

TRANSPORT FOR LONDON

RAIL AND UNDERGROUND PANEL

SUBJECT: MANAGING DIRECTOR'S REPORT – LONDON UNDERGROUND AND LONDON RAIL

DATE: 5 MAY 2011

1 PURPOSE

- 1.1 The purpose of the report is to highlight the performance of London Underground and London Rail for periods 10 to 13 (12 December 2010 to 31 March 2011) and for the year 2010/11. The report also provides updates on the status and progress of major investment projects and items of special interest.
- 1.2 The Panel is asked to note this report.

2 LONDON UNDERGROUND PERFORMANCE

- 2.1 A summary of key performance indicators and graphs showing trends over the last year are provided on pages 12 to 18.

Customer Satisfaction

- 2.2 Scores of 80 were achieved in each of the first two quarters of this year. The score fell by 1 point to 79 in Quarter 3, which was a particularly challenging quarter with a significant number of asset failures and other incidents impacting on performance, and remained at this level in Quarter 4. The average score over the four quarters was 79, in line with the target for the year.

Passenger Numbers

- 2.3 LU continues to move more passengers than ever before. In the year 1,107 million passenger journeys were recorded, an increase of 4 per cent on the previous year and 6.8 per cent higher than the budget. This is the first time in the history of the Underground that passenger journeys have exceeded 1.1 billion. A separate paper on demand and revenue trends is being presented to this meeting.

Service Performance

- 2.4 Periods 12 and 13 were the first since period 3 to be unaffected by industrial action, and both percentage of schedule and excess journey time met their targets in each of these last two periods of the year.
- 2.5 For the year as a whole the percentage of schedule operated at 95.6 per cent which was 1.0 per cent below the target. The target would have been met if the impact of industrial action is excluded.
- 2.6 Excess journey time was within its target at 6.52 minutes for the year, a result which improves to 6.20 minutes if the effects of industrial action are excluded.
- 2.7 The line performance trends on page 13 clearly show the impact of system-wide industrial action that took place in periods 6 – 10 inclusive. Period 10 was also

impacted by severe winter weather conditions over several days, although the Underground generally ran well.

- 2.8 The District and Metropolitan lines suffered poor rolling stock availability in the autumn as a consequence of defects identified during routine maintenance. These have been rectified and while District line performance is now back at or above the target level other problems including track, points and signal failures have prevented the Metropolitan line from meeting its percentage of schedule target. A recovery plan is in place and improved performance is beginning to show through.

Safety

- 2.9 The measure adopted for the scorecard this year is 'Major injuries per million hours on LU Infrastructure'. This wider measure takes as its numerator the number of accidental major injuries to customers, employees and contractors and as its denominator the sum of the number of hours spent by customers travelling on the network and the number of hours worked by staff and contractors. Due to normal periodic variability in the number of injuries, the result is expressed as a moving annual average (MAA), which stands at 0.27 compared with the target of 0.25. In the year 2010/11 there were 127 reported major injuries to customers and 20 employee/contractor major injuries.

3 LINE UPGRADES

Jubilee line

- 3.1 Reliability of the Transmission Based Train Control system on the line has been improving through fixing software issues since implementation between Christmas and New Year. This is translating into an improving train service, with the percentage of the scheduled service operated rising from less than 90 per cent in period 10 to over 96 per cent in period 12 and 97 per cent in period 13, ahead of the line's target.
- 3.2 Work is progressing on getting the final northern sections into weekday service. The complex interfaces between the Metropolitan and Jubilee lines are now the key challenges to operating normal weekday services under the new signalling system, across the whole line. Once the upgrade is completed, a new timetable will be implemented on the line, which will reap the benefits of the new system by increasing the kilometres operated by over 1 million per annum, and increasing peak trains to 27 trains per hour from 24 trains per hour currently. Further increases are planned to be introduced in 2012. It is planned to introduce the first timetable changes on 31 July 2011.

Northern line

- 3.3 Installation activity is progressing according to programme, particularly trackside between the East Finchley and High Barnet areas. Discussions also continue to agree the overall programme and commercial agreements. The outcome will be a revised closures programme that will be much less disruptive than the original Tube Lines proposal, and will have a delivery date in 2014 in line with recent Spending Review commitments.

Victoria line

- 3.4 Overall reliability of the Victoria line has continued to improve although the line suffered serious disruption in the evening peak on 11 February due to a mainline burst on a 2009 stock train at Oxford Circus in the evening peak.
- 3.5 Over half of the line's service is now being provided by the 2009 stock, which has accumulated more than a million kilometres in passenger service. By the end of March 2011, 31 out of the total fleet of 47 new trains had been delivered. There are still some performance issues with the new stock, which are being monitored and investigated by LU staff working closely with the trains' manufacturer.
- 3.6 Transfer of the line service control activity from the shared facility at Cobourg Street to the new purpose built control room at Osborne House in Northumberland Park Depot has been completed.

Sub Surface Railway

- 3.7 At the end of March there were six S-stock trains in service on the Metropolitan line, although prior to them operating through to Aldgate only three could be run at one time on the routes north of Baker Street. On Sunday 3 April an S stock train completed the type's first run in passenger service between Harrow-on-the-Hill and Aldgate. Further off-peak runs are taking place before the route is included for timetabled service.
- 3.8 The first of two pre-production 7-car S stock trains arrived at Neasden depot during the night of 31 March/1 April. This first pre-production train will be used for infrastructure testing and commissioning. It will carry an array of technical equipment to monitor its performance and interface with LU's existing railway infrastructure. A rigorous testing regime will be carried out to ensure compatibility between the new rolling stock and various assets across the Circle and Hammersmith (C&H) and District lines. Testing and commissioning will be undertaken at night or during line closures over the whole of the C&H and District lines, focusing in the first instance on the route between Hammersmith and Barking. The trains will start to enter passenger service in 2012.
- 3.9 On 12 April LU announced the selection of Bombardier Transportation as the Preferred Bidder for the signalling upgrade on the sub-surface lines. LU has been working with and learning from other world metros including the Madrid Metro in order to develop innovative ways to upgrade the network so as to minimise disruption to customers. As a result, this contract, once awarded will provide for no weekend closures simply for signalling installation and testing work. There will still be a need for weekend closures to upgrade track and platforms, but these will be contained in much smaller geographical areas and will not mean closures to full lines as has been experienced during previous upgrade work on other lines.

4 OTHER PROJECTS

Tottenham Court Road station

- 4.1 The project to transform Tottenham Court Road station continues, with work on the ticket hall progressing well, and a new road diversion in place. Stage two of the excavation works has been completed, and excavation continues for further works.

- 4.2 For eight months from 2 April 2011, Northern line services are not stopping at Tottenham Court Road to allow work to take place as part of the station upgrade project. The work involves major structural alterations on the Northern line platforms so that new routes to the platforms from the ticket hall can be built. Central line services will continue to serve the station as normal. Notification of the platform closure will be given to passengers using Tottenham Court Road station well in advance and alternative travel options made clear.

Victoria Station Upgrade

- 4.3 Design and survey work for the station upgrade is continuing in line with plan. In the meantime three 42-year old escalators leading from the Victoria line ticket hall are being refurbished to ensure their reliability. The work is due to be completed early in 2012, well ahead of the Olympics. During the project, a one-way system is in place during the peaks with no entry through the main Victoria gateline.

Stratford Station

- 4.4 The new mezzanine entrance at Stratford station opened for customer service on Sunday 20 March. The new facility, partly funded by the Olympic Delivery Authority, includes extra ticket machines and will allow customers to enter and leave the station more easily, helping to ease congestion. Customers will also benefit from direct access to the Central line.
- 4.5 The Northern ticket hall at the station will soon be handed over to LU control and will be mothballed until the Westfield shopping centre opens in September.

5 OTHER ITEMS

Metros Awards 2011

- 5.1 On 15 March, LU was named overall Best Metro at the Metros Awards 2011. 'The Metros' is an annual international awards ceremony allied with the MetroRail conference. LU beat five other shortlisted metros including Seoul, Madrid and last year's winner, Singapore, to win the trophy. This award recognises that LU is carrying more passengers than ever before while undertaking a major upgrade of the entire system and seeing record customer satisfaction levels.

Customer Information

- 5.2 The latest customer information campaign on the Tube upgrade plan commenced on 25 February. This features much more granular line-by-line detail on the work being undertaken, and the benefits that the work will deliver. The campaign features on-system posters, radio, leaflets and emails to LU's 600,000 strong customer database. A new section on the TfL website supports the increasingly local and personal tone, including videos and updates from LU's Managing Director and line managers.
- 5.3 From 25 March the service status displayed on Electronic Service Update Boards at LU stations was extended to also include London Overground and Docklands Light Railway information.

Operations Strategic Plan

- 5.4 Following the implementation of a new management structure in November 2010, changes to station staffing were introduced in February 2011. Ticket office window hours were changed to bring them in line with demand, which has fallen significantly in recent years – only one in 20 Underground journeys now starts with a visit to the ticket office. In the first week after the changes were introduced, there was a three per cent switch from ticket offices to passenger operated machines, while ticket queue times continue to reduce across the network. Since implementation on 6 February, there have been fewer station closures, and high standards of customer service have been maintained. Discussions continue with the trade unions to deal with their outstanding concerns, and to review the arrangements at a local level, following implementation.
- 5.5 In total, there has been a reduction of some 650 station posts, saving around £33m per year in operational costs, and 150 management and administrative posts saving a further £7m. In line with TfL's commitment, the changes have been introduced with no compulsory redundancies, and maintaining services.

Support Services Review (non-operational areas)

- 5.6 The support services review is drawing to a close with the majority of displaced individuals taking voluntary severance, in redeployment or skills matched into non-permanent labour roles.

Wi-Fi in Stations

- 5.7 Following a successful trial of Wi-Fi technology at Charing Cross Underground station, LU is inviting telecoms companies to tender for Wi-Fi provision at up to 120 stations across the network by June 2012. A contract will be awarded to the chosen bidder by the end of 2011, which could mean that customers will be able to log on to the internet from their laptops or mobile devices at stations before the 2012 Olympic and Paralympic Games. The trial at Charing Cross, which began in November 2010, is ongoing and customers will continue to be able to access Wi-Fi at the station until later this year.

6 LONDON RAIL - HIGHLIGHTS

- 6.1 All operational targets were exceeded across London Rail except for DLR departures, although these too have continued to improve during the year.
- 6.2 For the whole of 2010/11 London Overground PPM¹ MAA² was the second highest performance nationally and in first position in the London & South East league table.
- 6.3 The new London Overground link between Dalston Junction and Highbury & Islington was opened ahead of schedule on Monday 28 February by the Mayor, connecting the East London Line (ELL) to the North London Railway.
- 6.4 All Overground trains now run in four car formation, following completion of the conversion programme for the North London Railway (NLR) fleet in the period.

¹ PPM (public performance measure): % trains that arrived within 5 minutes of their stated arrival time as per the timetable currently in operation.

² MAA: Moving annual average.

- 6.5 Dalston Bus station built on the slab above the Overground station has been handed over to London Buses.
- 6.6 The ELL received two awards from the Institution of Civil Engineers, firstly the 'Greatest Contribution to London' Award and secondly the 'Community Award', in recognition of the role it has played in opening up the eastern side of the Capital.
- 6.7 The shortlisted bidders to supply up to 10 more trams for Croydon have been announced. The London Borough of Croydon has confirmed a £3m contribution towards the funding of the project.
- 6.8 Docklands Light Railway won an award for the 'Best Built Project Five Years On' category for the London City Airport extension. The relocated South Quay station was also shortlisted for the 'Best Built Project' category.
- 6.9 Passenger volumes and revenue continue to grow strongly across each of the London Rail divisions.

7 LONDON RAIL OPERATIONAL PERFORMANCE

Docklands Light Railway

- 7.1 Passenger journeys of 23.6m during the quarter were 1.4m ahead of budget due mainly to fewer blockades associated with the DLR upgrade programme and the impact of Jubilee line closures.
- 7.2 Reliability and Service Quality

Standard	Q4 System Performance (%)	Budget (%)
Departures (% scheduled operated)	97.4	98.0
Service Reliability (on time performance)	97.4	96.0
Ticket Vending Machine Availability	99.8	98.0
Lift Reliability	99.9	97.0
Escalator Reliability	99.4	98.0
Passenger Information Display Availability	100	98.0

- 7.3 All performance indicators were exceeded except departures. Departures have suffered as a result of rolling stock and signalling problems, adverse weather conditions and Bank station escalator works.

London Overground Operations

	Q4	Budget
On time performance PPM MAA	94.9	93.2

- 7.4 PPM MAA was 94.9 per cent at the end of period 13 which was above budget by 1.7 per cent and continues the strong performance of recent months.

London Tramlink Operations

	Q4	Budget
Passenger Journeys	8.4m	7.8m
% of scheduled service kms operated	99.1	98.0

- 7.5 Journeys of 8.4m during the quarter were above budget by 0.6m due partly to better than expected economic conditions.
- 7.6 Percentage of scheduled service kilometres operated was 1.1 per cent above target and 0.4 per cent better than the previous quarter.

8 DOCKLANDS LIGHT RAILWAY PROJECTS

Three Car Capacity Enhancement

- 8.1 Construction is complete on all packages of work, although sectional completion has been withheld on Package 7 due to the close out of minor snagging items.

Three Car East Route

- 8.2 Construction and station finishes are complete at all stations on the East Route. Before a three car service can be operated, an upgrade to the signalling software needs to take place, which remains on schedule to take place over the Easter period.

Stratford International Extension

- 8.3 Package 8 (National Rail Platforms at Stratford): works are now complete.
- 8.4 Package 6 (Conversion of North London Line (NLL) to DLR): construction work is complete and snagging work is ongoing. Work continued at all stations on general electrical and mechanical fitment, with Canning Town, West Ham and Stratford Regional stations now complete.

Other DLR projects

- 8.5 Upgrade of Ticket Vending Machines (TVM): two additional TVMs have been installed at London City Airport, taking the number installed to 134 TVMs out of a total of 150. Work is due to commence to install the 16 TVMs on the Stratford International Extension in May 2011.
- 8.6 Beckton Depot Offices (BDO): fit out works have continued and are on programme. The high voltage power supply will be completed by the end of April 2011, enabling testing and commissioning to be carried out over a six-week period. Trial running is forecast to commence in December 2011.

9 LONDON OVERGROUND INFRASTRUCTURE PROJECTS

East London Line Project (ELLP)

- 9.1 The fourth supplementary agreement, which outlines the procedure to be followed to reach contract closeout, is being negotiated with the main works contractor.
- 9.2 The East London Line (ELL) received two awards from the Institution of Civil Engineers, firstly the 'Greatest Contribution to London' Award and secondly the

'Community Award', in recognition of the role it has played in regenerating the eastern side of the Capital.

East London Line Project (ELLP) Phase 2

- 9.3 The implementation agreement and associated financing agreement with Network Rail (NR) have been finalised and executed by both parties. The NR project team received endorsement from London Rail to its proposal to award the design and build contracts for work packages 2 (new connection between the extended East London Railway and the existing South London Lines around Old Kent Road) and 3 (works at Clapham Junction) to Carillion.
- 9.4 An instruction to proceed notice was issued to Birse Metro for the civils and permanent way contractor. Birse have established site presence and erected a hoarded and Heras fenced boundary around Bridge House Meadows for the closure of pedestrian access on 6 April 2011. The full contract is being prepared for execution by the end of period 1 2011/12 which will include construction of the three subways within the Surrey Canal Road Station vicinity (funded by London Borough of Lewisham).
- 9.5 The Phase 1a railway systems and power contractors (Invensys Rail Ltd and Balfour Beatty Engineering Services) are having their ITP (intention to proceed) notices finalised to enable design to commence in line with programme.

North London Railway Infrastructure Project (NLRIP)

- 9.6 The planned 18 day blockade during period 10 was successfully completed despite severe weather experienced at the beginning.
- 9.7 All signalling works were completed by the end of period 11. This allowed the Phase 1a section (Dalston Junction to Highbury & Islington) to open and commence service on 28 February 2011 as planned. The signalling design for all stages for the Latchmere Curve works have been accepted and physical works have now commenced, with the final commissioning taking place.

North London Railway (NLR) Stations Upgrade

- 9.8 To date ten stations have been granted system acceptance namely Kilburn High Road, Crouch Hill, Leyton Midland Road, Caledonian Road and Barnsbury, Carpenders Park, Headstone Lane, Hatch End, South Acton, Watford High Street and Hackney Central.
- 9.9 Nine stations are at the agreed snagging stage namely Headstone Lane, Watford High Street, Kilburn High Road, Leyton Midland Road, Crouch Hill, Caledonian Road & Barnsbury, Canonbury, Headstone Lane and Harringay Green Lanes.
- 9.10 All stations remain fully operational.
- 9.11 London Rail and LOROL are working to a programme for completion by the end of 2011.

10 REVIEW OF DEVELOPMENTS ACROSS NATIONAL RAIL

Rail Value for Money Study

- 10.1 The final report of the rail value for money (RVFM) study is due to be published in May 2011 and will be followed by the setting up of a delivery group to implement its recommendations. Mike Brown and officers from London Rail attended a recent workshop led by Sir Roy McNulty.

DfT High Level Output Specification (HLOS)

- 10.2 A statement on electrification and the InterCity Express Programme (IEP) was made in March 2011. Government decided to resume the IEP programme with a fleet of bi-mode (electric/diesel) trains from Agility Trains (Hitachi and John Laing) providing additional capacity on Great Western and East Coast routes. The electrification of the Great Western Main Line to Cardiff was announced. As part of the budget 2011, the Chancellor announced a further £200m to be spent on regional rail including Swindon Kemble redoubling and Ordsall Curve in Manchester. London Rail is modelling an HLOS2 package of enhancements with a view to producing a report in summer 2011.

Network Rail Matters

Route Utilisation Strategies (RUS)

- 10.3 London Rail has submitted a response to the London and South East RUS draft for consultation on behalf of TfL. This is an important strategy which identifies and assesses the enhancements to the rail network that are necessary to address capacity and connectivity gaps. All of the main rail routes in London are covered. The strategy will inform the next HLOS and TfL has been working with Network Rail to ensure that the RUS recommends many of the rail schemes included in the Mayor's Transport Strategy. The modelling for the RUS has used TfL's Railplan model which means their findings match TfL's in most areas.
- 10.4 TfL's response covered the following key issues:
- a) Support for the extension of Crossrail to Reading, subject to operational and commercial issues being resolved;
 - b) The potential for Heathrow Express services to be incorporated into Crossrail and for Crossrail services to be extended onto the West Coast Main Line;
 - c) Strong support for some Thameslink services on the East Coast Main Line to call at more stations in London;
 - d) TfL's preferred approach for providing additional connectivity and capacity on the West Anglia Main Line, through phased four-tracking;
 - e) The need for extra capacity on most parts of the London Overground network in the future, given the forecast high levels of crowding; and
 - f) Strong support for the RUS recommendation for more freight that does not have an origin or destination in London to be diverted away from London.
- 10.5 London Rail has also responded to the draft for consultation of both the West Midlands and Chiltern and West Coast Main Line RUSs and has been providing a significant amount of input to the Stations RUS (part of the Network RUS) prior

to the publication of the draft for consultation later in the Spring.

Train Operating Companies (TOC) summit

- 10.6 The Mayor's TOC summit was held on 11 March 2011 and TfL's Planning for Growth paper was presented. TfL/TOCs announced a range of improvements to benefit rail users including the withdrawal of Oyster Extension permits by train operators, the development of a new Oyster map and joint plans to improve customer information. Another summit will be held in 2012.

Rail Franchising

- 10.7 The shortlist for the Greater Anglia short term replacement franchise has been announced by the DfT. Three operators have been selected to progress to the invitation to tender (ITT) stage: Stagecoach, Netherlands State Railways and Go Ahead. TfL is currently discussing the content of the ITT with the DfT with a view to incorporating various enhancements, subject to further consideration of affordability. The ITT is expected to be published during late April. The short term replacement franchise will start in February 2012 and run until July 2013, with a possible extension of up to 12 months.
- 10.8 The Southeastern franchise has been extended by two years and will now run until March 2014. As part of the extension deal Southeastern will now pay compensation to passengers if they experience delays of more than 30 minutes in length, and will also provide a new service between Maidstone and London using High Speed One.

Mayor's Powers over National Rail

- 10.9 The Mayor has agreed to provide the Secretary of State with an independent review of the case for devolution of inner suburban services in London. London Rail commissioned an independent review from NERA economic consulting. NERA undertook a detailed review of the costs and benefits of TfL's proposals and produced its own report concluding that 'TfL has put forward a compelling case for adopting a different approach to rail services in London, and for being given the powers to provide the leadership that is required in London'. The report focuses on two devolution options: joint TfL/DfT franchising of rail services and TfL concessions. It finds that these options could deliver a higher level of services and standards but at a lower cost if revenue risk is transferred from TOCs to TfL. London Rail is also producing a case study comparing standards on two TOCs with different quality standards.

Performance of the Passenger and Freight Network

- 10.10 Rail passenger demand is growing strongly following the downturn. In the third quarter of 2010/11, London and South East demand increased by 10.5 per cent and revenue increased by 4.9 per cent when compared with the same quarter last year. Both rail freight moved and lifted reduced by just over one per cent over the same period. This was a return to the downward trend in rail freight usage following a rally in freight lifted in the previous quarter. The most significant reductions compared to the previous quarter were in the construction and domestic intermodal sectors.
- 10.11 The Strategic Freight Network Steering Group, of which London Rail is a member, is continuing to optimise spending of the available funding in control period 4 (2009-14) and is looking at investment priorities for control period 5

(2014-19).

Environment and Sustainability

- 10.12 London Rail has provided input to various rail industry workstreams. This includes work commissioned by the DfT and Rail Safety and Standards Board to assess the business case for interventions to reduce carbon emissions. This work will inform rail industry planning for the next Control Period.

High Speed Rail

- 10.13 The public consultation on the Government's strategy for the development of high speed rail in Britain has started. This includes consultation on the alignment of the first phase between London and Birmingham. Issues of relevance to TfL include the development of Euston station as the terminus and onward dispersal of passengers from this station, the proposed interchange station with Crossrail at Old Oak Common, and the link with HS1.
- 10.14 London Rail has significant concerns over the proposal for a direct link between HS2 and the existing HS1 line. The current proposal involved routing trains via the North London Line at Camden Road. London Rail has assessed this and has serious concerns about the feasibility of the proposal and particularly whether the additional services can be accommodated without reducing the number of London Overground and freight services. Network Rail agrees with this position and TfL's consultation response is therefore likely to state that additional infrastructure is required.

11 RECOMMENDATION

- 11.1 The Panel is asked to NOTE this report.

12 CONTACT

- 12.1 Contact: Mike Brown, Managing Director, London Underground and
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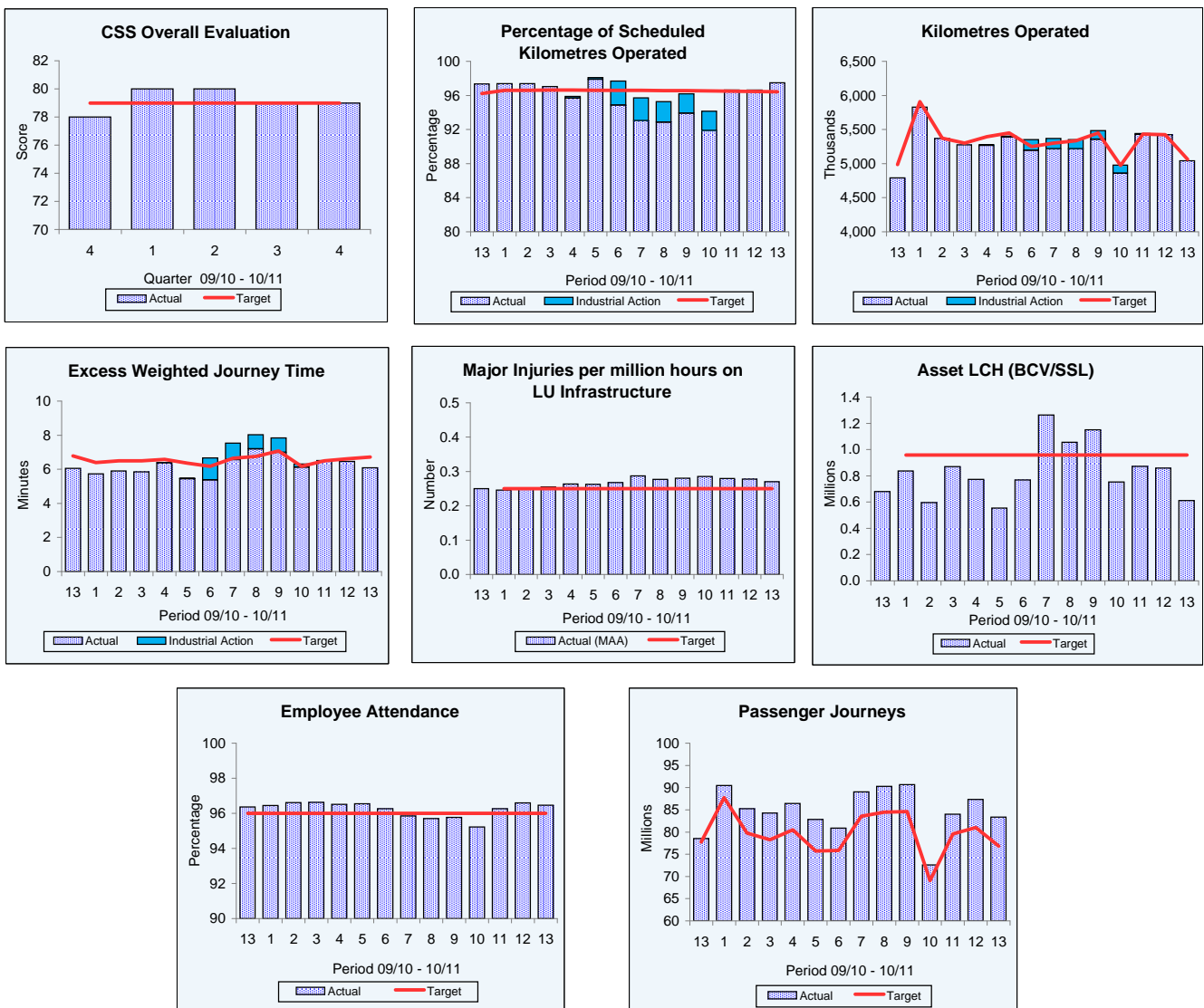
Rail and Underground Panel Managing Director's Report London Underground Performance Indicators - Period 13 2010/11

2009/10 Actual	Measures	Reporting Frequency	Unit	Year			Annual Target
				Actual	Target	Variance	
Customer Service							
79	Customer Satisfaction - Overall Evaluation	Quarterly	Score	79	79		79
96.6	% of Schedule Operated	Period	%	95.6	96.6	(1.0)	96.6
69,368	Kilometres Operated	Period	000's	68,869	69,664	(795)	69,664
6.41	Excess Journey Time (Weighted)	Period	Minutes	6.52	6.54	0.02	6.54
Safety							
0.25	Major Injuries per million hours on LU Infrastructure*	Period	No.	0.27	0.25	(0.02)	0.25
Infrastructure							
9.35	Asset LCH (BCV/SSL) **	Period	Million	10.96	12.46	1.50	12.46
People							
96.0	Employee Attendance	Period	%	96.1	96.2	(0.1)	96.2
Commercial							
1,064.7	Passenger Journeys	Period	Million	1,107.3	1,037.0	70.3	1,037.0

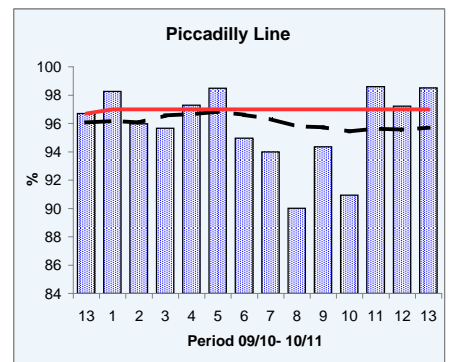
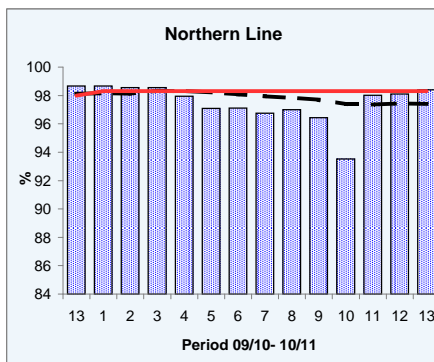
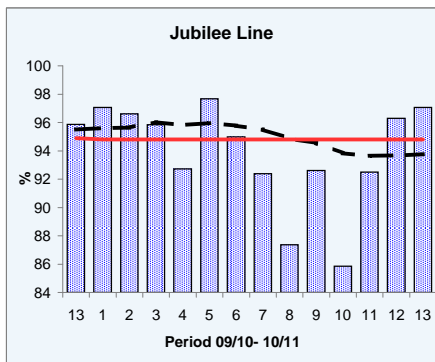
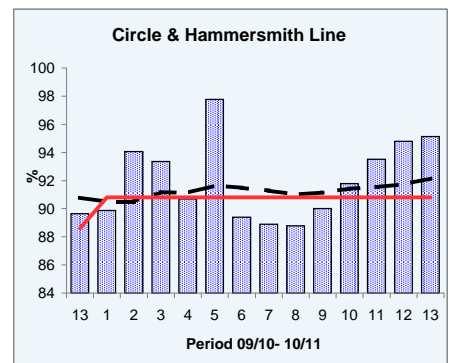
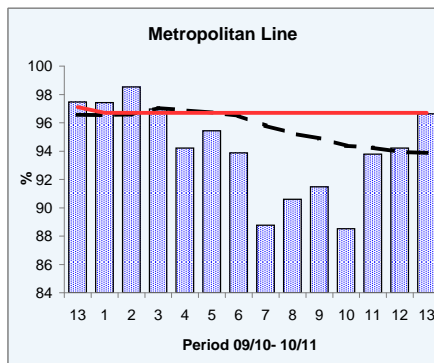
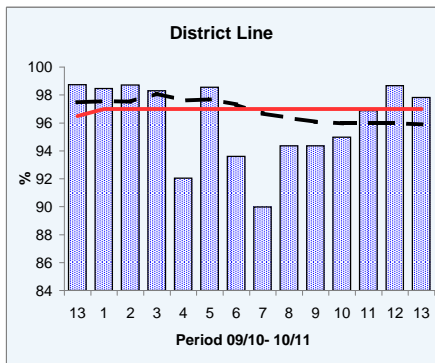
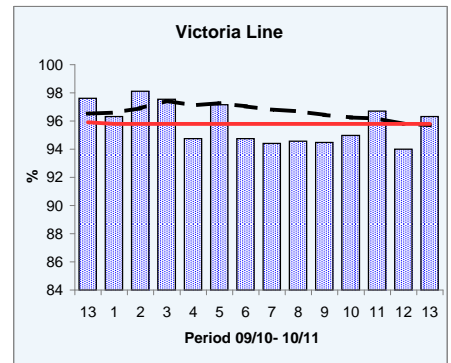
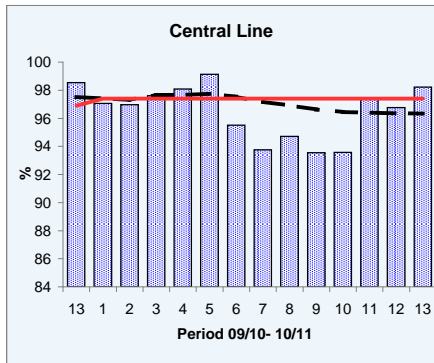
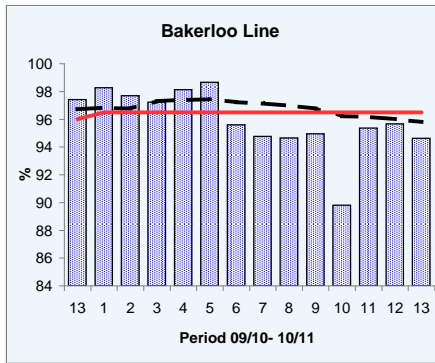
* The figures shown are moving annual averages

** The LCH shown for 2010/11 are expressed in NACHs 2014 values (i.e. values applicable in Contract Review Period 2)

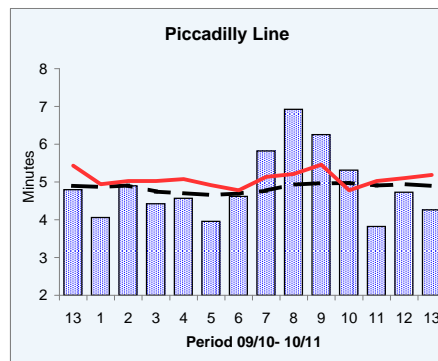
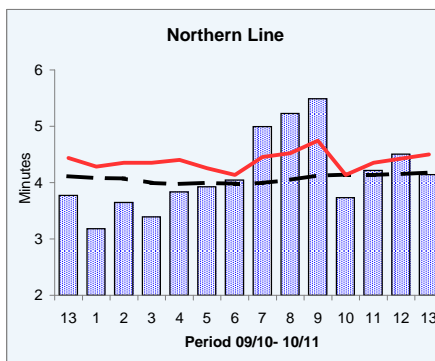
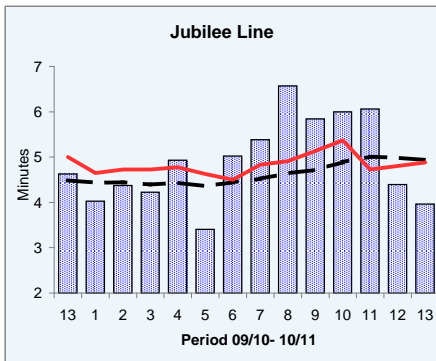
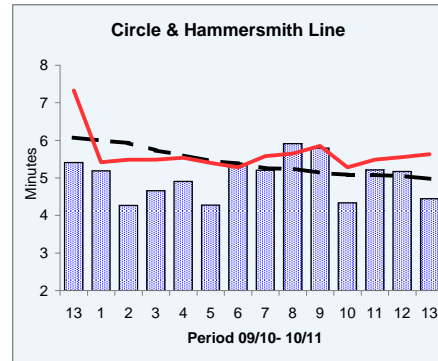
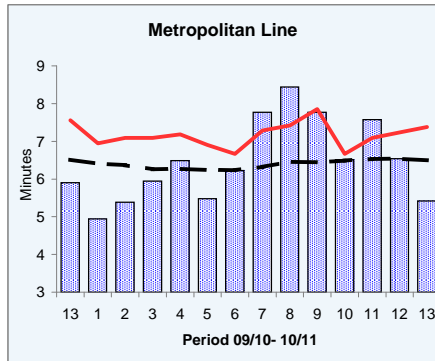
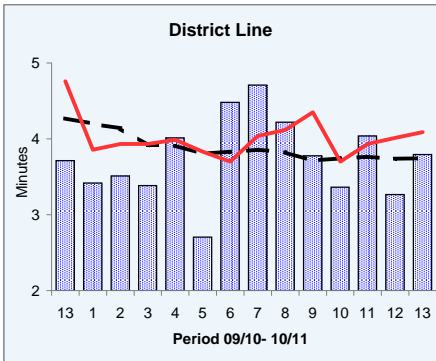
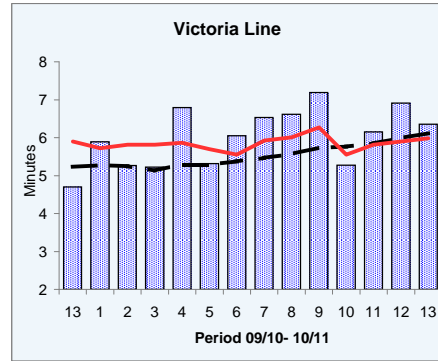
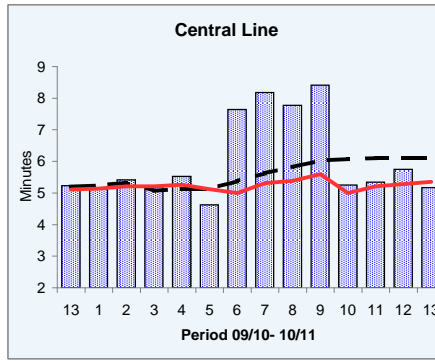
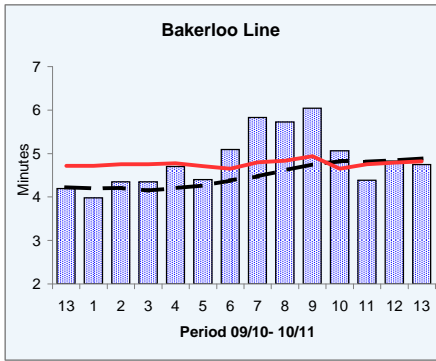
Performance Trends



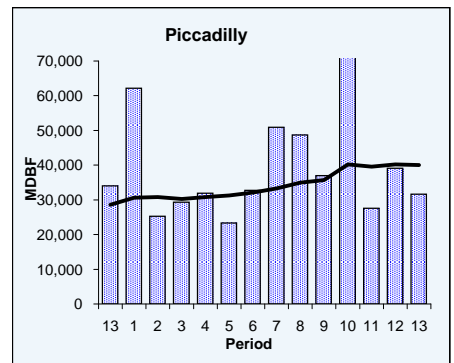
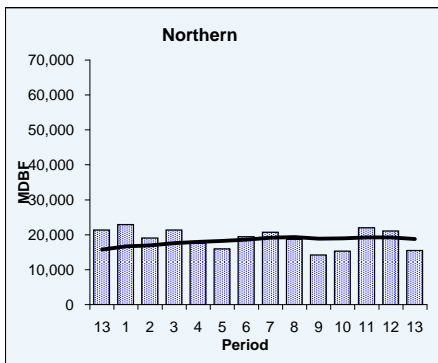
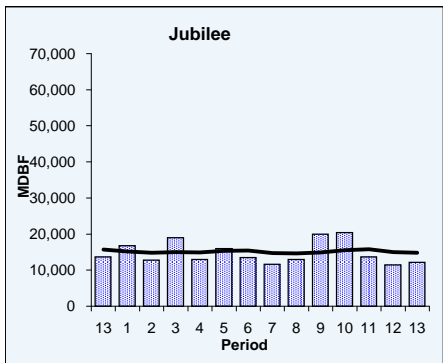
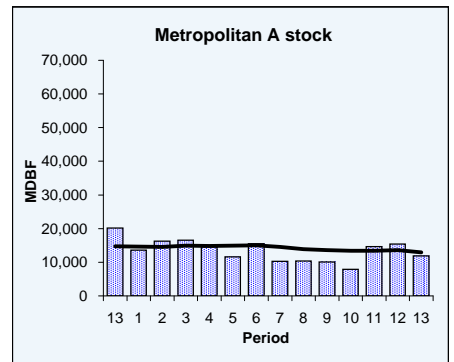
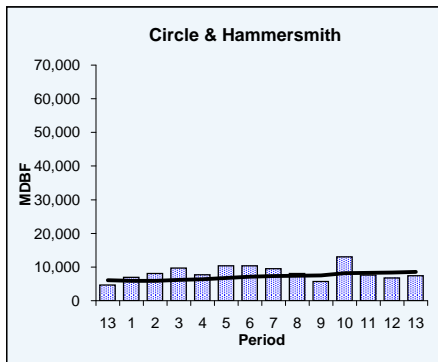
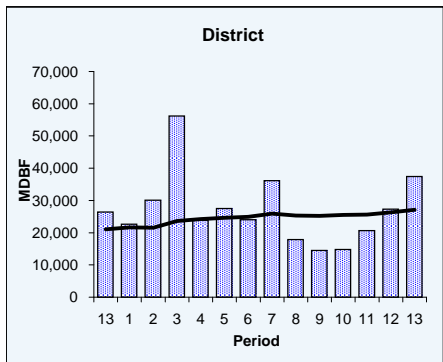
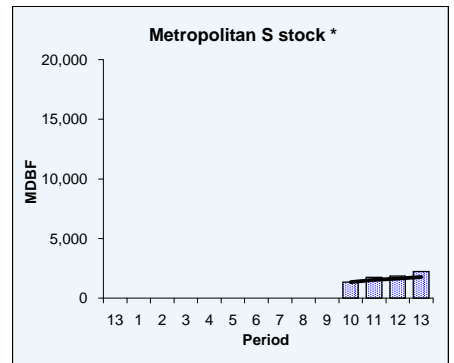
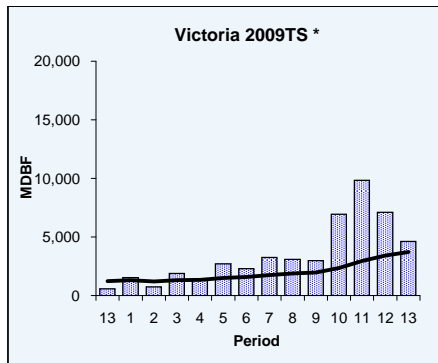
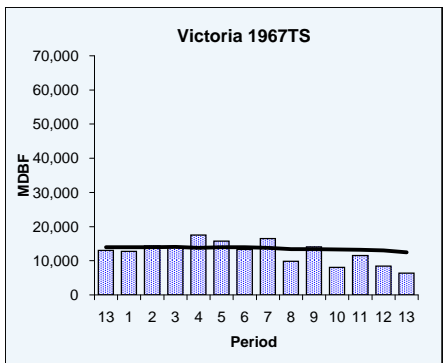
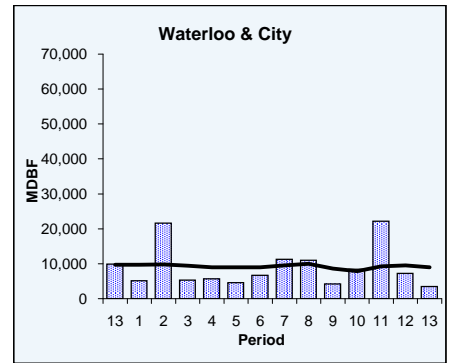
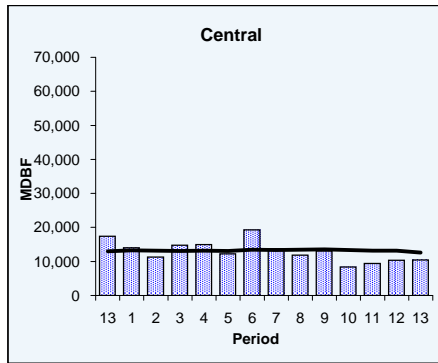
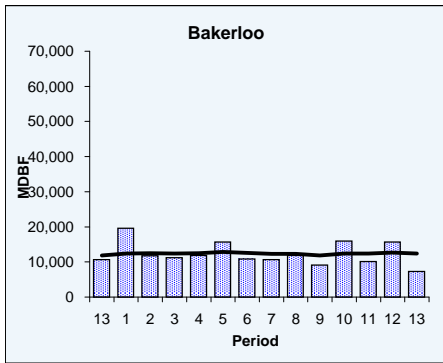
**Rail and Underground Panel
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London Underground Line Performance Trends
Percentage of Scheduled Kilometres Operated**



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Managing Director's Report
London Underground Line Performance Trends
Excess Journey Time**



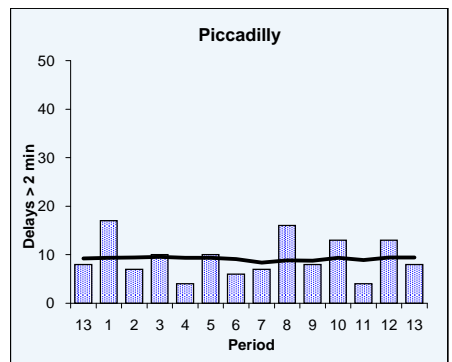
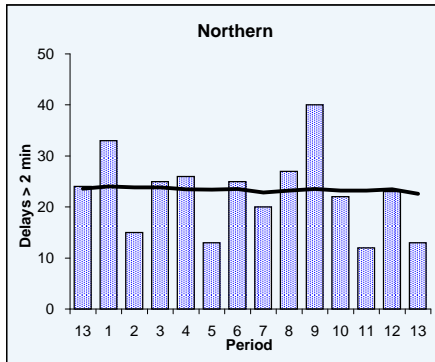
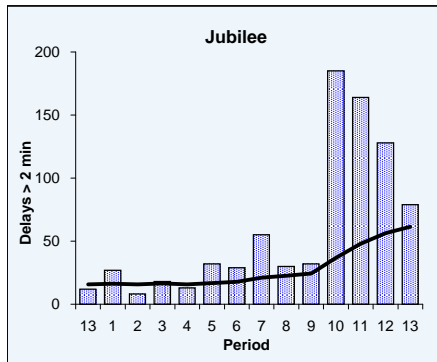
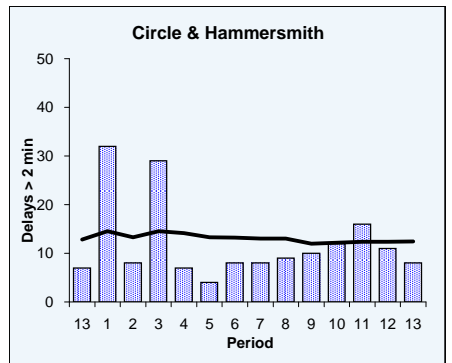
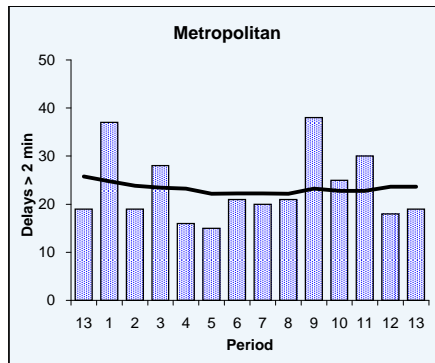
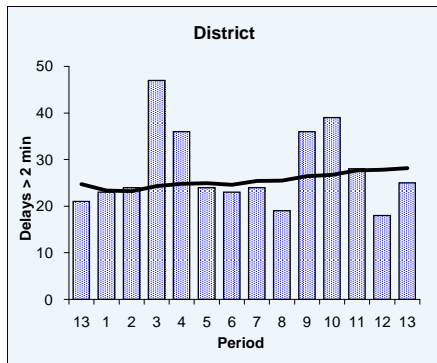
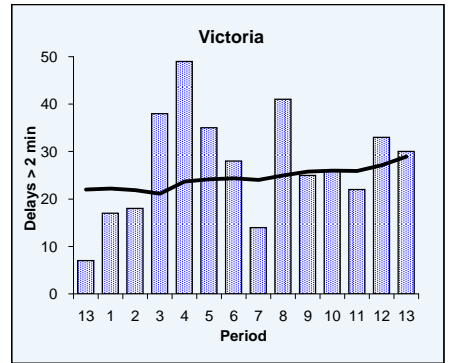
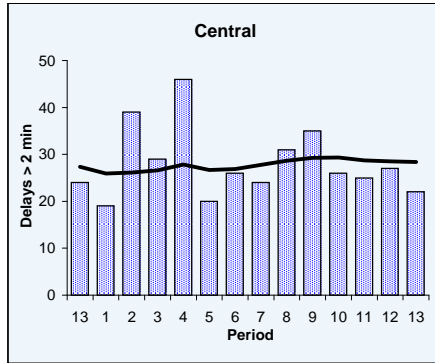
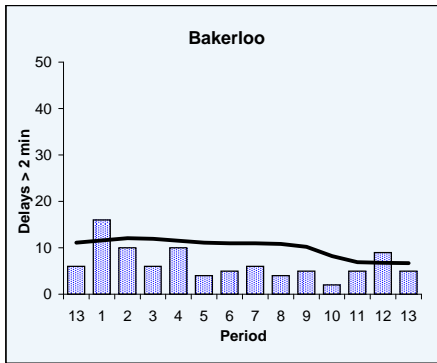
**Rail and Underground Panel
Managing Director's Report
London Underground Line Performance Trends
Rolling Stock Mean Distance Between Failures**



The graphs on this page show Rolling Stock MDBF calculated as the number of train kilometres operated in customer service divided by the number of service disruptions of 2 minutes or more that are contractually attributable under the PPP contracts to BCV, SSL or Tube Lines, and include items that are attributed but still in abeyance to be agreed. Where Infracore cause codes (ICC) are not present, LU cause codes are used. Subsequent addition of ICCs could therefore give rise to retrospective changes.

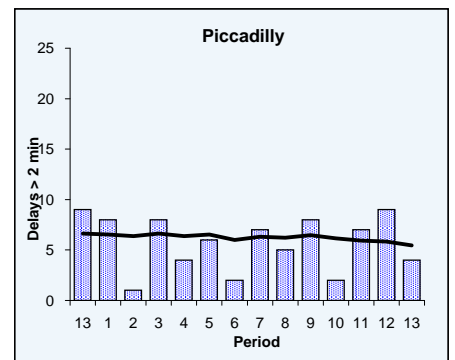
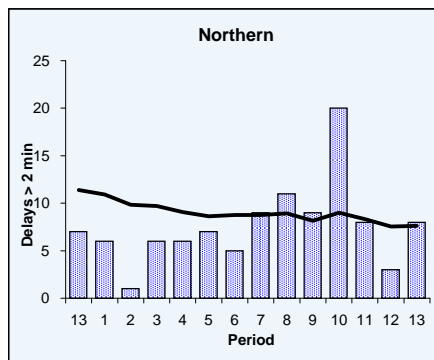
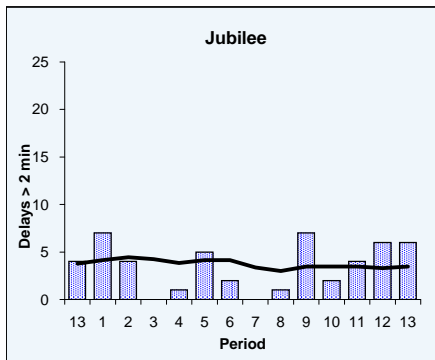
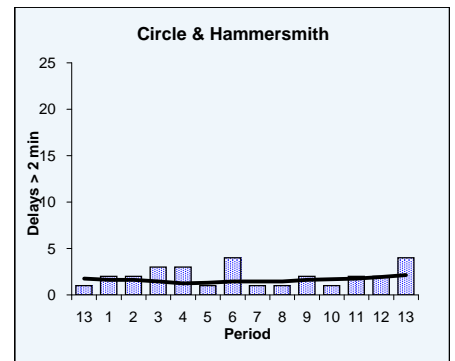
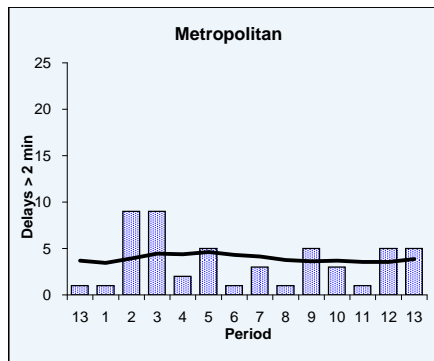
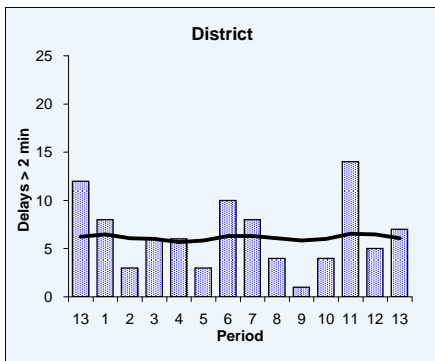
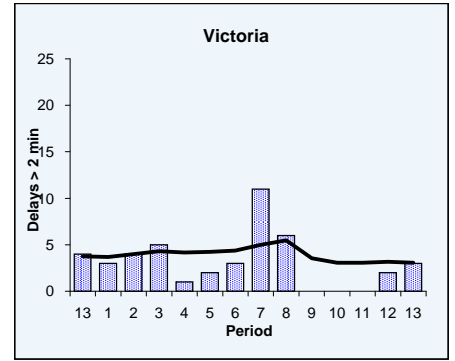
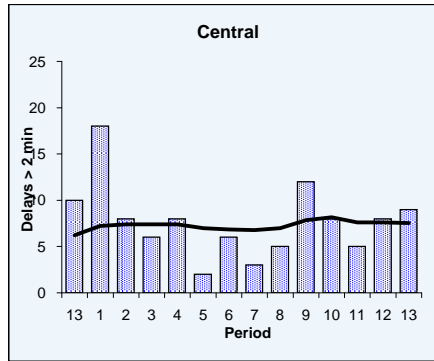
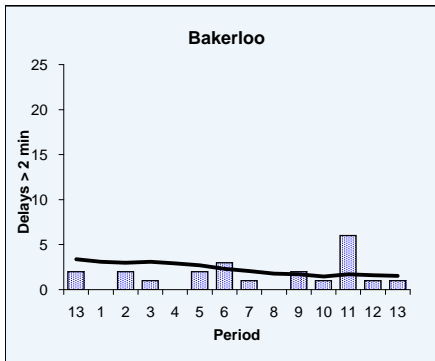
* Graphs for the new stock types (Victoria 2009TS and Metropolitan S stock) use a different scale from the older stocks so as to maintain visibility of the trends.

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Signal and Point Related Delays >2 minutes**



The graphs on this page show the number of service disruptions of 2 minutes or more that are contractually attributable under the PPP contracts to BCV, SSL or Tube Lines, and include items that are attributed but still in abeyance to be agreed. Where Infracore cause codes (ICC) are not present, LU cause codes are used. Subsequent addition of ICCs could therefore give rise to retrospective changes.

**Rail and Underground Panel
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London Underground Line Performance Trends
Track Related Delays >2 minutes**



The graphs on this page show the number of service disruptions of 2 minutes or more that are contractually attributable under the PPP contracts to BCV, SSL or Tube Lines, and include items that are attributed but still in abeyance to be agreed. Where Infracore cause codes (ICC) are not present, LU cause codes are used. Subsequent addition of ICCs could therefore give rise to retrospective changes.

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London Underground Performance Trends
Lift and Escalator Availability**

