the Anchor Institution pledges to maximise employment opportunities and help young people to flourish. We have joined other key institutions from across London, such as the NHS and Met Police to help the capital recover from the pandemic by targeting job opportunities and support to Londoners most impacted by the virus and the economic fallout of the last year.

TfL will help to deliver on these pledges by committing to increase apprenticeship and work placement offers to women, those from Black and Minority Ethnic backgrounds, along with other minority backgrounds, and will identify a further 150 young people TfL volunteer mentors by 2024.

We have also pledged £1m annually of our unspent Apprenticeship Levy fund, supporting apprenticeships at small and medium sized businesses with a proven track record of diverse hires. We will prioritise funds to those organisations that create opportunities in the growth of digital or green skills across the Capital.

The first £300k transfer of our levy fund has been agreed to Vorboss, a fibre optic installation company who have made great strides in improving access to installation

apprenticeships for those who do not have previous experience and have almost achieved gender parity in their recruitment intakes. Our transfer supported the creation of 20 new installation apprenticeships in November 2021 enabling the increase of fast internet access across London.

TfL Board Member Appointments

End of last year we appointed three new TfL Board Members. These will replace Ron Kalifa OBE and Dr Alice Maynard CBE. Taking over from the GLA, the Talent Acquisition lead on the recruitment campaign, which attracted high calibre and diverse candidates from a broad range of backgrounds, in particular individuals with expertise in finance, risk and assurance, change management, diversity and inclusion as well as transport-related operational experience.

After a successful and competitive campaign, the Mayor confirmed the appointments at the end of 2021. Contributing to this recruitment not only impacts the lives of Londoners but TfL's wider strategic decisions; it was therefore critical the Board match the profile of London. The 2021 appointments resulted in the board having 47 per cent of female and 53 per cent male members which was a great achievement to diversify senior leadership at TfL.

Apprentice Induction

On the 17 January 2022 we welcomed our latest Apprentice cohort, with a further 24 apprentices joining apprenticeships across Tech and Data, MPD, City Planning, Surface and Rail for London Infrastructure. A further 33 apprentices joined at the end of February on our London Underground Engineering

apprenticeship, this is in addition to the 46 graduates and 64 apprentices who joined in September 2021 bringing the total number of Graduates and Apprentices joining us this year to 167.

Nine virtual events had been held over the course of our recruitment campaign during the summer last year for those interested in applying to hear from current apprentices and take part in Q&A sessions with 322 attendees in total. Virtual Assessment Centres started last September with virtual guidance and preparation sessions offered before attending the assessment centre.



Steps into Work

We were delighted to welcome our latest cohort of 11 new students onto our Steps into Work (SiW) programme who commenced the programme on the 10 January 2022. SiW is a 12-month programme for adults aged 16 and above with mild to moderate learning disabilities and those on the autism spectrum.

This is a great opportunity for the participating students to gain work experience

in three business areas within our organisation, including a placement in our Underground stations. It's also really rewarding for our hosts across the business, with the students being real assets for their teams.

Of the 18 participants who completed SiW in July 2021, 33 per cent have found paid employment compared to the 5.1 per cent of people with learning disabilities nationally. Of the remaining students 11 have progressed onto Mencap's GLA funded 'Employ Me' programme and one is secured further training.

Congratulations to our first General Management apprenticeship graduates

We launched our first-degree based apprenticeships four years ago and launched the first General Management apprenticeship scheme. The scheme is a four-year course that takes the apprentice through a variety of different roles within the business, from frontline to engaging with key business sponsors. The course aims to give a variety of experience and understanding on how our transport network works.

At the end of the four-year course our apprentices can hope to work towards achieving a degree in Management and Business (BA Hons) and a full chartered membership with CMI (Chartered Management Institute).

This year's 10 graduates all passed with flying colours with three passing the apprenticeship element with a Merit and seven passing with Distinction.



Senior Recruitment in our Procurement Team

With the significant changes our Procurement and Supply Chain function, recruitment has been buoyant. After running three competitive recruitment campaigns to secure two Directors and one Head of Procurement, we are delighted to confirm that we have appointed into these roles and increased diversity of the P&SC senior population.

These roles are critical in ensuring TfL deliver post-pandemic recovery and manage our contracts more effectively during such a critical time. These are key leadership roles which will now form part of our executive structure.

Launch of Leadership Strengths for PB5 and Director Selection

Following the creation of leadership strengths in 2020 and piloting their use in senior selection during 2021, these are now being used in all senior selection as well as being available to all as a leadership strengths 360 tool.

The strengths were created following consultation with directors and reflect key attributes needed to successfully meet our objectives and challenge. They don't replace TfL's Competencies or Behaviours but are

there primarily as a benchmarking tool for you to identify our colleague's strengths and development areas.

National Apprenticeship Week

Our Early Careers Team promoted our Apprenticeship opportunities virtually at council events in Newham, Haringey, Ealing, Bexley, Camden as well as attending Kingsmead school and Westminster Kingsway in person. We hosted an event open to all and attended our Supplier Skills apprenticeship fair. We reached approximately 100+ participants per event.

On the 8 February Karen Wallbridge, Skills and Employment Lead presented at the launch of the publication of the Apprentice Diversity Champions Network (ADCN) annual report 2021/22, hosted by Minister for Skills, Alex Burghart. Nura Abukar, Track Apprentice, London Underground and Stacey-Leigh Dolan, Programme Manager, LTM took part in a panel discussion on making apprenticeships more inclusive. Chaired by Lia Nici MP, the ADCN champions apprenticeships and diversity amongst employers and encourages more people from underrepresented groups to consider apprenticeships. Karen Wallbridge co-chairs, alongside a colleague at Siemens, a group focussing on Women into STEM-based apprenticeships, the output of which will be a toolkit for employers of all sizes to access on the Government Fire it Up Apprenticeship website pages.

Graduate and Apprentice Diversity Update

As requested at the TfL Board on the 2 February 2022, the below tables provide an overview of the diversity breakdown for our recent graduate and apprentice cohorts.

Good progress has been made in most areas, although women hires declined for total apprenticeship starts 2021. However, there was a positive trend of 47 per cent of apprentices hired at levels 4-6 were women.

For the level 2/3 campaigns we will now be undertaking a deeper analysis to understand the cause of the decline in the number of women hired.

Our focus remains on driving women in to engineering, supporting those from lower social economic backgrounds and supporting young people impacted by the pandemic. As a result, we will continue to expand on our mentoring offering, our schools engagement to include virtual work experience and virtual innovate sessions.

Apprentices	2018	2019	2020 (starts delayed to Jan/April 2021)	2021 * (started Sept 2021 and Jan/Feb 2022)
Women	20%	37%	40%	33%
Black Asian Minority Ethnic	35%	36%	34%	38%

Graduate	2018	2019	2020 (starts delayed to Jan/April 2021)	2021 (started Sept 2021)
Women	18%	22%	25%	32%
Black Asian Minority Ethnic	27%	53%	30%	45%

Safety, Sustainability and Human Resources Panel



Date: 24 February 2022

Item: Members' Suggestions for Future Agenda Discussions

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 2022/23**Appendix 1**

Membership: Dr Lynn Sloman MBE (Chair), Dr Nina Skorupska CBE (Vice Chair), Kay Carberry CBE, Bronwen Handyside, Dr Mee Ling Ng OBE, Mark Phillips and Marie Pye.

Abbreviations: CCSO (Chief Customer and Strategy Officer), CFO (Chief Finance Officer), COO (Chief Operating Officer), CPO (Chief People Officer), CSHEO (Chief Safety, Health and Environment Officer), D (Director), DIT (Diversity, Inclusion & Talent), DCP (Director, City Planning), Director of Risk and Assurance (DRA), CDD (Commercial Development Director)

29 June 2022		
Safety, Health and Environment Quarterly Reports (to include resilience, assurance and compliance issues)	CSHEO	Standing item
Bus Safety Update	COO	To note
Annual Review of Safety Statistics	CSHEO / DCP	To note
Responsible Procurement	CFO	To note
Human Resources Quarterly Report	CPO	Standing Item
Safety, Health and Environment Assurance Report	DRA	Standing Item
Enterprise Risk Update - Major Safety, Health or Environmental Incident or Crisis (ER1)	CSHEO	To note
Enterprise Risk Update - Protecting the Wellbeing of Our People (ER2)	CPO	To note

14 September 2022

Safety, Health and Environment Quarterly Report (to include resilience, assurance and compliance issues)	CSHEO	Standing item
Rail Accident Investigation Branch Update	CSHEO	To note
Bus Safety Update	COO	To note
Human Resources Quarterly Report	CPO	Standing item
Safety, Health and Environment Assurance Report	DRA	Standing Item

16 November 2022

Safety, Health and Environment Quarterly Report (to include resilience, assurance and compliance issues)	CSHEO	Standing item
Vision Zero Update	DCP	To note
Air Quality Update	DCP	To note
Human Resources Quarterly Report	CPO	Standing item
Safety, Health and Environment Assurance Report	DRA	Standing Item
Enterprise Risk Update - Inability to Support New Ways of Working (ER10)	CSHEO	To note

22 February 2023		
Safety, Health and Environment Quarterly Report (to include resilience, assurance and compliance issues)	CSHEO	Standing item
CIRAS Presentation	CSHEO	To note
Bus Driver Facility Improvements	COO	To note (6 monthly standing item)
Climate Change Adaptation Update	DCP	To note
Responsible Procurement	CFO	To note
Human Resources Quarterly Report	CPO	Standing item
Safety, Health and Environment Assurance Report	DRA	Standing Item

To be scheduled

- Action on Inclusion
- Gender Pay Gap Report

Regular items

- SHE Quarterly Report – standing item
- HR Quarterly Report – standing item
- SHE Assurance Report – standing item
- Bus Driver Facility Improvements (every 6 months)
- People Plan Update
- Review of CIRAS Report and Themes – annual
- Vision Zero
- Enterprise Risk Updates

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