

Date: 30 June 2016

**Item: Quarterly Health, Safety and Environment Performance
Reports - Quarter 4 2015/16**

1 Summary

- 1.1 To inform the Safety, Accessibility and Sustainability Panel of the key health, safety and environment matters during Quarter 4, 2015/16
- 1.2 The Panel is asked to note the report.

2 Recommendation

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

3 Background

- 3.1 Full reports on Health, Safety and Environmental performance are produced annually. Quarterly reports are produced to update the Panel on any significant matters from the previous quarter. Transport for London (TfL) has three main delivery businesses, Rail and Underground, Surface Transport and Crossrail, with support from the Specialist Service Directorates. Any key activities related to the specialist directorates are highlighted on an exception basis, in this cover page.

4 Information

- 4.1 The 2015/16 Quarter 4 Health, Safety and Environment Performance Reports for Rail and London Underground, Surface Transport, Crossrail and Statistical Data are attached as Appendices 1-4 respectively.

List of appendices to this report:

- Appendix 1 - Rail and London Underground
- Appendix 2 - Surface Transport
- Appendix 3 - Crossrail
- Appendix 4 - Statistical Data

List of Background Papers:

None.

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London Rail and Underground

Quarterly Health, Safety and Environment Report

1 Summary

What went well

London Underground

- 1.1 London Underground's (LU's) health, safety and environment (HSE) performance indicators are made up from a suite of leading and lagging indicators. Some of these are simple outcomes measures and others precursors in the major accident risk models. Regular monitoring of HSE trends ensures key HSE issues are identified and addressed leading to improved HSE performance. During the quarter these have remained stable or are improving, with the exceptions of those noted below. The London Underground and London Rail (LU/LR) significant injury rate was significantly improved over last year's performance (0.15 injuries per million hours this year compared to 0.31 last year). This measures the RIDDOR reportable injuries where LU/LR is held as playing a contributory factor in the injury and which result in the customer being taken to hospital for treatment of that injury. The severity of the injury is not taken into consideration.
- 1.2 The long-term trend in the numbers of signals passed at danger (SPADs) continues with a downward (improving) trend. Of the 131 SPADs in the quarter, 118 (90 per cent) were 'Category A1' (attributable to Driver error); and 13 (10 per cent) were 'Category A2 or A4' due to signal or alleged train equipment malfunction. There were no aggravated SPADs reported in the quarter. The main reason for the improving trend is the upgrade of the Northern and Jubilee lines to automatic train operation.
- 1.3 Roll out of the 'Introduction to Construction Safety Course' continued in the quarter. This course was developed in partnership with the Construction Industry Training Board (CITB), to expose delegates to construction equipment and techniques utilised on our sites. The course is designed for those with responsibility for either managing or assuring site activities within TfL and/or providing related health, safety and environmental advice. The course has been designed to account for all competence and experience levels and is a mix of theory and hands-on practical activity. Our aim is to better equip attendees to confidently identify, support and if appropriate advise on HSE matters within the business. The course is not intended to make delegates deep subject matter experts, but to provide practical knowledge and skills to;
- Identify good and poor practice in a selected range of subject areas, including knowing when to escalate;
 - Equip delegates to "ask the awkward question" of those undertaking construction activities when they think an unsafe approach is being taken; and

- Understand the basics of sustainability and reducing the environmental impact of construction.

London Overground (LO)

- 1.4 The London Overground Safety Performance Index (SPI) has been stable over the quarter. This is primarily due to the reduction in London Overground staff assaults. A number of additional measures will be added to the SPI next quarter, such as additional rolling stock measures and the number of late access requests or changes. The SPI will be recalibrated to reflect these additional measures.
- 1.5 LOROL have introduced a safety app for their operational staff to report HSE concerns. This is loaded onto their iPads or smart watches to enable staff to easily report any issues. All issues are followed up with the reporter as well as being reported in LOROL's Period Report.
- 1.6 Customer on customer assaults on London Overground West Anglia services have decreased steadily over the quarter. Additional British Transport Police (BTP) have been deployed including known hotspots.
- 1.7 The number of assaults on LOROL staff has also decreased steadily over the quarter. However the majority of assaults on LOROL staff continue to be due to ticketing issues, alcohol consumption or customer anti-social behaviour. As LOROL have gathered intelligence on repeat offenders, BTP have been deployed to these areas and a number of arrests have been made.
- 1.8 There were no RIDDOR reportable injuries to customers on the DLR, London Trams or Emirates Airline in the quarter.

London Trams

- 1.9 The safety performance index score was above the target of 80 for the quarter. This is the first time London Trams has achieved this since the implementation of the index in 2014.
- 1.10 The following items have shown significant improvement in recent periods:
 - infrastructure planned preventative maintenance works;
 - a decline in the number of late work requests; and
 - an improvement in the number of senior manager tours carried out.
- 1.11 London Trams is in the process of reviewing the SPI with the intention of introducing two more categories of indicators. There are a number of incident report recommendations past their due date and a number of occurrences of wrong side door opens where passengers actually get off the tram. This will have the effect of making the target score of 80 harder to achieve moving forward.
- 1.12 The modifications to the Stadler trams to reduce the likelihood of wrong side door openings have now been in place for four months. Although it is still too early to fully conclude how effective the modification has been, the early signs are good with a significant reduction in incidents involving Stadler trams. No injuries have been reported involving customers alighting from the wrong side of trams. London Trams continue to monitor and look for other technical solutions that may help prevent this type of incident from occurring.

- 1.13 There have been no noise complaints on London Overground in the year. This included periods where the noise mitigation measures were turned off to allow for rail grinding and Road Rail Vehicle movements to the Crossrail site at Whitechapel.
- 1.14 Solar panels have been installed on the roof of the London Trams substation at Therapia Lane. This is a trial installation to better understand whether it is worthwhile considering their installation elsewhere on the network.

Dockland Light Railway

- 1.15 Docklands Light Railway (DLR) safety performance index shows increasing safety performance across the quarter (from 78 to 79.3). However, staff assaults, escalator failures, lift failures, and customer injuries continue to have a negative effect on the SPI. Improvement plans are in place across these areas.
- 1.16 There were no project accidents in the quarter on the DLR. DLRL projects have now gone 254,165 hours without a lost time incident.
- 1.17 Keolisamey Docklands' (KADs) Community Ambassadors & BTP won the B division anti-social behaviour intervention of the year award for their joint work around their Youth Intervention Programme. This programme works with youths and schools across the DLR network focusing on hard to reach youths who are a risk to themselves or others. There is a mix of interactive workshops and mentoring giving them the chance and skills to change behaviours and options to choices to change their path in life.
- 1.18 KAD have launched a new initiative – Passenger Safety Roadshows - in which 200+ passengers met with the operations team who set out the risks of running for trains, not taking account of the weather conditions and inappropriate footwear etc. This also allows an opportunity for passengers to give their views on potential improvements such as signage.
- 1.19 Environmental baselines were agreed for energy and water consumption on the DLR. This is a significant achievement and will enable DLRL and KAD to measure improvements in consumption over time.

Emirates Airline

- 1.20 The Emirates Air Line (EAL) SPI has varied between 86 and 89 and remained above target for the quarter. There have been no trends in the results other than a very low number of passenger and staff accidents have been recorded. The incidents occurring each period have been attributable to different factors each time including minor technical faults, lift failures and false fire alarm activations. All incidents are investigated and, where appropriate, follow up actions are implemented.

Health

- 1.21 A stress reduction programme for managers was launched. These first sets of workshops aim to give a learning opportunity for future improvements of the stress reduction programme.

- 1.22 45 health fairs were held for TfL employees at different locations across the organisation and 1,751 employees attended. The Health Fairs aim to encourage self-health management, with clinicians providing coaching on physical health, mental health, nutrition and medical conditions. Feedback continued to be positive and a high proportion of employees who attended the fairs have made a commitment to change something about their lifestyle.
- 1.23 We are in the fourth year of a five year strategy to reduce obesity across the organisation and help employees maintain a healthy weight. A 12 week weight management booklet has been developed and two 12 week weight loss programmes have been run with a total of 771 employees taking part. Of those who completed the online programme survey:
- 81 per cent said they had lost weight and almost one in ten (28 per cent) lost more than 8lbs (3.62kg) during the 12 weeks; and
 - 99 per cent of respondents said they intended to continue looking after their weight.
- 1.24 Throughout the year, continued support was provided via TfL's I-Will website and employees had access to videos, podcasts, factsheets and training plans that focussed on exercise and losing weight.
- 1.25 A series of events was promoted during the third year of our Step It Up programme, which aims to increase employees' physical activity levels. The initiative includes an initial fitness assessment and encourages employees to sign up to 150 minutes of exercise each week. In 2015/16, 1,099 employees accepted the challenge. An evaluation showed that 45 per cent of the employees who were exercising for less than 150 minutes per week had achieved or exceeded the recommended level or exercise one year later.
- 1.26 The condition management programme is an initiative for employees who have been identified as having recurrent and significant absence owing to musculoskeletal disorders with chronic pain and is now in its fifth year. In 2015/16 one group attended four weekly occupational health sessions in person, while the second group received a written education pack covering four weeks and focussing on the same topics, but did not attend the sessions. One further and final set of groups will be run in 2016/17. A full evaluation cannot be completed until 2018/19 as it will include 2 year sickness absence measures. However, an initial evaluation of the earlier groups produced promising results:
- The employees that attended the sessions showed a 49 per cent improvement for physical health and a 23 per cent for mental health;
 - The employees that received the information in a written format also improved but to a lesser extent, 19 per cent for physical health and eight per cent for mental health; and
 - Both groups demonstrated overall improvements in all musculoskeletal related absence.
- 1.27 This preliminary evaluation supported the importance of workplace involvement in preventative management for recurrent and chronic pain. It also showed that the programme with more personal input from the clinical staff had a greater impact than the one which only provided learning materials.

Areas for improvement

- 1.28 There was one 'in service' slow speed derailment of a LU passenger train during the quarter. This was the first incident of a passenger train derailment on a running line since 2007. A formal incident investigation has been commissioned to determine root causes and make recommendations to prevent a reoccurrence.
- 1.29 There was a tram derailment at Wellesley Road. This was the result of a car, travelling at speed, passing through red traffic lights and colliding with the front nearside of the tram. The collision caused the front bogie of the tram to derail. Four passengers on the tram reported minor injuries and the two occupants of the car were taken to hospital. This incident is under police investigation. There are no allegations against the tram driver, the tram or other LT infrastructure.
- 1.30 The number of LU lost time injuries (LTIs) for both the quarter and year exceeded their targets. The overall aim is for everyone to go home safe and healthy everyday, 144 LTIs occurred in the quarter against an aim of less than 140 and 478 in the year compared to an aim of 456 or fewer. Although performance did not improve as much as our target, it is improved over last year's performance when 494 LTIs occurred. The top three causes of LTI incidents in both the quarter and the year are; workplace violence (37 per cent); trauma (28 per cent); slips, trips or falls (14 per cent). All incidents are investigated and actions to minimise reoccurrence put in place; a three year strategy to reduce work place violence and to manage psychological and trauma events is under development.
- 1.31 Current actions being undertaken include:
- Repeat victims – a review will be undertaken of the actions taken when staff do not follow protocol and best practice will be investigated from other Train Operating Companies to recommend improvements;
 - A revised workplace aggression and violence training package is under development;
 - Options for improving workplace violence and aggression guidance for fare evasion and alcohol are under development;
 - Customer facing messages for workplace violence and aggression will be reviewed to determine how LU can be consistent in displaying such messages which are already seen on other parts of TfL; and
 - Work will be undertaken with Communications to ensure appropriate messages are produced before, during and after Night Tube.
- 1.32 The LU accidental customer injury rate shows a long term improvement and is currently stable. (Accidental customer injuries include any customer incidents that result in a physical injury.) However, within this the total number of customer major injuries (93) is above this years overall target of 78 incidents The areas where the majority of customer injuries occur are on escalators (30 per cent); at the platform train interface (PTI) incidents (23 per cent); and on stairs (22 per cent). Of the 30 customer major injuries occurring this quarter half had alcohol as a significant contributory factor.
- 1.33 The following mitigations are currently being developed to address the top three causes of customer injuries: at escalators; stairs and the platform train interface.

Escalator safety

- 1.34 The six month trial of the escalator safety initiatives is complete. Each safety initiative was assessed in four key areas; statistical significance of accident reduction, statistical significance of modifying customer behaviour, a staff opinion survey and a technical review. Seven initiatives (of 12) show a measured improvement in either modifying customer behaviour in a positive way or show statistical significance in reducing accidents. These mitigations are now being reviewed to determine which will be implemented on the escalators where the majority of incidents occur.
- 1.35 A paper with further details of these initiatives and proposed mitigations is provided as item 9 on the agenda. In summary, the mitigations being taken forward are:
- passenger positional foot print guides;
 - step riser messages;
 - red Lexan comb;
 - a floor vinyl;
 - a hologram;
 - an e-toblerone; and
 - messages embedded in the handrails.

Stairs safety

- 1.36 A survey of the top 20 stations with stairs related incidents was conducted. Each stair case was surveyed using the recently published guidance Safer Stairs in Public Places – assessment of existing stairs (CIRIA C722) with the following areas surveyed; handrails, lighting, leading edges of the nosing steps, tread and risers. Any immediately rectifiable defects were undertaken and others will form part of the 2016/17 Asset Resilience plan.

Platform train interface

- 1.37 The overall LU target for the number of platform train interface incidents was not met for the year or the quarter. 290 PTI incidents occurred in the quarter and 1,015 in the year. The majority of these incidents did not result in fatality or a life changing injury. The main causes remain: caught in doors incidents (60 per cent); falls between the train and platform incidents (30 per cent); contact between person and train incidents (7 per cent) and falls from platform incidents (3 per cent).
- 1.38 The PTI Working Group has set a vision for LU on PTI risk: “Against the backdrop of increasing customer numbers, there will be a year on year reduction in PTI incidents, and zero life changing or fatal PTI incidents”. The GAPS (Getting Active about PTI Safety) project is currently working a number of key issues to mitigate against the risks presented from PTI:
- Nosing stone mitigation works and improving obscured views on the sub-surface lines;
 - Platform risk profiling of the top 90 platforms on the BCV and JNP lines leading to delivery of the project plan for improving obscured views on BCV and JNP stations;

- The platform end barrier trial was completed and changes made to the standard;
 - Variations of the yellow platform markings agreed by the standard holder;
 - Design and delivery of staff awareness campaign and refresh of the station assistant train services (SATS) role. Trial scripts begin in May at Oxford Circus, Victoria and Bank. Plan to roll out by September 2016; and
 - Benchmarking studies with other metros being undertaken through the COMET and NOVA benchmark groups.
- 1.39 The project plan is also being shared with the London Underground Operations leadership team.
- 1.40 The LU Capital Programmes Directorate (LU CPD) RIDDOR accident frequency rate of 0.17 injuries per 100,000 hours worked exceeded the target in the quarter. (0.15 injuries per 100,000 hours worked). The main causes of the incident are slips, trips, and fall incidents; incidents involving machinery / equipment / powered tools; and incidents involving electricity. The quarterly performance continues a trend identified over the last six months of individuals experiencing minor injuries which result in them being off work for greater than seven days (and hence being RIDDOR reportable). LU CPD are working with our suppliers to fully understand the scale of the issue so that an appropriate improvement plan can be put in place. In the interim CPD are working with the TfL Occupational Health team to provide good practice guidance to our employing managers and our suppliers to improve the wellbeing of those with minor injuries enabling a return to work as soon as they are fit and it is safe for them to do so.
- 1.41 Staff assaults on DLR have increased in the quarter, in line with the increasing number of revenue checks being carried out. KAD are reviewing and re-launching their conflict avoidance training, with a new provider. They are also developing a staff security booklet which will include reminders and complement the training on conflict avoidance.
- 1.42 Three positive results for drugs were returned and one positive result for alcohol. All four cases were referred to a company disciplinary hearing. In addition a track operative booked off duty when called for an unannounced test. The operative will be tested “for cause” on their return to work.
- 1.43 The number of working days lost to employee sickness on LU rose slightly to 60,783 in the quarter. This gives an average of 3.5 working days lost per employee. The number of working days lost to employee sickness on LR remained stable with 232 days lost. This gives an average of 0.8 working days lost per employee. Gastrointestinal, musculoskeletal, and coughs and colds remain the top three causes of sickness absence. Sickness absence is monitored locally and through the TfL Health Improvement Plan (HIP) meetings.

Key deliverables in the next quarter

- 1.44 To help reduce the number of work related violence incidents the British Transport Police (BTP) are relaunching an operation that recognises workplace violence pre-cursor incidents when staff interact with regular revenue offenders. The operation aims to ensure revenue issues relating to regular customers are reported to police promptly. Following a report, the BTP will attend to prevent the interaction become a regular event and minimising the potential of a staff assault.

- 1.45 All London Rail businesses will be concluding their review of the indicators in their Safety Performance Indices to ensure they remain relevant. In addition, the businesses will be considering whether their indices should be recalibrated to make the target of 80 more difficult to achieve.
- 1.46 The DLRL Safety Authorisation application is being reviewed and updated in line with the timescales for the renewal (May 2017). The update is progressing well.
- 1.47 The environmental impacts of the proposed Night Overground will be examined.

2 Major Incidents

There were no major incidents in the quarter.

Surface Transport

Quarterly Safety, Accessibility & Sustainability Report

1 Summary

What went well

Road Safety

- 1.1 This quarter saw the lowest level of KSIs on record for quarter 4 and represents a 41 per cent reduction from the 2005-2009 baseline for quarter 4. KSIs for quarter 4 are one per cent lower than the same quarter last year (from 556 to 550) and 3.3 per cent ahead of the quarter 4 target. The full year target for 2015 is a 40 per cent reduction in KSIs against the 2005-09 baseline. TfL has also set a stretch target of a 50 per cent reduction. However, with provisional data for quarter 4 of 2015 showing there were 550 KSIs, road safety remains a critical issue to tackle in London. Provisional figures for 2015 show that there was a reduction in KSIs of 42.3 per cent from the baseline, to the lowest level on record, which is ahead of the required performance.
- 1.2 A recent evaluation shows that 42 per cent of road users recognised the safety campaign seeking to address key sources of road danger (travelling too fast, becoming distracted, undertaking risky manoeuvres, driving under the influence of alcohol or drugs, failing to comply with the laws of the roads). Additionally, over 80 per cent of respondents agreed with statements such as 'The messages stay in my mind' and 'Made me stop and think about what I do when I'm on the road'. TfL also saw a reduction in those claiming to do one or more risky behaviours on the road from 56 per cent of all road users prior to the campaign launch to 44 per cent.
- 1.3 TfL held its annual road safety conference in March on the theme of 'Sources of Road Danger: A New Approach'. The conference was attended by borough officers, third party organisations and other partners. Speakers presented on a range of subjects related to the five sources of road danger and workshop sessions provided learning opportunities for delegates.
- 1.4 The conference was also an opportunity to highlight the publication of London's online Collision Map, which shows all personal injury collisions on London's roads between 2005 and 2014.
- 1.5 The TfL Urban Motorcycle Design Handbook was published in March. This handbook is a key tool for those who design, build and maintain London's roads to provide a better insight of how road and traffic conditions affect this vulnerable road user group. TfL has run ten training workshops to support the handbook to date, which have been attended by over 100 TfL and London borough engineers.
- 1.6 Three additional London boroughs (Tower Hamlets, Haringey and Barnet) were invited to join the Road Safety Priority borough programme for 2016/17. The boroughs along with the seven existing priority boroughs benefitted from further

enhanced engagement in quarter 4. This included one-to-one meetings with the boroughs and additional discussions on road safety data.

- 1.7 The 20,000th UK licensed HGV driver completed TfL's Safe Urban Driving (SUD) course to learn how to share the road safely with others. The course, created by TfL in 2011, is the first accredited course in the UK to include on-road cycle training for HGV drivers. This element of the course gives drivers a vulnerable road user's perspective of the road and helps to improve road safety through an attitude change towards cyclists and pedestrians.
- 1.8 TfL is inviting all pre-school children in London to join a special club to teach them road safety lessons that will stay with them and help them for life as part of the TfL's Children's Traffic Club London. The free road safety education programme is designed to give pre-school children and their parents/carers valuable road safety skills. It also promotes sustainable modes of transport such as walking, scootering and cycling. Since September 2015, 66,542 children from 33 London boroughs have registered for the club. TfL aims to increase this number to 100,000 by the end of this school year. TfL's most recent research shows that, as a result of registering with the Club, 87 per cent of parents or carers reported that their child is more aware of the importance of road safety.

Operational Safety

- 1.9 Surface Transport launched a new three year Health and Safety strategy which sets out how the organisation will contribute to achieving the TfL's vision of "Everyone home safe and healthy every day". It focuses on achieving five key outcomes:
 - (a) Safe operations and services;
 - (b) A safe and healthy workforce;
 - (c) Safe assets and technology;
 - (d) Safe and healthy streets and places; and
 - (e) Behaviour on our network that protects everyone's safety and wellbeing.
- 1.10 Surface Transport collaborated with the Thames Tideway project to deliver immersive behavioural safety training to 30 leaders within the organisation. This experience has been used to develop the in-house programme, Your Choice, in partnership with colleagues in LU.
- 1.11 Customer major injuries fell by 4 per cent compared with quarter 4 of 2014/15 with a total of 330 injuries reported, equivalent to 0.48 injuries per million passenger journeys. The total in the quarter brings major injuries for 2015/16 to 1,257 which is also an improvement on last year when 1,341 were reported.
- 1.12 The TfL Board approved new regulations that will modernise and improve the Capital's private hire industry. The measures which follow an extensive consultation process that attracted over 20,000 responses will include provisions to make travelling by a private hire vehicle safer for customers. The agreed changes include:
 - (a) More robust 'hire and reward' insurance requirements – this will mean a policy has to be in place for the duration of the vehicle licence, including when the vehicle is presented for inspection to TfL;

- (b) The ability for drivers to communicate effectively in English;
 - (c) Fares are estimated for customers in advance of their journey;
 - (d) The provision of driver and vehicle details to customers, including a photo of the driver, before the start of each journey;
 - (e) Private hire operators will be required to ensure that customers can speak to someone in the event of a problem with their journey; and
 - (f) Operators are required to keep improved records and provide driver and vehicle information to TfL to make enforcement easier and more effective.
- 1.13 Further progress was made on developing the programme of pedestrian town centre improvements in Tooting and Peckham. The aim is to deliver improvements to streets and pavements to make them safer for pedestrians and raise awareness of safety issues among all road users through a range of behaviour change, marketing and enforcement programmes.
- 1.14 The Better Junctions Programme continues to make progress with the highway works at Oval now complete and the urban realm aspects due for completion by the end of May 2016.
- 1.15 The annualised TfL Road Network (TLRN) Regional Improvement Programme (RIP) has delivered a number of safety focused schemes in the quarter. These include pedestrian improvements at Hendon Central on the A41 in Barnet, a new toucan crossing facility on the A205 Sydenham Hill and a greatly enhanced pedestrian facility on the A4 /Gliddon Road serving a local College. The 20mph limits on the A10 and A210 corridors through the City have been made permanent and three new sections of 20mph on the TLRN in Lambeth will be in place by the end of May.
- 1.16 The Mayor, Santander UK and TfL announced in December that all 11,500 Santander Cycles will be fitted with Blaze Laserlights from the next quarter. This follows a successful trial with overwhelmingly positive feedback and strong independent test results. The lights will provide a bigger, brighter presence on the road and early warning of a cyclist's proximity. Santander UK will contribute 90 per cent of the funding as part of its partnership with TfL.

Asset Safety

- 1.17 The A406 Neasden / Dog Lane structures scheme to strengthen and repair the asset completed within the quarter. This will help ensure the asset's continued safe operation and militating against future disruption due to asset failure. The risk of the bridge being struck by high sided vehicles was also eliminated by the removal of the low steel braces that crossed the carriageways on the east and west. This change will also enable better freight movement.
- 1.18 Since gaining equipment approval for cycle detection equipment, TfL has delivered cycle SCOOT at four junctions on the new Cycle Superhighways, which enables TfL to measure the volume of cyclists approaching the junctions in real time, detecting them at the stop-line to determine how long it takes them to clear after the lights change and then adjusting the traffic signal timings appropriately. Six more sites are due for delivery this financial year to further enhance safety for cyclists.

Road Modernisation Plan

- 1.19 A plan to radically transform Archway to make it a safer, more pleasant and accessible town centre was commenced. Residents and road users will benefit from a new public space and safer road layout that will make the area more attractive for residents and visitors, and for future investment.
- 1.20 A public consultation on plans to boost the safety of Hammersmith gyratory started in February. TfL and Hammersmith & Fulham council is keen to hear Londoner's views on a new road layout that would significantly improve cyclist safety on one of London's 33 most intimidating junctions.
- 1.21 Nearly three-quarters of respondents in a public consultation supported the proposal which will make the Westminster Bridge south roundabout safer. The safer links created will provide a connection to the wider cycling network in the Waterloo area including the East-West Cycle Superhighway and a new "Central London Grid" cycle route on the South Bank.

Bus Safety Programme

- 1.22 In February 2016, TfL launched a programme to drive major improvements in safety across London's bus network. The six-point programme to improve safety will bring together the newest technology, training, incentives, support, reporting and transparency right across the network, contributing to TfL's work towards meeting the Mayor's target of halving the number of people killed or seriously injured on the Capital's roads by 2020.
- 1.23 The Sarah Hope Line, TfL's support service that assists in the aftermath of serious incidents, was officially launched on March 18. This is one of six network-wide initiatives that form part of the Bus Safety Programme. The support service will provide a range of practical and emotional help to those affected by a serious incident on the transport network, including helping with travel, accommodation and other needs following an incident, and referral to a number of specialised support and counselling services.
- 1.24 Surface Transport made progress on the rollout of "In The Zone" the bus driver training designed to further raise their awareness of human factors and behaviours related to road accidents. The programme will see 24,700 drivers trained by mid 2016. "In the Zone" raises drivers' awareness of the risks that are taken when on the road, whether that be as a driver of a vehicle, or as a vulnerable road user such as a pedestrian, cyclist or motorcyclist.
- 1.25 TfL completed trials of Intelligent Speed Assistance (ISA) technology fitted to buses, proving that the technology can be used to control speeds on London's bus network. The trials, the first in the UK, saw the technology which prevents vehicles from travelling over speed limits, fully tested on two bus routes that included a variety of road environments and differing speed limits. During the trial, all buses fitted with ISA remained within the speed limit 97-99 per cent of the time proving the effectiveness of ISA. TfL intends to require all new buses from 2018 to have this technology fitted.

- 1.26 In January, TfL launched a new measure to help manage bus safety with the introduction of the Confidential Incident Reporting and Analysis System (CIRAS). This means the London bus network is first in the UK to adopt a scheme allowing bus operator employees to confidentially report any health and safety concerns to a third party. Bus employees now have an extra way of reporting any concerns, complementing existing methods for reporting and investigating incidents that are already in place.
- 1.27 TfL published bus safety statistics for the final quarter of 2015 (October to December), which show a slight reduction in the rate of injuries on the bus network. Between October and December 2015, 1,488 people were injured in incidents involving buses, compared with 1,491 in the previous three months (July to September 2015).

Sustainability

- 1.28 Quarter 4 has seen a total of 136 staff complete two environmental awareness courses in 2015/16. The courses which included Public Transport Operations and Project Management, Design and Construction were developed and made available on an e-learning portal. These courses are aimed at both operational staff and staff working on projects which have an element of public realm design and construction to raise environmental awareness and enable TfL to become a more environmentally responsible organisation. Surface Transport is currently working with colleagues in LU and Rail to review the course content to incorporate wider TfL requirements in order for it to be rolled out across the organisation.
- 1.29 The London element of the European Zero Emission Urban Bus System (ZeEUS) project commenced. ZeEUS will test new innovations around electric buses and how to charge them. TfL will be running the scheme for the next 15 months along with seven other European cities. TfL's particular project is unique, as it is trialling wireless inductive charging technology of diesel hybrid buses on Route 69 between Walthamstow and Canning Town. The trial will help to understand how the technology can best be used to reduce the impact TfL's bus fleet has on the environment.
- 1.30 Three new electric double decker buses that will be running on the route are the first inductive charged range-extended hybrid double decker buses in the world. The technology works by drivers simply parking their bus over a charging plate at each end of the route to top up the batteries. Regular charging during the day should allow the buses to operate in electric mode for about 80 per cent of their working day.
- 1.31 The proportion of the bus fleet served by low-carbon emission diesel-electric buses is now at 19 per cent. There are currently 1,670 hybrids in the fleet and this total will grow to 1,700 by the middle of 2016 when they will represent around 20 per cent of the fleet. The New Routemaster programme has contributed 700 vehicles to this programme so far following conversions of routes 68 and 3 in February and the 59 in March. Once all 1,000 NRMs are delivered to the fleet by 2017, this component will reduce CO2 emissions in the capital by around 27,500 tonnes a year. Other benefits from hybrids generally include reduced vehicle noise, associated health benefits from low emissions and improved journey experience.

- 1.32 Around 2,200 Euro III buses have also been fitted with upgraded exhaust systems to reduce their NOx emissions by up to 88 per cent per bus. The completion of this programme has enabled the bus fleet to achieve another mayoral target of reducing NOx emissions by 20 per cent compared with 2012 levels.
- 1.33 Lower biodiesel blends than planned are now being used on around a third of London's 9000-strong bus fleet to overcome technical issues connected to fuel tank cleaning and engine type certification for some models. Around 3,000 vehicles were originally to be switched over to 20 per cent blends utilising sustainable sources of cooking oil and animal tallow. But, as an interim measure, Stagecoach and Metroline will now use up to a one-tenth B10 mix, before stepping up to B15 and B20. Once all vehicles move on to the higher proportion B20 mix, CO2 emissions will reduce by around 21,000 tonnes each year.
- 1.34 TfL launched a new industry-led programme to reduce the emissions of London's freight and fleet operators in January. The five-year Low Emission Commercial Vehicle (LECV) programme, LoCITY, is set to work across the industry to increase the availability and uptake of low emission vans and lorries. It will bring together freight and fleet operators, vehicle manufacturers, fuel providers and the public sector. The initiative will create new environmental operating standards and contractual clauses for procurement bodies to adopt easily. LoCITY will also demonstrate, through research and real world trials, that using these cleaner vehicles will not negatively impact operations. LoCITY has three workstreams focusing on:
- (a) Increasing the availability and affordability of low emission vans and lorries;
 - (b) Improving the alternative fuel infrastructure, such as electric charging points and the use of hydrogen fuel; and
 - (c) Improving policies, procurement and land use planning to increase the use and viability of low emission vans and lorries.
- 1.35 The London Low Emission Zone (LEZ) Phase 4 sees 97 per cent of HGVs, buses and coaches compliant, compared with a target of 95 per cent and for Phase 3, 99 per cent of larger vans and minibuses compliant, compared against a target of 98 per cent. The LEZ applies maximum emission standards which, if not complied with, will result in a financial penalty. The targets have been revised upward to reflect the high levels of compliance that the scheme is currently achieving.

Enforcement, Safety and Security

- 1.36 'Report it to Stop it' is encouraging passengers to report any unwanted sexual behaviour they experience while traveling on the network. The campaign's film, which highlights the varying degrees of unwanted sexual behaviour, has now been viewed by more than 3.8 million people, helping to increase confidence in reporting behaviour that makes people feel uncomfortable. The message given to victims is that they don't have to prove that it was a criminal offence or intentional to report an incident, and that the police will investigate all reports. This multi-agency campaign has influenced a 36 per cent increase in the number of people coming forward after experiencing unwanted sexual behaviour on the Capital's Tube, rail and bus network.

- 1.37 TfL successfully prosecuted Splyt Technologies Ltd, an app-based minicab company, for breaching the requirement for a London private hire operator's licence. Splyt pleaded guilty to the charge and were fined £1,750 at Westminster Magistrates' Court, as well as being ordered to pay TfL's claimed costs in full, a further £5,217. This positive result shows TfL's commitment to tackling illegality in the private hire trade in order to protect the rights of the legitimate private hire and taxi trades in London.
- 1.38 Since the Safer Lorry Scheme (SLS) was introduced in September 2015 officers have stopped and checked 9,036 vehicles during which 320 SLS offences were detected and appropriate action taken. During March 2016 only 13 offences were identified, which is the lowest number of monthly offences to date, indicating compliance continues to improve.
- 1.39 Operation Neon, a high visibility multi-agency enforcement operation to deter and disrupt illegal minicab activity in a number of Central London hotspots, continues. To date the operation has achieved the following results:
- (a) 8082 PHV drivers advised and moved on to keep roads clear for taxis and booked PHVs.
 - (b) 413 PHV drivers reported for not having a badge and stopped from working for the remainder of the evening.
 - (c) 4628 PHV drivers reported for not wearing their badge.
 - (d) 65 PHV drivers reported for plying for hire offences (this includes plying + section 2 offences).
 - (e) 1071 PHV drivers reported for parking on Taxi ranks.
 - (f) 2141 Parking tickets issued

Transport Accessibility

- 1.40 The Bus Stop Accessibility programme which aims to have least 95 per cent of the Capital's 19,500 bus stops accessible by the end of 2016 is on track with 85 per cent already converted. TfL has worked closely with local authority partners to achieve this, as a significant proportion bus stops are not on the TLRN. Across the TLRN, 95 per cent of stops are already accessible - with a target of 99 per cent to be achieved by 2016.

Areas for improvement

- 1.41 In 2015, the number of motorcycle and scooter fatalities in London rose to 36, from 27 the year before. Provisional data indicates that there were 514 serious injuries to motorcyclist and scooter riders in the twelve months ending September 2015, compared with 507 the previous year. As a result TfL and the MPS Roads and Transport Policing Command, which is part-funded by TfL, are stepping up their joint activity, including employing more officers at key motorcycle hotspot junctions where collisions are most likely to occur. Two recent phases of Operation 'Winchester', from September to November 2015 and again in January this year, saw enforcement activity stepped up at hotspot locations and at key times across London to help keep motorcyclists and scooter riders safe. Over these two phases officers stopped 5,389 riders, issued 742 Traffic Offence Reports, 1,335 verbal warnings, seized 96 motorcycles and made 10 arrests.

- 1.42 The MPS Motorcycle Safety Team and wider Roads and Transport Policing Command continue to target those boroughs where motorcyclists are at the greatest risk of injury. As well as clamping down on illegal and antisocial road user behaviour such as speeding, careless riding and red light running, they will be giving road safety advice to all road users and providing leaflets on BikeSafe-London rider skills days.
- 1.43 The number of private hire drivers in the Capital has risen from 95,504 licenced private hire drivers at the start of December 2015 to 100,709 at the end of March. This rapid growth has given rise to a number of wider issues, including rising traffic congestion, illegal parking and impacts on air quality. TfL has called on the government to provide further powers so we can cap the number of drivers but the government has been reluctant to pursue such legislation. The impact and feasibility of removing Congestion Charge exemption for Private Hire Vehicles to help tackle the concerns is being investigated.
- 1.44 Reports and arrests resulting from of unwanted sexual behaviour on the transport network have increased in the last year as TfL, the Metropolitan Police Service (MPS), the British Transport Police (BTP) and City of London Police (CoLP) work together to instil confidence that all reports will be taken seriously and investigated in a commitment to rid the network of these crimes. The multi-agency 'Report it to Stop it' campaign has influenced a 36 per cent increase in the number of people coming forward after experiencing unwanted sexual behaviour on the Capital's Tube, rail and bus network.
- 1.45 A total of 460 assaults towards employees and contractors were recorded in quarter 4, up marginally from the 458 recorded in quarter 4 of 2014/15. Verbal abuse towards employees is the main cause of the increase with a total of 30 compared to 23 last year. Bus drivers are mostly affected in assaults accounting for 88 per cent of all incidences followed by Revenue Protection Inspectors with 4 per cent. Most assaults are verbal in nature, those which were physical in the quarter accounted for 26 per cent of all incidences, an improvement on quarter 4 of 2014/15 when it was 31 per cent.
- 1.46 The slight rise in overall assaults is generally taken as evidence of the effectiveness of efforts to encourage reporting of all acts of aggression towards employees and contractors to help target interventions and support. TfL continues to offer the refreshed conflict management training package to targeted frontline employees, the primary focus of which includes avoidance, reporting and de-escalation.
- 1.47 In quarter 4, 98 victims reported incidences of assaults to the police for investigation. In the same period, the TfL Workplace Support Team supported 58 cases including assisting with witness statements and DNA evidence gathering. The unit also facilitated or participated in eleven forums and presentations which are helping to support victims and encourage reporting. TfL has been working with the MPS to improve feedback on the progress and outcome of cases.

Occupational Health

- 1.48 The number of working days lost to employee sickness was up 7 per cent compared with quarter 4 2014/15. In total, 9,698 days were lost, up from 9,191 in same quarter of last year. In spite of the rise, the average days lost per employee was slightly better at 2.82 working days per employee compared with 2.86 in quarter 4 of 2014/15. Musculoskeletal, mental health and coughs and colds were the top three causes of sickness absence with 649 employees affected compared

with 632 in the same quarter last year. Sickness absence trends are monitored and actioned through the pan-TfL Health Improvement Plan (HIP) meeting.

Key deliverables in quarter one

- 1.49 Work is continuing on both the data and transparency and analysis works streams of the Bus Safety Programme. TfL is currently preparing an analysis of ten years worth of STAT19 data on collisions and casualties involving Buses and Coaches to show the long term trends in collisions and casualties, which will be published in June. Work has also been done to split out TfL Buses from the Bus/Coach category of STATS19 using vehicle registrations so that TfL is able to publish TfL Bus only data alongside the annual STATS19 publication.
- 1.50 TfL will organise a workshop with bus operators which will examine existing processes for the investigation of fatal and serious injury collisions and how they could be further strengthened to support the goals set out in the Bus Safety Programme.
- 1.51 The Your Choice behaviour safety programme for staff will be launched.
- 1.52 The Better Junctions Programme at Stockwell to remove a gyratory will be completed during quarter 1 when it will be converted to a two way operation
- 1.53 There will be a continuation to work with schools as part of the STARS (Sustainable Travel: Active, Responsible, Safe) programme which has seen 50 per cent of schools accredited.
- 1.54 The rollout of Blaze Laserlights on all Santander Cycles will commence.
- 1.55 Trials of cycle detection at eight traffic signal locations across London which started in March 2016 will see a further two sites being commissioned. The outcome of the trial will be reported in May 2016.
- 1.56 Work will continue to improve safety for cyclists around major developments such as Vauxhall, Nine Elms, Albert Embankment and Elephant & Castle by engaging with contractors through the various working groups that TfL has established. Local cycle groups will be involved in safety rides aimed at removing conflicts between the cyclist and HGVs around these major developments while works are underway.
- 1.57 By summer 2016, eight Cycle Superhighways comprising over 60km of new cycling infrastructure will have been implemented delivering a step-change in safety for cyclists across the capital.
- 1.58 The first phase of the Cycle Super Highway programme remains on track to be fully completed by summer 2016.

2 Major incidents

- 2.1 There were five accidental fatalities involving Surface Transport managed activities in quarter 4:
 - (a) A female pedestrian was fatally injured following a collision with a route 472 bus at the junction of John Harrison Way, SE10, on January 4;

- (b) A male pedestrian was fatally injured in a collision with a route 213 bus on January 9 on Eden Street, Clarence Street, Kingston;
- (c) A male passenger on a route 5 travelling along Barking Road on 11 February fell down the stairs when the bus pulled away from the stop. The male died from his injuries on February 16;
- (d) A male pedestrian was fatally injured in a collision with a route 253 bus on Clapton Common, on March 4; and
- (e) A female was fatally injured in a road traffic collision with a Route 355 bus travelling along London Road, Mitcham, on March 11.

2.2 The investigations into the incidents are ongoing.

2.3 The investigation into three previously reported accidental fatalities were concluded in the quarter with one recommendation for an operator concerned. The incidents were:

- (a) The investigation into a fatal collision between a private car and a route N38 bus on Lea Bridge Road, E5 on 04 June 2014 where a car occupant was killed revealed that the bus was proceeding normally when the third party vehicle which was speeding and overtaking several vehicles lost control and encroached into the path of the bus. The Coroner's hearing returned a verdict of "death by road traffic collision" and made no recommendations for TfL or the bus company;
- (b) The investigation into a fatal collision between a route 176 bus and a male pedestrian on 29 March 2015 on Grove Val, SE22, revealed that the pedestrian was knocked into the path of the bus by a private car and the bus driver was unable to avoid the collision with the pedestrian. Neither the car nor the bus driver was called to give evidence or found accountable for the collision. The Coroner's hearing returned a verdict of "death by road traffic collision" and made no recommendations for TfL or the bus company; and
- (c) The investigation into a major collision between a route 55 bus and a 22 year old male pedestrian which resulted in the male being trapped under the bus on Farringdon Road at the junction with Clerkenwell Road on 22 August 2015. The male died from his injuries on the 22 August 2015. The Coroner's hearing returned and issued Prevention of future Deaths reports for Stagecoach and Wright bus. The Coroner raised concerns about the suspension lift switch in his reports to Stagecoach, the operator of the bus and Wrightbus, the manufacturer. These have been addressed through amendments to the manufacturer's manual provided to operators and the provision of additional training and guidance to drivers on the use of the suspension lift switch.

CROSSRAIL QUARTERLY HEALTH, SAFETY AND ENVIRONMENT REPORT

1 SUMMARY

What went well

- 1.1 15 out of 16 contracts (94%) achieved a Health and Safety Performance Index (HSPI) score of 2.00 (scale of 0 to 3 with 1.0 reflecting contractual compliance) or above, exceeding our corporate objective of 85%.
- 1.2 The RIDDOR (including 3+ day lost time case) AFR was 0.17 at the end of the quarter, a 6% reduction on the end of year (2014/2015) rate of 0.18. It should be noted that a 20% reduction was achieved up to Period 11, however, poor performance in Periods 12 and 13 reversed the trend, resulting in the corporate objective (20% reduction) for 2015/16 not being met.
- 1.3 The Lost Time Case (LTC) AFR was 0.26 at the end of the quarter, a 20% reduction on the end of year (2014/2015) rate of 0.32, resulting in the corporate objective (20% reduction) for 2015/16 being achieved.
- 1.4 The Frontline Leadership Programme (FLP) has now integrated content relating to diversity and inclusion and its impact on health and safety on site. The corporate target of 100 new supervisors recruited to FLP this year has been exceeded, with 130 enrolments achieved in 2015/16. The total number of supervisors that have completed FLP since its inception is almost 400
- 1.5 Health and safety Assurance audits were carried out at 16 sites during the Quarter. A total of 11 Corrective Action Requests, 38 Observations and 18 Good Practices, were raised. All CARs were closed on time.
- 1.6 The Business Continuity suite of documents was merged into a more efficient, single Resilience Plan (issued in April) and the new Duty On Call Process was implemented. Work continued on reviewing all Business Impact Assessments and developing the training and exercise plan for 2016/17.
- 1.7 The programme of Assurance Assessments on Fire Safety for 2015/16 continued in Q4. The assessments were undertaken by the London Fire Brigade Crossrail Liaison Officer, supported by the Assurance team. Compliance with site firefighting provisions, required by the LFB, was fully achieved at all Station and Shaft sites. Ongoing compliance continues to be monitored.
- 1.8 The first of the Crossrail's Mental Health First Aider training courses was completed and rated highly by delegates.
- 1.9 The Occupational Health & Wellbeing Maturity Matrix has been rolled out to Principal Contractors and will be used as the scoring mechanism for health in the next phase of HSPI.

- 1.10 Similarly a Diversity & Inclusion maturity matrix was launched in the quarter and is being piloted at five of our principal contractors' sites. The matrix is to be used to measure the extent to which work cultures are inclusive and interdependent.
- 1.11 At the close of the 2015/16 financial year, Crossrail remains on track to achieve targets on reducing at least 8% of construction energy, diverting at least 95% of construction waste from landfill, achieving 20% by value of recycled content in construction materials, fitting diesel engine emissions control on at least 80% of construction equipment, achieving at least 80% of available biodiversity units in restoration schemes and meeting targets of very good or excellent for BREEAM (depending on the station) and excellent for CEEQUAL.
- 1.12 The Crossrail Learning Legacy Website was launched on 26 February, with the first tranche of health, safety and environmental content.
- 1.13 Wallasea won the Sustainable Resource Management Award on 25 February 2016 at the Environment Agency's Project Excellence Awards evening.

Areas for Improvement

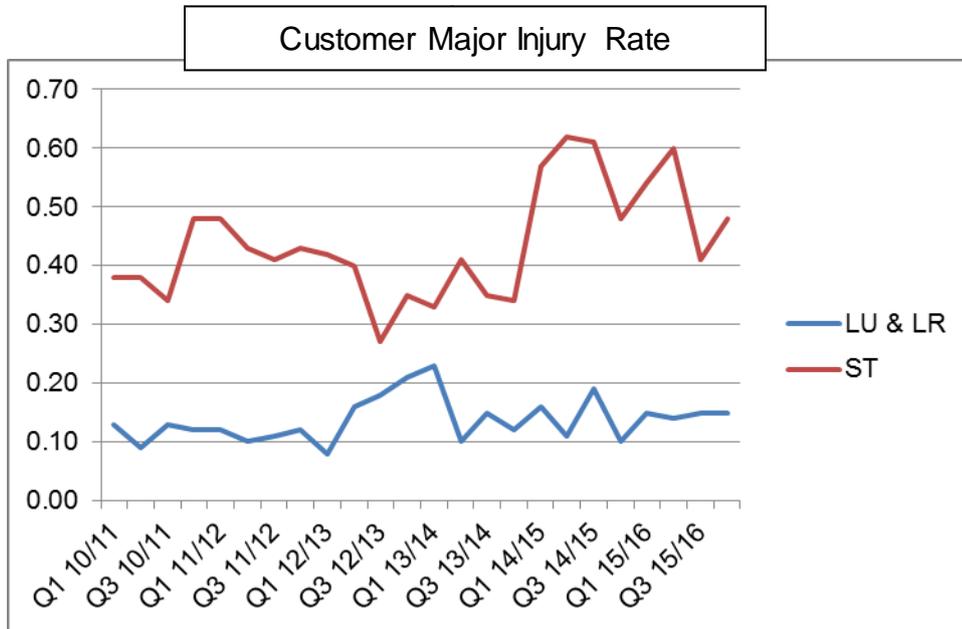
- 2.1 There will remain a continued focus on construction noise management, including encouraging contractors to achieve "world class" levels of noise management as defined in Crossrail's supplier performance process. Noise management remains an important issue during 2015/16 because of the use of extended hours and night time working at some locations.
- 2.2 The occupational health and wellbeing improvement plans, as a result of the completion of the maturity matrix, will be tracked on a quarterly basis in order to drive good management in this area of health and safety.
- 2.3 An assurance assessment is due to be carried out on access and egress arrangements for tunnels and stations reviewing how personnel movements, emergency arrangements and interfaces between contractors are managed from one location to another.

Key Deliverables in the next Quarter (Q1 – 2016/17)

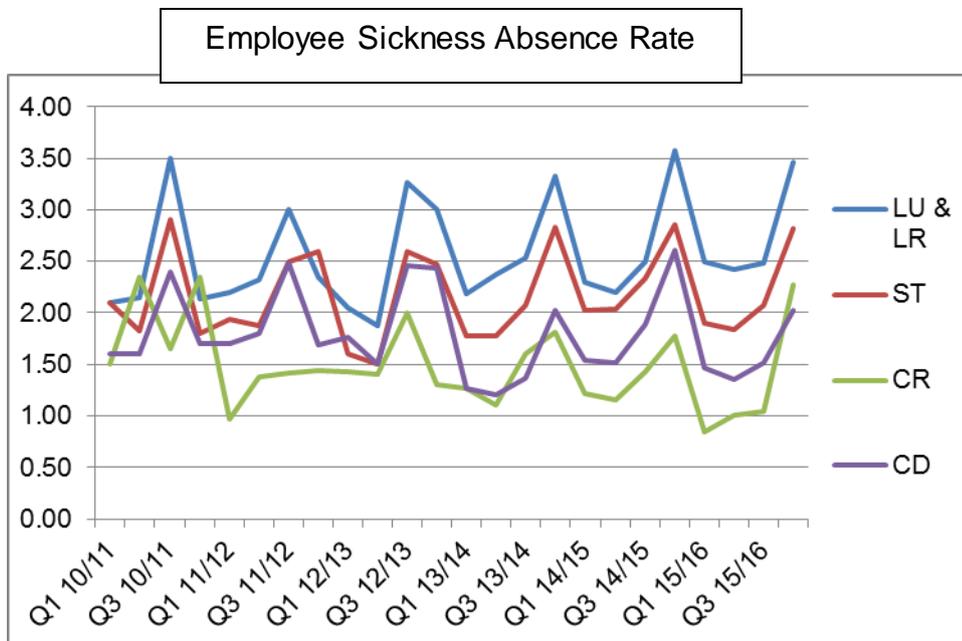
- 3.1 The sixth Stepping Up Week will be held be week commencing 25th of April 2016.
- 3.2 HSPI-Phase 4 will launch in Q1 with a reviewed set of measures.
- 3.3 A new scheme for promoting positive environmental behaviour is being developed, focussing on the system wide contracts.
- 3.4 Mr Steve Hails, a regular attendee at the meetings will leave Crossrail to take up a new position of Health, Safety & Wellbeing Director at Tideway. Mr Martin Brown will assume the role of Health & Safety Director for Crossrail effective 1st June 2016

Statistical Data

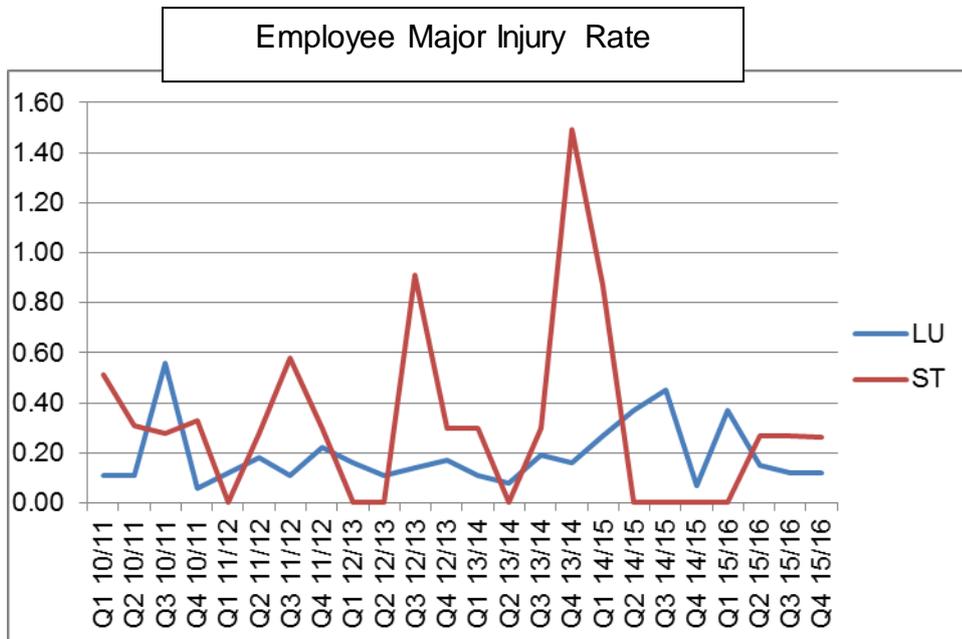
Quarterly Health, Safety and Environment Report 2015/6 Q4



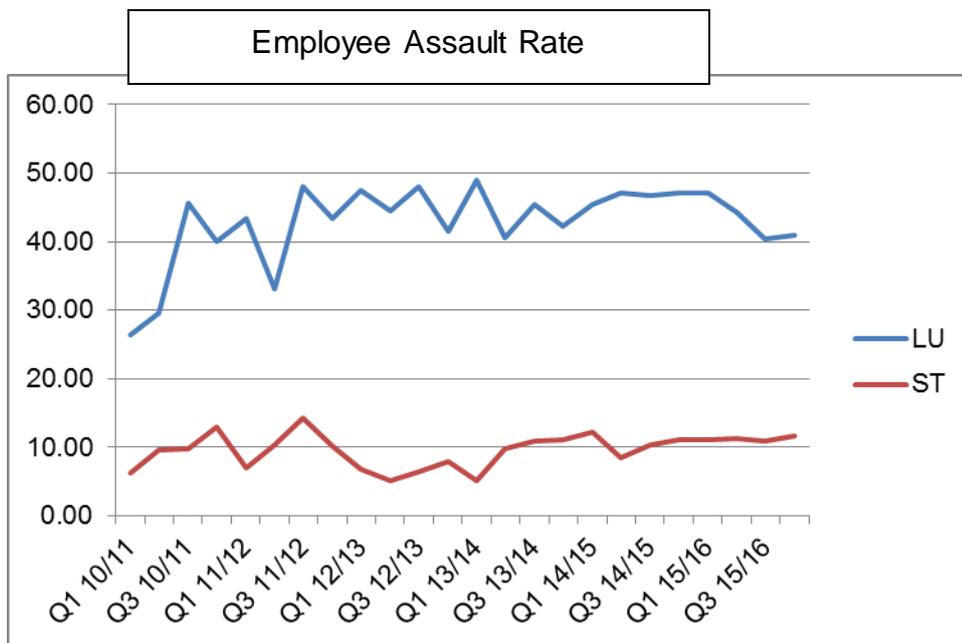
This chart provides the rates for Customer Major Injuries in Rail and Underground (LU&LR) and Surface Transport (ST), per million customer journeys. ST has seen a slight rise in Q4, while LU is largely static.



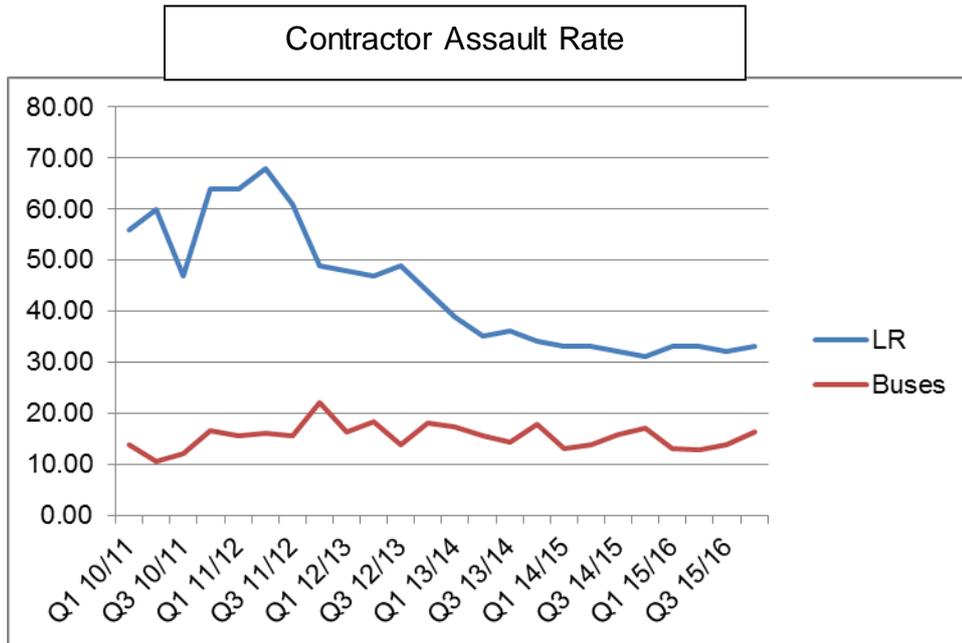
This chart provides the details of sickness absence per 1000 employees. As has been the case for a number of years there is clear seasonal pattern. The rates within the 4 businesses show a relatively consistent rank order too. The most common causes of staff sickness absence were Coughs and Colds, Gastrointestinal, Mental Health and Musculoskeletal.



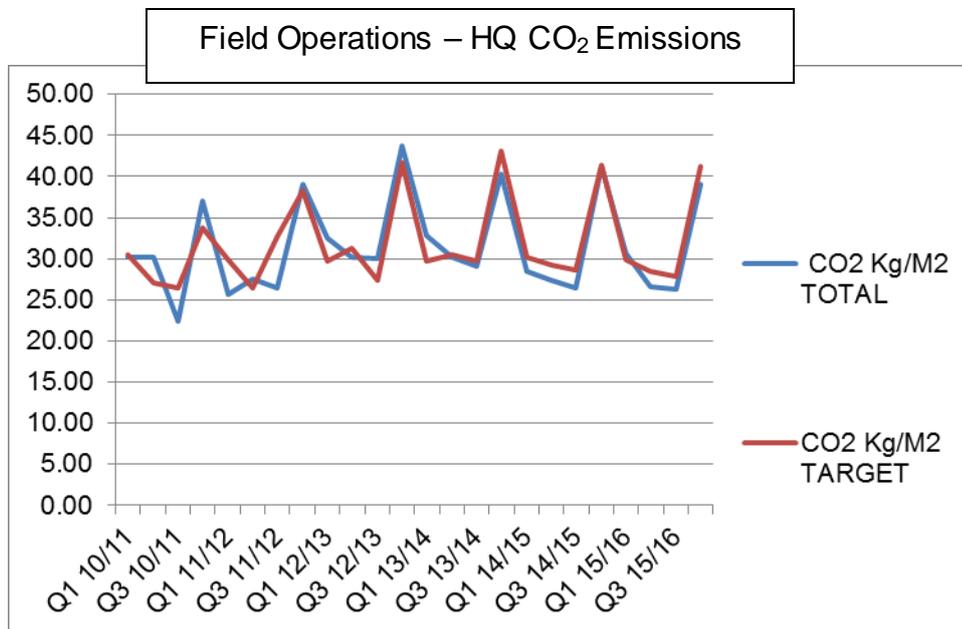
This chart provides the rate of major injuries per 1000 employees. This is a rate per quarter, and is not a moving average. As can be seen where there are no Major Injuries in a quarter there is a zero rate. As the employee numbers are smaller in ST, there is a greater volatility.



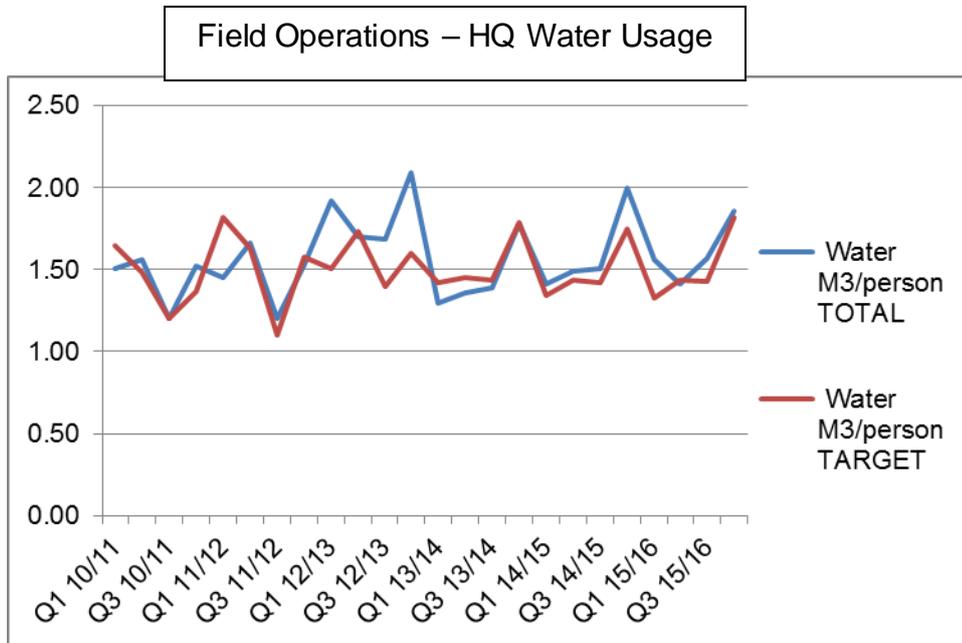
This chart shows employee assault rates per 1000 staff, for Surface Transport and London Underground. The main difference in the rates is explained by a significantly higher rate reporting of verbal assaults in LU. The overall trend for LU throughout 2015/16 is improving, with that of ST largely static.



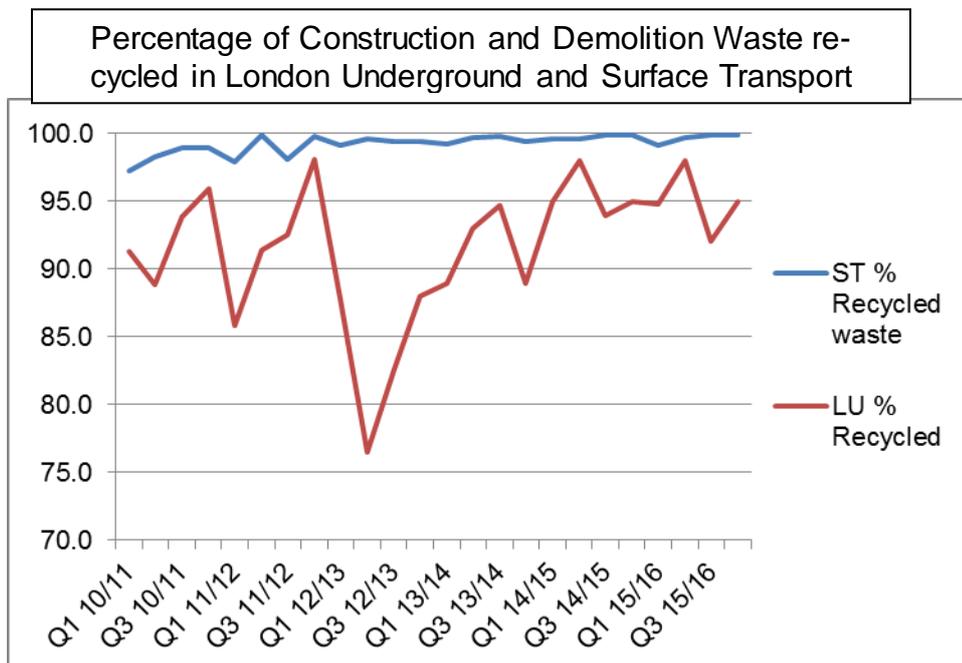
This chart shows the rates for Assaults (both physical and verbal) per 1000 Contractors. These staff are primarily those in London Rail (with those involved in revenue protection a significant proportion) and London Buses (primarily the Bus Operators), where most customer facing staff are contractor staff. The reporting of verbal assaults is known to be much higher in London Rail businesses, than it is in ST. The LR trend is stable, while the ST trend shows a slight rise.



This chart shows the carbon emissions at the HQ buildings that make up the TfL estate, and over which we have direct control. They are measured in Kg of CO₂ per square metre. As might be expected there is a clear seasonal trend. The targets are also shown, and for the seventh quarter running the actual emissions were below target.



This chart shows the water usage measured in cubic metres measured against the numbers of persons in the various TfL HQ buildings over which we have control. The targets which have been set are also shown, and in the quarter actual water use per person was above the target.



This chart shows the percentage of construction and demolition waste recycled in London Underground and Surface Transport. The amount can vary significantly depending on the nature of the work undertaken in the quarter, so the rate of recycling has been provided.