

**Date: 15 July 2014**

**Item 5: Quarterly Health, Safety and Environment Performance Report**

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**This paper will be considered in public**

**1 Summary**

1.1 This paper informs the Panel about key elements of performance in Quarter 4 of the 2013/14 Planning Year across TfL.

**2 Recommendation**

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

**List of appendices to this report:**

Appendix 1: Rail and Underground Performance Report  
Appendix 2: Surface Transport Performance Report  
Appendix 3: Crossrail Performance Report  
Appendix 4: Statistical Appendix

**List of Background Papers:**

None

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# Rail and Underground

## Quarterly Health, Safety and Environment Report

### Summary

#### What went well

- 1.1 The health, safety and environment performance indicators are made up from a suite of leading and lagging indicators. Some of these are simple outcome measures and others precursors in the major accident risk models. During the quarter these have remained stable or are improving, with the exception of those noted below.
- 1.2 No regulatory enforcement notices were received.
- 1.3 London Underground (LU) and London Rail (LR) are continuing to work with Network Rail and other train operating companies as well as the Samaritans to share information and approaches to managing suicide incidents. More of our station staff are being trained on how to identify and give the appropriate support to any customers who appear to be in a state of distress or who are acting in a way which would identify them as high risk in this respect. This has resulted in a number of successful interventions by staff.
- 1.4 The number of LU customer accidental major injuries reduced throughout the quarter and year. With 28 incidents occurring in the quarter this is a slight reduction on the 31 last quarter. Slips, Trips and Falls continue to be the main cause at 82 per cent of incidents. All customer major injuries are investigated to identify root causes and identify mitigating measures. Customer safety awareness campaigns continue to run across the LU/LR network aimed at reducing rushing, late boarding/alighting of trains and taking care on escalators. The locations where these campaigns are run are also being reviewed to ensure maximum effectiveness.
- 1.5 The LU Capital Programmes Directorate lost time injury (LTI) rate continued to fall with 55 per cent fewer injuries than quarter 4 last year. Over the year the rate fell from 0.4 to 0.3 LTIs per 100,000 hours worked. All but two programmes ended the year with lower rates than they started.
- 1.6 Dockland Light Railway's (DLR) work towards adopting the mainline railway's Sentinel system for checking suppliers'/contractors' competency is progressing well and is going through the DLR change assurance process
- 1.7 During the Quarter the numbers of TPWS activations, SPADs and Platform Overruns, all elements related to train operator behaviour, have seen improvements against the last year's figures on London Overground. LOROL has been putting considerable effort into enhancing training and driver

management and this appears to be bearing fruit; it perhaps also shows how long behaviour change initiatives can take to really become embedded.

- 1.8 On 19 March, TfL launched the 'turn up and go' accessibility initiative. All London buses, taxis, DLR, London Tramlink, and London Overground network is now 'turn up and go', with large parts of the Tube now accessible to disabled customers, including wheelchair users. It is recognised that many stations were built in an era when accessibility wasn't properly considered, but increasingly this issue is being addressed.
- 1.9 The Rail for London Safety Authorisation was submitted on time and is now going through the review period.
- 1.10 Preparations by LU/LR for weather extremes in the first three months of the calendar year built on work undertaken before Christmas, and while there were different issues on LU and LR (heavy rains, flooding and wind - which impacted on overhead lines) the maintenance and recovery controlled by LU and LR directly were generally well managed.
- 1.11 Following a successful trial in the use of LED lighting at two tram stops, London Tramlink has funding from the Rail and Underground Environmental Initiatives fund to replace lighting at all tram stops.
- 1.12 Mental health awareness week was held in the quarter. The counselling team held successful events at head office locations to raise awareness of mental health issues.
- 1.13 Improvements have been made to the gym discounts being offered through "My TfL", via Incorpore. Discounts apply to gyms and leisure facilities near employees workplaces and homes.

### **Areas for improvement**

- 1.14 The number of LU platform train interface (PTI) incidents is continuing to increase. The majority of incidents are as a result of persons caught in train doors as they board or alight the trains. However the rate of increase is levelling off, and there are improvements. The continuing customer awareness campaigns and PA announcements aimed at reducing rushing has contributed to this. The number of falls between the train and platform increased due to the changing Platform Train Interface profile on the sub-surface railway as a result of the legislative requirement to introduce new level access rolling stock. Short term mitigations are being implemented, with a longer term programme of additional mitigation measures such as trialling gap fillers and different methods of highlighting the platform train interface also in place.
- 1.15 LU is recognised for its good practice at managing the PTI and continues to work with the Railway Safety and Standards Board (RSSB) to develop industry wide good practice and guidance for managing the platform train interface.
- 1.16 The number of work-related violence incidents on staff where alcohol was a contributing factor continues to increase. The main cause of work-related violence incidents is from revenue disputes, particularly when customers do

not have tickets for travel. Guidance to staff on how to respond to aggressive/intoxicated customers is being refreshed with the involvement of staff.

- 1.17 The number of Lost Time Injuries attributable to LU increased in the quarter and the year. The majority were as a result of work-related violence or witnessing a traumatic incident. Support from the Occupational health department is provided and actions to mitigate incidents are as described above.
- 1.18 Although the overall, long term, trend in the number of signals passed at danger on LU remains stable there was a reduction in the quarter due to improving performance on the District and Metropolitan lines and the conversion to full Transmission Based Train Control (TBTC), enabling automatic train operation on the Northern line.
- 1.19 The Incident Frequency Rate (IFR) for LU Capital Programmes (CPD) has been steadily increasing over the year, driven predominantly by rises within the Permanent Way Programme. This reflects a strong reporting culture. The IFR measures incidents causing injury, damage or loss per 100,000 hours worked. This CPD rate rose by nearly 28 per cent in 2013/14 to 4.80. The leading cause of incidents remains 'not following procedures/rules' (21.4 per cent) followed by 'Poor Asset Condition' (18.1 per cent). LU is working with its suppliers to identify actions to reduce these incidents and promote the sharing of good practice and try to reverse the trend.
- 1.21 Four instances of trains rolling forward occurred at Acton Central, Brockley and Highbury & Islington (2) stations. It is believed that the recent increase in this event is in part due to better reporting; however a review of the rolling stock brake controls was also conducted, with no significant findings.
- 1.22 A passenger using a mobility scooter reversed out of the lift on Platform 2 at Crossharbour on DLR and drove off the platform onto the track. This incident occurred because the scooter user's walking stick became stuck on one of the pedals. As a result of the incident Serco has looked to strengthen the community action plan – with Community Ambassadors briefed on how they can continue to engage local communities on the safe use of mobility scooters; all platforms where lifts exit at 90 degrees to platform edge have been assessed to see if barriers, markings or signage are appropriate, and there has been a review of signage in lifts to see if more information can be given to mobility scooter users.
- 1.23 London Tramlink had identified a trend in wrong side door opening occurrences since the introduction of new trams. A human factors review has made several recommendations for improving driver controls and London Tramlink is working with the Trams' manufacturers to introduce the improvements.
- 1.24 The number of passenger injuries of all severities across London Overground has risen slightly after its decrease following the recent communications campaign. However it remains one of the lowest of those monitored by ATOC.
- 1.25 DLR experienced a Dangerous Occurrence as a result of a failure of an escalator at Cutty Sark station. This has uncovered a design weakness on

this type of escalator which is now being considered across Rail and Underground. The Office of Rail Regulation has been involved in this.

### **Key deliverables in the next quarter**

- 1.26 The Rail and Underground Supplier Safety Forum – ‘ Together We’re Safer’, will bring together leaders from Rail, Underground and their associated supply chains to learn from each other.
- 1.27 An improved ultrasonic inspection is to be implemented which will enable the location and depth of surface cracks to be measured that are not currently capable of measurement.
- 1.28 The fly-tipping process successfully used in JNP will be rolled out and used within BCV and SSL after successful cost recovery of £6,241.
- 1.29 Launch of the Supplier HSE web site and handbook and of the on-line HSE Induction.
- 1.30 The Safety Authorisation covering the Core route of London Overground (LO) is being updated in preparation for resubmission to the ORR in May 2014. All LO procedures are being reviewed in preparation and coordinated with the One TfL management system work stream.
- 1.31 Three new Business Critical Processes (BCPs) on LR are being developed, covering (1) seasonal preparedness planning; (2) the management of asbestos; and (3) event planning.
- 1.32 A bespoke strategic safety training course for the Docklands Light Railway executive members and senior managers is being developed.
- 1.33 London Tramlink has completed development work on a Safety Performance Index which will be introduced in the next quarter.
- 1.34 A high proportion of environmental incidents in LU asset performance relate to oil leaks and spills and waste/recycling being placed in the incorrect bins. These issues are being addressed through coaching of depot staff to put appropriate controls in place eg coloured bins and ensuring staff can respond effectively, e.g. through spill drill training and waste management training for stores staff.
- 1.35 A significant number of complaints on LU infrastructure were associated with works noise. This issue continues to be highlighted during the safety hour and toolbox talk discussions to ensure that noise is managed more effectively.
- 1.36 Last quarter TfL issued an invitation to tender under the GLA’s RE:FIT procurement framework, with the intention of delivering energy efficiency improvements at an initial 17 buildings across TfL’s estate. This did not attract any bids, with suppliers citing varying reasons for not bidding, including the complexity of sites and the fact that many low cost energy efficiency measures had already been undertaken. TfL is working with the GLA’s RE:FIT Programme Delivery Unit on a revised tender concentrating on a simplified portfolio of buildings, were issued in May 2014
- 1.37 Following the results of the employee annual TfL employee attitude survey ‘Viewpoint’ we have commissioned an additional piece of research to help us

understand the results which were picked out concerning stress, aimed at enabling us to put into place more effective management strategies.

- 1.38 Research on management capability of managing mental health was undertaken recently at Dial a Ride. This was part of a wider piece of research led by Affinity Health at Work is complete and the results are expected soon.

## **2 Major Incidents**

- 2.1 There were no major incidents on LU in the quarter.
- 2.2 A major incident occurred on LR when a contractor's employee was fatally injured on the Twin-Tracking site near Pudding Mill Station. Investigations by the Health and Safety Executive (HSE), the contractor and DLRL are on-going. This event has led to detailed reviews within DLR and LR more generally concerning supplier management of site work, supplier selection and how lessons are learnt to develop best practice across LR and LU. The outcomes from these reviews will become part of a targeted plan within Rail and Underground for 2014/15.
- 2.3 A fatality occurred to a trespasser on London Overground at Shepherd's Bush, following their access at the station after it was closed; they were hit by a freight train.

# Surface Transport

## Quarterly Health, Safety and Environment Report

### 1 Summary

#### What went well

##### Transport User and Road Safety

- 1.1 In quarter 4, public transport passengers (mainly buses) reporting injuries which require hospital attendance (including as a precaution) fell slightly from 0.35 incidents per million passenger journeys to 0.34. A total of 251 incidents were recorded in the quarter.
- 1.2 For the first time we have published bus safety data on our website, the data covers the period from January to March 2014 and gives details of incidents on London's bus network resulting in a fatality, or injury requiring hospital attendance. The data will be published on a quarterly basis and provides figures by borough, bus operator and bus route and gives details of the person's age and gender, the nature of the incident and type of road user involved (for example, bus passenger, bus driver, pedestrian and cyclist). The data shows that there were two fatalities and 283 bus-related injuries which required hospital attendance during this period. In that time, there were around 600 million journeys on the our bus network and London buses travelled more than 100 million kilometres in passenger service
- 1.3 Provisional data for quarter 4 shows that the number of people killed or seriously injured (KSI) on London's roads was 35.6 per cent below the 2005-2009 baseline. When considering the full year, KSI performance was 34.3 per cent below the baseline, significantly up on the target reduction of 21.3 per cent. The full year performance is, therefore, ahead of target meaning that TfL is on track to meet its long-term target of a 40 per cent reduction in KSIs by 2020.
- 1.4 Over a rolling 13 periods, 98.6 per cent of Category One defects on the TfL road network were made safe within 24hours compared with a target of 98 per cent.
- 1.5 An evaluation of the first eight Pedestrian Countdown at Traffic Signals (PCaTS) equipped junctions in London (and in the UK) revealed a 58 per cent reduction in people Killed or Seriously Injured (KSI) at these locations. This demonstrates a correlation between the system and improved pedestrian safety. In addition, an average of 83 per cent of pedestrians liked PCaTS, this increased to 93 per cent for mobility impaired pedestrians. The percentage of people feeling safe at PCaTS equipped junctions rose from 73 per cent to 91 per cent.

- 1.6 PCaTS technology has now been installed at over 200 sites in London, as part of a deployment programme. London's highway authorities will continue to deploy the technology throughout London, where appropriate, through TfL's and other sponsors' traffic signal schemes.
- 1.7 A workshop with bus operators with the aim of identifying and sharing best practice associated with vulnerable road users (VRUs) was held. As a result, TfL is reviewing bus driver training materials associated with VRUs which will be included in the driver Certificate of Professional Competence (CPC) for 2014/15.
- 1.8 The Motorcycle Safety Action Plan (MSAP) was published and was well received by the public, and road safety and motorcycling stakeholders.
- 1.9 The Road Risk and Vulnerable Road User Working Paper was published. This document sets out the road safety data analysis that underpins the Safe Streets for London plan and the subsequent VRU action plans. The paper acts as a valuable resource for road safety practitioners interested in TfL's methods of data analysis.
- 1.10 Following on from TfL's successful road safety conference on transport and public health in January 2014, TfL has sent the Directors of Public Health in every London borough its new Health Improvement Action Plan that sets out the links between road traffic collisions and public health. TfL is working with Health and Wellbeing Boards across London to further align the agendas of transport (including road safety) and public health.
- 1.11 The European Parliament's Transport Committee voted in favour of an amendment to an EU directive on vehicle weights and dimensions that will result in tighter EU regulations on lorry safety. TfL and the Mayor of London had been lobbying on this issue; in the build up to the vote the Mayor of London, the Mayor's Cycling Commissioner and Olympic gold medallist Chris Boardman joined forces with safety campaigners in Brussels to press the EU for these tighter regulations on lorry safety.
- 1.12 TfL held a Safety Technology Engagement Event which enabled information sharing and brought together technology providers that offer products to improve vulnerable road user safety without on-vehicle fitment. This was a follow up to an earlier event which engaged with on-vehicle product technology providers in the same area.

#### Enforcement, Safety and Security

- 1.13 To drive down fatal collisions between cyclists and construction HGVs, the Department for Transport (DfT) and TfL jointly announced a series of actions in 2013 one of which was the creation of a dedicated Industrial HGV Task Force (IHTF) which combines resources from the DfT, TfL, from the Metropolitan Police Service (MPS), Driver and Vehicle Standards Agency – DVSA and from the City of London Police (CoLP). The resultant team conducts targeted enforcement operations on drivers and vehicles in the construction and waste industries in addition to the usual commercial vehicle compliance activities of DVSA and the Police. Over 100 high visibility roadside operations have been carried out by IHTF since its commencement in October 2013. This has delivered over 5,000 hours of high visibility enforcement activities in targeted locations.

- 1.14 The work of IHTF has led to over 1900 vehicles being stopped and processed which have resulted in 800 Roadworthiness Prohibitions for construction and use offences and over 130 Drivers' Hours Prohibitions being issued. The roadside enforcements extend also to fixed penalty notices for a variety of driver and vehicle related infringements including bald tyres, defective steering and brakes and using a handheld mobile phone while driving.

#### Operational Health and Safety

- 1.15 The 2013/14 assurance audit programme was successfully completed. As part of the programme which includes all bus operators, 66 per cent of the 76 bus garages were visited. There were no major deficiencies identified.
- 1.16 At the end of quarter 4, a total of 8,857 working days were lost to sickness to employees, equivalent to an average of 2.83 per employee which is higher than the previous quarter and the corresponding quarter of 2012/13. Lengthier sickness absence is a factor in the increase with musculo-skeletal, mental health and cold accounting for 44 per cent of working days lost.

#### Transport Accessibility

- 1.17 The number of bus stops which are fully accessible increased from 72 per cent in the previous quarter to 76 per cent; the figure for the TfL Road Network is 88 per cent. As part of the Bus Stop Accessibility programme, £18m is being invested across London to make 95 per cent of bus stops fully accessible by the end of 2016.
- 1.18 Bus route 10 was converted to the New Routemaster vehicles in the period with the expanding fleet now consisting of 230 of these buses. New Routemaster buses offer low floor access at three doors, a large wheelchair space, a hearing aid induction loop and iBus information screens that can be viewed from the wheelchair bay.

#### Environment

- 1.19 The London Low Emission Zone (LEZ) Phase 4 sees 95.9 per cent of vehicles compliant compared with a target of 92 per cent.
- 1.20 A project to trial all-electric single-deck buses in London has seen the number of electric buses increased from two to six following the deployment of four Optare MetroCity vehicles on route H98. A further two Optare electric buses are scheduled to come into service on route 312 in summer.
- 1.21 Funding has been secured from the European Commission to assess the potential of four range-extended diesel-electric double-deck hybrid buses and high-power wireless induction charging infrastructure.

#### **Areas for improvement**

- 1.22 The operation of IHTF has revealed 19 of 24 vehicles seized for a variety of offences including driving without insurance and driving not in accordance with a license were operating in the construction and waste industries.

- 1.23 Just 234 people have applied for and received their cards as part of the Mobility Aid Recognition Scheme which was introduced in summer 2012. Consideration is now being given to promoting the scheme further in 2014 to increase this number. The scheme is designed primarily to enable users of suitable mobility scooters to access the bus service.
- 1.24 There was a rise in Surface Transport employees suffering major injuries in quarter 4 from 0.30 injuries per thousand employees to 1.49. In absolute terms, five employees were affected with a review showing slips/trips/falls, manual handling and assaults as key factors. These are being addressed through targeted training and supervision.

### **Key deliverables in next quarter**

#### Transport User Safety and Road Safety

- 1.25 The final 2013 London road casualty statistics are scheduled for publication in June 2014.
- 1.26 TfL's new young driver campaign advert entitled "Kill Your Speed Not Your Mates" launched in May. The advert is shown at cinemas across London and on the Xbox Dashboard over a period of eight weeks. The advert is the latest in a series of campaigns that work alongside one another in an even-handed approach to protecting all road users.
- 1.27 The Pedestrian Safety Action Plan (PSAP) was published in draft for public comment. The PSAP was developed in partnership with the Pedestrian Safety Working Group and contains a suite of actions designed to improve the safety of London's pedestrians. The final plan is scheduled for publication in June 2014.
- 1.28 The Cycle Safety Action Plan (CSAP) is scheduled for publication and consultation in June 2014.
- 1.29 "Intelligent" pedestrian crossings will be trialled at two south London locations in summer 2014. The introduction of Pedestrian Split Cycle Offset Optimisation Technique, or 'pedestrian SCOOT', is the first of its kind in the world and uses state-of-the-art video camera technology to automatically detect how many pedestrians are waiting at crossings and allow more time to cross safely. This innovative scheme is designed to make it easier and safer for London's pedestrians to cross the road. The results of this trial will determine suitability for further deployment.
- 1.30 TfL will commence a trial of optical and radar technology on a small number of London buses to alert the driver to the presence of pedestrians and cyclists.

#### **Operational Health and Safety**

- 1.31 Surface Transport will continue the 2014/15 programme of assurance audits including bus operators.

- 1.32 Surface Transport will continue working with Learning and Development on the piloting of the Health and Safety e-Learning training and assessment programme for line managers in TfL as part of the Managing Essentials initiative. This is in addition to the health and safety training programme for employees.

### **Environment**

- 1.33 In January 2014, the International Association of Public Transport (UITP) launched the Zero Emission Urban Bus System (ZeEUS) project to demonstrate the wider benefits of electric buses in urban environments in eight cities across Europe. The launch marked an important phase of TfL's own technology evaluation programme as Surface Transport proposes to test up to four diesel-electric hybrid double deck buses with extended electric range capability (see 1.21). They will be charged with grid energy supplied wirelessly by high-power induction charging units situated at bus stations at each end of the demonstration route. Ground stations are to be installed at Walthamstow Central and Canning Town Bus Stations, to serve route 69 – subject to confirming grid connections and power upgrades at each location. The vehicles will operate for up to 24 months, starting in spring 2015. TfL is currently evaluating bids for the buses and charging infrastructure and expects to award a contract this summer. This builds on TfL's trials of pure electric buses such as the two BYD single deck vehicles now operating on routes 507 and 521 and the extended trial of hydrogen fuel cell buses serving route RV1.

### **Transport Accessibility**

- 1.34 Work on the Bus Stops Accessibility programme will be continued.
- 1.35 A new accessibility training programme for the London's bus drivers was developed in partnership with Transport for All and Age UK London. The initiative includes a film and workbook designed to give bus drivers a greater understanding of the needs of their older and disabled customers based on the personal experience of participants. Bus operators are now rolling the programme out to bus drivers as part of driver CPC training. TfL will monitor progress and scope out evaluation criteria in quarter 1, 2014/15 when it is anticipated that 30 per cent of drivers will have participated in the training.

## **2 Major incidents**

- 2.1 An elderly pedestrian was fatally injured in a road traffic collision with a route 131 bus on December 16 on Tooting High Street, SW17. An investigation is ongoing.
- 2.2 A passenger suffered a fatal head injury following a fall on board a route 204 bus on December 31 on Kingsbury Road, NW9. An investigation is ongoing.
- 2.3 An off-duty TfL employee was fatally injured following a collision with a Route 253 bus as it entered Euston Bus Station on 11 March. A full investigation by the Police is ongoing.
- 2.4 A passenger was fatally injured at Cromwell Road Bus Station, Kingston, as they walked into the path of a reversing bus on 22 March. The investigation is ongoing.

- 2.5 The investigations of the previously reported fatal incidents were concluded as follow:
- (a) A route 486 bus collision with a pedestrian in April 2012 on Bugsbys Way, SE10, revealed that the pedestrian stepped out in front of the bus. The possibility that the junction might be confusing was addressed with changes to the traffic signals and road markings. More changes are planned to reduce the likelihood of incidents at the location. No recommendations were made by the coroner.
  - (b) A route 390 bus collision with a pedestrian in January 2012 on Tottenham Court Road, W1, revealed that the pedestrian ran into the path of the bus.
  - (c) A route 205 bus collision with a cyclist in November 2013 on Whitechapel High Street, E1 when the cyclist rode their bike into the path of a bus as it progressed through green lights. The coroner did not make any recommendation for TfL or the bus operator, the incident was attributed to the actions of the cyclist.

# Crossrail

## Quarterly Health, Safety and Environment Report

### SUMMARY

#### What went well

- 1.1 Good progress continued on the Health and Safety Objectives for 2013/14.
- 1.2 Our leading indicator measurement, Health and Safety Performance Index (HSPI) finished period 13 with 100 per cent of contracts (16) scoring 2.00, or above. This exceeded the corporate objective of 85 per cent of contracts above 2.00.
- 1.3 The RIDDOR Major Injury Accident Frequency Rate (AFR) remained unchanged from the last year end value of 2012/13 at 0.14, with a peak in period 5 of 0.21. Unfortunately, this meant the corporate objective of a 60 per cent reduction was not accomplished
- 1.4 The RIDDOR (including 3+ day lost time case) AFR was 0.33. This equated to an 8per cent reduction on the RIDDOR P13 rate (2012/2013) of 0.36.
- 1.5 The Lost Time Case (LTC) AFR reduced by 30per cent with a resultant LTC AFR of 0.49 and a peak of 0.73 in periods 3 and 5. This reduction was not, however, enough to meet the corporate objective of a 60 per cent reduction.
- 1.6 The development and testing of the second phase of HSPI has concluded in P13. Contractors, in collaboration and consultation with Crossrail, have developed risk-based measures relevant to their specific contracts. The new measures go live in April 2014.
- 1.7 Following the successful roll out of the Health and Safety 'Have Your Say' Survey in 2013, the early part of 2014 focused on further engagement with the site teams. Crossrail and the Principal Contractor 'Target Zero Leaders' conducted 17 'Engagement Workshops' across the programme. These workshops were designed to further engage the site teams into improvement opportunities and to further develop ideas for the second Stepping Up Week (28th April-2nd May 2014).
- 1.8 Cycle 5 of the Crossrail Gateway Assessment Scheme started during this quarter. Overall, 19 sites were visited across the programme by the Crossrail Health and Safety Improvements Team. A number of good practices and 'inspirations' were noted on site.

- 1.9 A programme of Occupational Health Audits to ensure Contractor compliance with Crossrail Occupational Health and Wellbeing Standards commenced.
- 1.10 The Fatigue Research Collaboration with TfL commenced. The first cycle report is due in the second quarter of 2014/15.
- 1.11 Crossrail published their annual update on The Department of Health's 'Public Health Responsibility Deal' website and continue to encourage the supply chain to sign up and make pledges.
- 1.12 Audits continue to be carried out in accordance with the Health and Safety Assurance audit schedule; no audits were overdue. Audit topics in the past quarter included site security, management of plant & equipment, vehicle management and working at height. A total of 24 audits were carried out in the quarter and 52 CARs raised. All 52 CARs have been closed out.
- 1.13 The programme of monthly surveillance checks against BS6164 "Code of Practice for Health & Safety in Tunnelling in the Construction Industry" included planning for health & safety, site access, control of risk and quality of illumination. Opportunities for improvement have been shared with all TBM and SCL contractors.
- 1.14 Three emergency exercises were completed in Quarter 4. These were desk top exercises, selected by the project teams to simulate significant unplanned incidents and formulate appropriate response arrangements.
- 1.15 CDM verification continued to be carried out each period to confirm the accuracy of CDM returns received from the sites. Verification activities have identified an improvement in the accuracy of returns; all deficiencies identified have been closed out on time. The process has provided confidence that CDM management is being carried out effectively across the project.
- 1.16 Further CDM training has been delivered across the organisation to ensure that the principles of designing for safety and CDM compliance are well understood.
- 1.17 The Frontline Leadership Programme (FLP) continues to recruit supervisors and appropriate mentors from the Principal Contractor population. 120 supervisors are now engaged in the programme which exceeds the annual objective of 100.
- 1.18 The consultancy LRQA conducted their 3rd Surveillance audit and confirmed continued certification to ISO 9001:2008, ISO 14001:2004 and BS OHSAS 18001:2007. The report was overall complimentary although one minor non-conformity was identified in relation to corrective action management and the closure evidence for non-conformances. Actions to address this minor non-conformity are well underway to improve the process. The 4th Surveillance audit is scheduled for October 2014.
- 1.19 Crossrail had 6 environmental objectives for 2013/14 and 9 associated targets that related to meeting environmental requirements, air emissions control,

BREEAM and CEEQUAL reuse and recycling of waste, excavated material and recycled content, reducing energy use in construction, delivering an ambitious training plan and implementing a new system for environmental observations on site. All of our targets for 2013/14 were met.

- 1.20 At the close of 2013/14, Crossrail is on track to exceed the 8 per cent reduction target for construction energy. Current contractor predictions vary from less than 1 per cent to over 25 per cent, with an average of 11per cent. The focus for next year will be on working with contractors to refine their models to provide greater certainty of predictions.
- 1.21 The Portals to the Past Archaeology exhibition was very successful, with a total of 2541 visitors to the exhibition during February and March 2014.
- 1.22 The Paddington Integrated Project was awarded a CEEQUAL excellent rating.

#### **Areas for Improvement in the quarter**

- 1.23 Occupational Health – Planned programme wide Target Zero Mental Health Campaign has been delayed slightly, due to a clash with another improvement activity, until later in the year.
- 1.24 Delays to the commencement of the Dust research have been experienced, but have now been resolved and this work is due to commence imminently.
- 1.25 As a follow up to the environmental incident workshop, ideas to improve incident identification, notification and reporting are being taken forward by contractors.
- 1.26 A meeting of all contractors working in Newham was held to discuss ways to improve noise management in the borough. All contracts prepared an improvement plan.
- 1.27 Assurance – CAR closure continues to require additional ‘pushing’ with some contractors, although no CARs have become overdue.

#### **Key Deliverables in the next Quarter (Q1 – 2014/15)**

- 1.28 Cycle 5 of gateway commenced in the final quarter of 2013/2014. Assessments were completed in June 2014.
- 1.29 Following the success of Stepping Up Week, Crossrail will be running its second week of initiatives from 28 April- 2 May.
- 1.30 The second phase of Health & Safety Performance Index (HSPI) commences in P01 (April 2014). HSPI measures will be continuously monitored to ensure that measures are challenging and driving improvement. HSPI dashboards

have been developed but further collaboration with contract teams is planned to ensure they remain relevant and challenging.

- 1.31 Fifteen audits are scheduled for quarter 1, 2014/15, covering electrical safety, working at height, breaking ground, lifting operations and permits to work. Six Occupational Health audits are also scheduled for the first quarter, 2014/15.
- 1.32 The programme of Surveillance Checks against BS6164 will be completed in Quarter 1. A management overview of the findings, areas for improvement and best practice will be compiled summarising the findings of the Surveillance Checks for the seven Principal Contractors.
- 1.33 The final two 'Emergency Exercises' are planned for the quarter, including a collapse of a water main due to tunnelling work (C305) and a fire in a tunnel (C510).
- 1.34 Two project-wide health initiatives are planned for the next quarter; a lifestyle fitness challenge and a mental health campaign.
- 1.35 Dust and Diesel Exhaust Emissions Research will commence in the tunnelling environment.
- 1.36 The dashboard will be amended to increase focus on key topics for 2014/15:
  - a) the construction energy reporting has been amended to increase the robustness of the reporting by requiring contractors to state how their reported reduction in energy is linked to the energy reduction initiatives they have implemented
  - b) the BREEAM reporting has been amended to focus on a requirement for contractors to provide a costed proposal for opportunities to improve their BREEAM score
  - c) a new focus on the energy efficiency of operational equipment, and
  - d) a greater focus on the surface section with data to be included on CEEQUAL, water and resources, surface complaints and incidents.

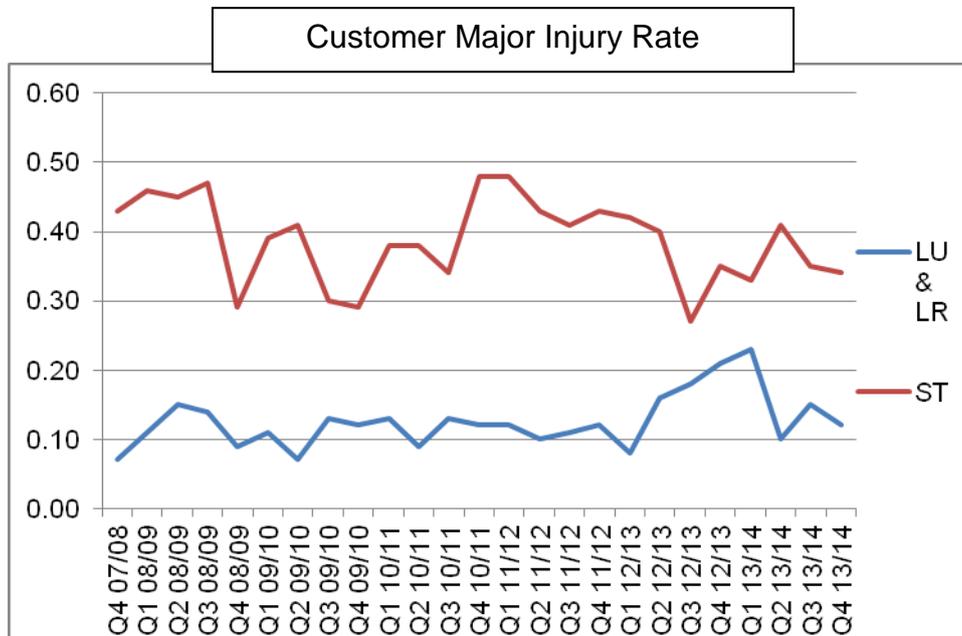
## **2 Major Incidents**

- 2.1 There was one major incident in Q4: A contractor working on a crossover tunnel at BFK's (BAM Nuttall, Ferrovial, Kier) C300 Fisher Street site was fatally injured by a fall of newly sprayed concrete. A full and thorough investigation into this tragic incident is underway. Immediate action was taken regarding the visibility of exclusion zones at the face of excavations and implemented across the programme.

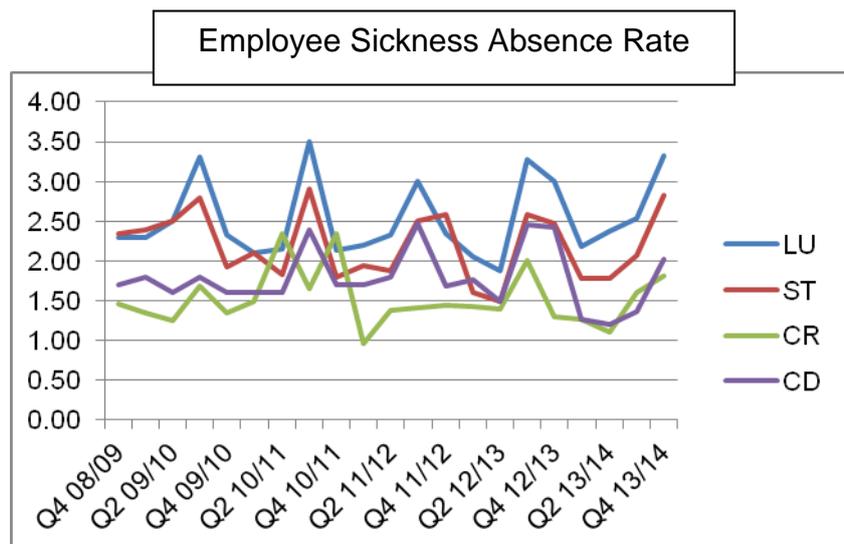


Statistical Appendix

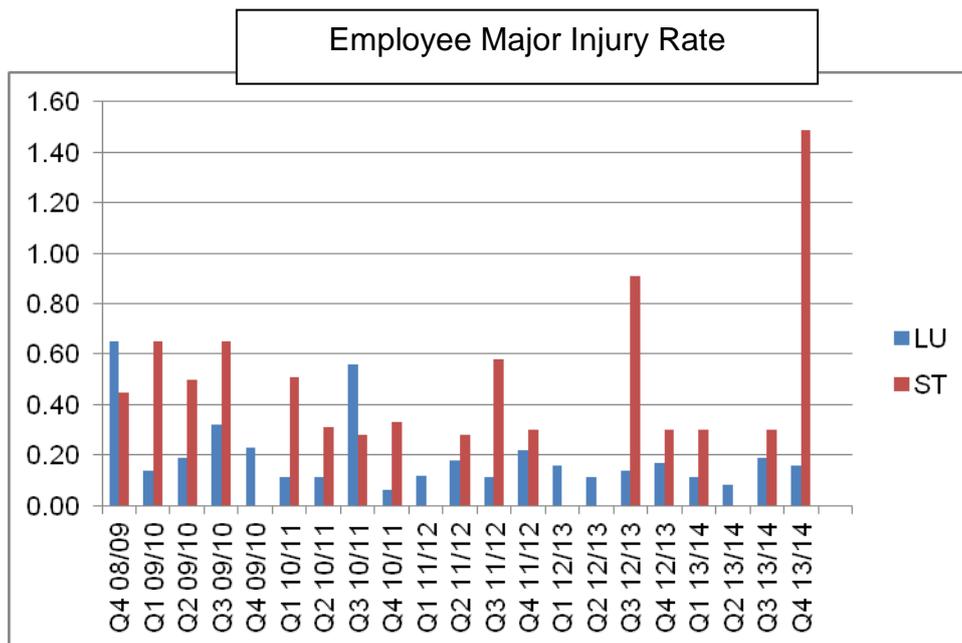
Quarterly Health, Safety and Environment Report



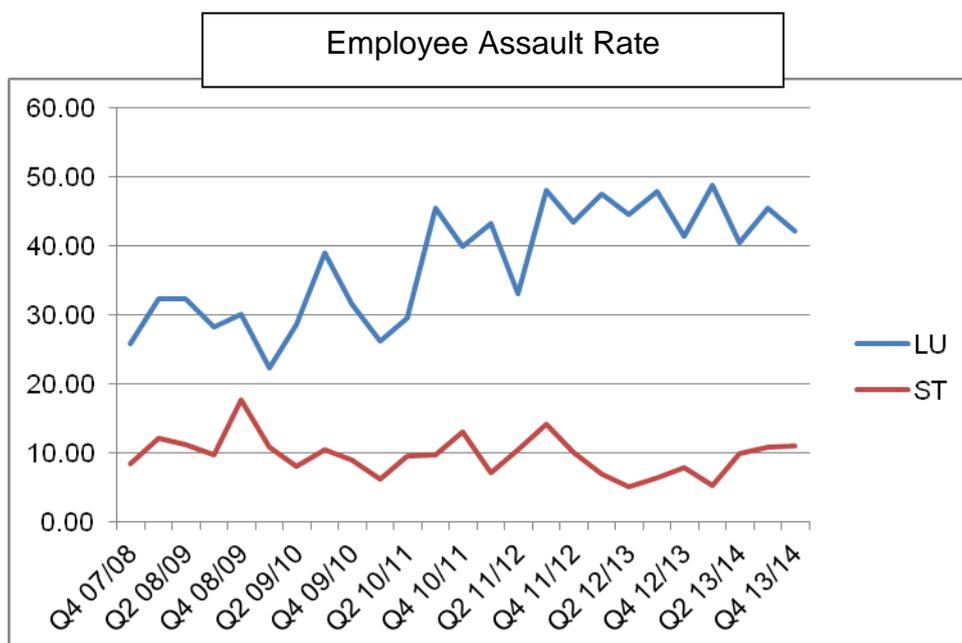
This chart provides the rates for Customer Major Injuries in Rail and Underground and Surface Transport, per million customer journeys. Customer Major Injuries on LU/LR and ST have fallen slightly this quarter, with slips, trips and falls continuing to be the most significant element. Further work to reduce these levels of customer injury are part of the Safety Improvement Plans for 2014/5..



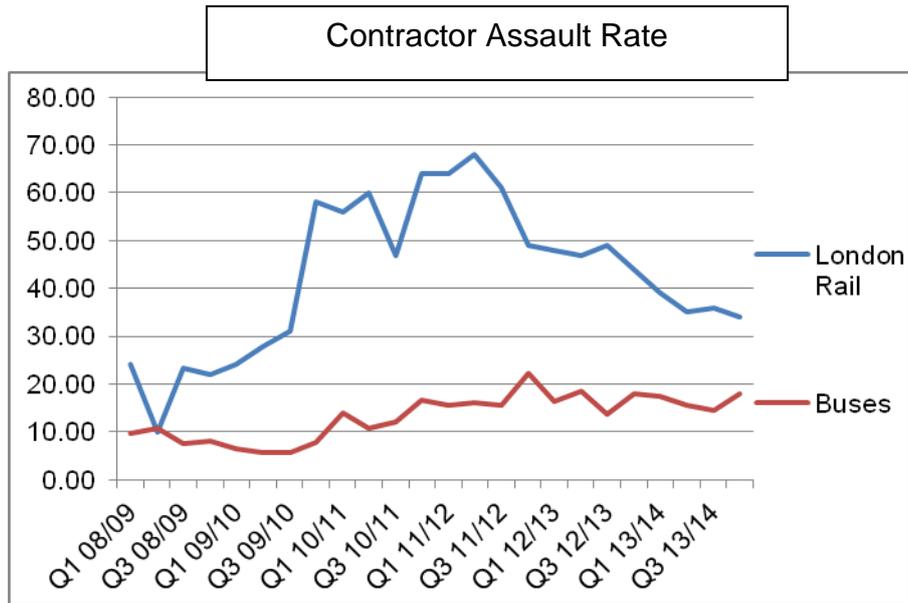
This chart provides the details of sickness absence per 1000 employees. As has been the case for a number of years there is clear seasonal pattern. The rates within the 4 businesses show a relatively consistent rank order too. The most common causes of staff sickness absence were Coughs and Colds, Gastrointestinal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



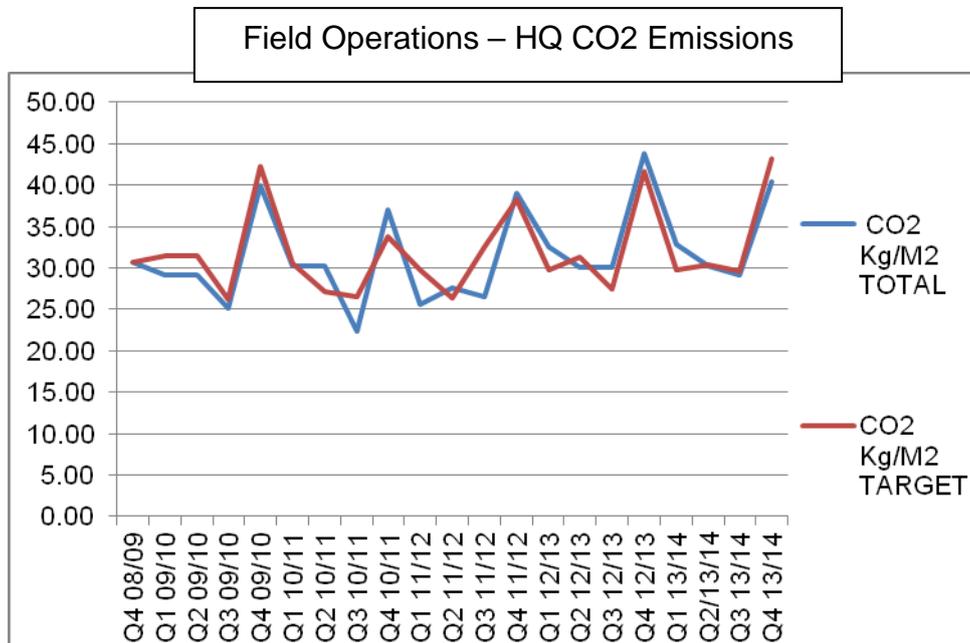
This chart provides the rate of major Injuries per 1000 employees. This is a rate per quarter, and is not a moving average. As can be seen where there are no Major Injuries in a quarter there is a zero rate. As the employee numbers are smaller in ST, there is a greater volatility. This quarter there is a particular rise in ST, but there is no particular set of circumstances and it is not believed to demonstrate a trend, however this is being closely monitored.



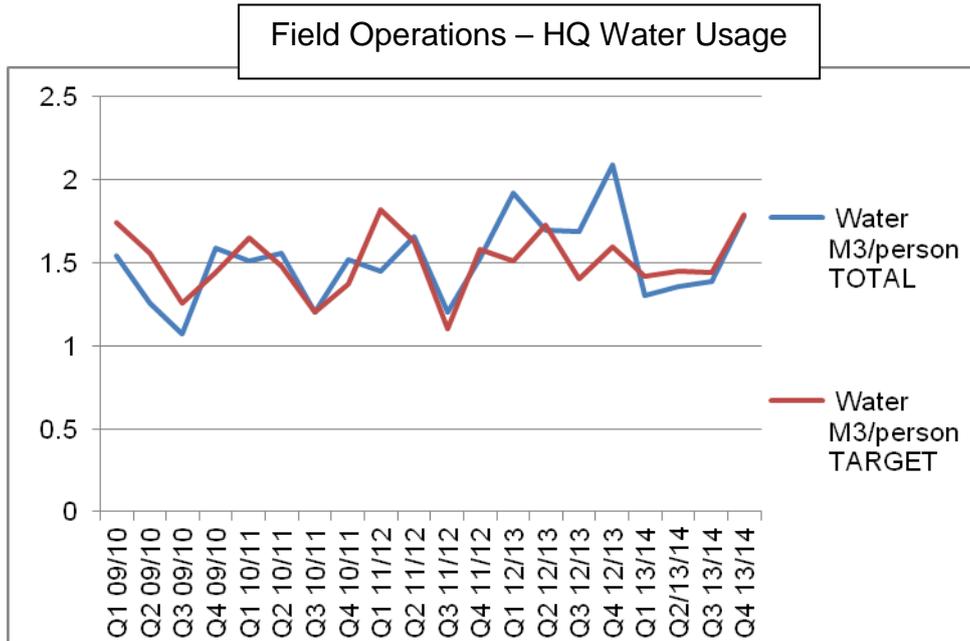
This chart shows employee assault rates per 1000 staff, for Surface Transport and London Underground. The main difference in the rates is explained by a significantly higher rate reporting of verbal assaults in LU. The more recent trend for LU has shown small rises and falls, but with a very slight falling trend, and in the quarter another fall, whilst ST rate is more stable, showing a broad falling trend but with a small rise this quarter.



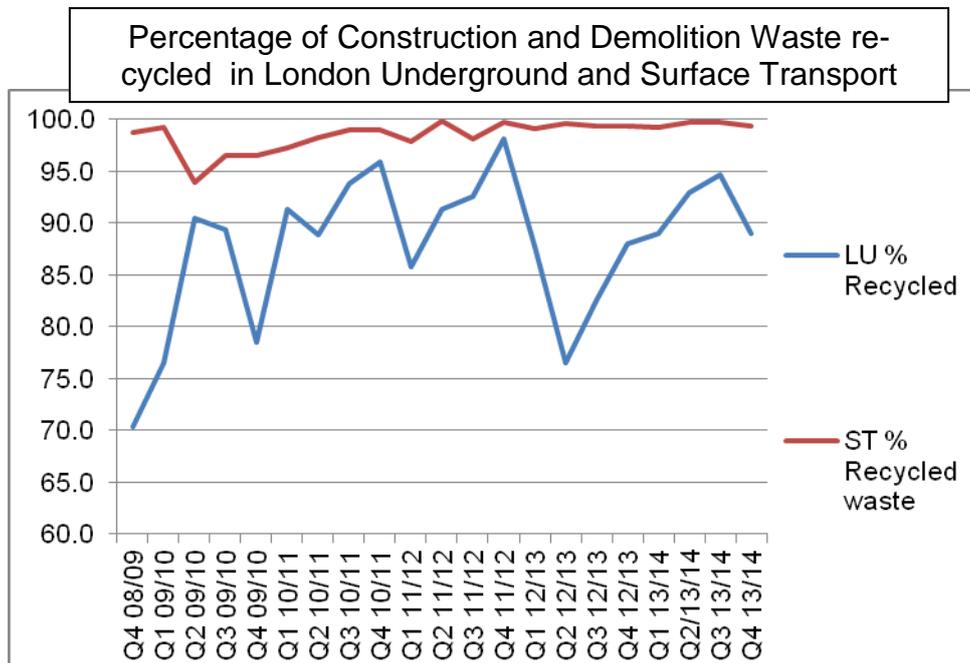
This chart shows the rates for Assaults (both physical and verbal) per 1000 Contractors. These staff are primarily those in London Rail (with those involved in revenue protection a significant proportion) and London Buses (primarily the Bus Operators), where most customer facing staff are contractor staff. The reporting of verbal assaults is known to be much higher in London Rail businesses, than it is in Surface Transport. The Buses rate has risen slightly, while Rail has seen a slight fall; but both are normal variations.



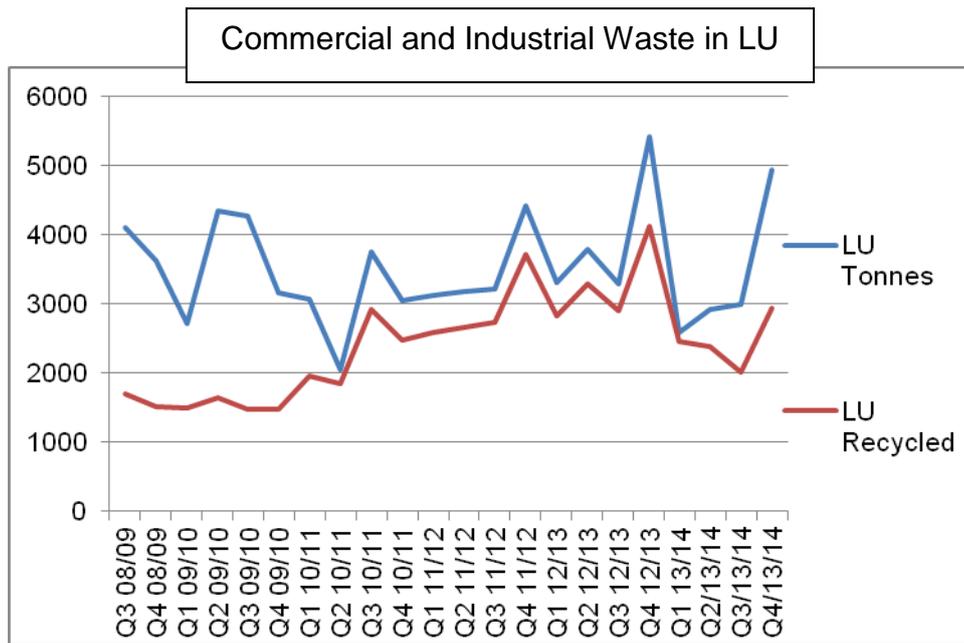
This chart shows the carbon emissions at the HQ buildings that make up the TfL estate, and over which we have direct control. They are measured in Kg of CO2 per square metre. As might be expected there is a clear seasonal trend. The targets are also shown, and for the third quarter running the actual 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 again below 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. Recycling rates in LU have fallen this quarter as a percentage. ST percentage rates remain high.



This chart shows the tonnage of Commercial and Industrial waste produced and recycled and reused in London Underground in Tonnes. LU produced a significant increase on Quarter 3, but the percentage recycled has in fact fallen.