

London Underground

PPP Performance

Four weekly report

Period 9 2010/11

14 November 2010 – 11 December 2010

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Foreword

Period 9 saw the Tube demonstrate its ability to cater for record demand, carrying more passengers than ever before in one four week period – 90.6 million. This recovery from the dip in passenger numbers in 2009 demonstrates the key role public transport has to play in supporting London's economic recovery and growth. The Tube now operates around 70 million train kilometres each year - a 27 per cent increase on 15 years ago.

The passenger numbers are even more remarkable given that winter weather in the second half of the period had an impact on passenger numbers; LU services generally ran well, but disruption on the National Rail network, particularly to the south of London, prevented many potential Tube customers from travelling into London.

Despite the record levels of usage, performance across the network was disappointing on some lines; we continue to focus relentlessly on the asset reliability issues that lay behind some of the failures, in order to drive improvement, while also continuing our progress with the upgrade of the network.

During this period LU awarded a £220-million, five-year contract to carry out replacement of ballasted track, points and crossings on two thirds of the network, including all ancillary signalling and drainage works. Combining the track renewal and drainage works will improve efficiency and all the work is vital to maintain the continued safe operation of the Tube. It is also key towards delivery of the upgrade of the Sub Surface lines.

Mike Brown
Managing Director
London Underground

Explanation of performance measures

The thirty year Public Private Partnership (PPP) contracts, let in 2002/03 with the aim of addressing the Underground's significant asset investment backlog, outsourced the maintenance, renewal and enhancement of the system to private sector infrastructure companies (known as 'Infracos'), with LU retaining responsibility for operations and, ultimately, safety.

In July 2007 Metronet, responsible for two of the three contracts, collapsed and entered into Administration. TfL emerged as the sole bidder for the Metronet companies, which in May 2008 were transferred to TfL ownership. These two Infracos are now a fully integrated part of LU and the maintenance and renewal of the BCV (Bakerloo, Central, Victoria and Waterloo & City) and SSL or sub-surface (Circle, District, Hammersmith & City and Metropolitan) lines continues under this structure. In June 2010, TfL acquired the shares of Tube Lines, responsible for the maintenance and renewal of the JNP (Jubilee, Northern and Piccadilly) lines, and the company is now a wholly-owned subsidiary of TfL.

However, the PPP contract structure continues to be used as a means of measuring and driving performance. The contract structure is output based, with performance measured against targets that reflect both the delivery of maintenance and the improvements made to asset condition and capability, such as the line upgrades which will increase capacity and improve reliability.

Under the PPP contract structure, performance is evaluated using three key measures:

- **Availability:** whether assets are available for service (day-to-day reliability)
- **Capability:** what the assets are capable of delivering in terms of capacity and reduced customer journey time
- **Ambience:** the quality of the travelling environment.

Each of these measures has a contractual benchmark, setting an expected level of performance. The benchmarks, revised as part of the PPP Periodic Review, are based on Infraco performance in Review Period 1, expected improvements and the effects of the scheduled upgrades. Bonuses are achieved for performance better than the benchmark and penalties (abatements) are applied if it is worse.

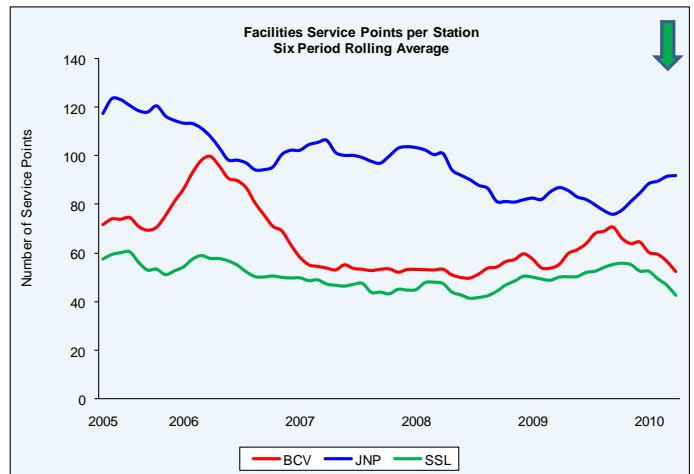
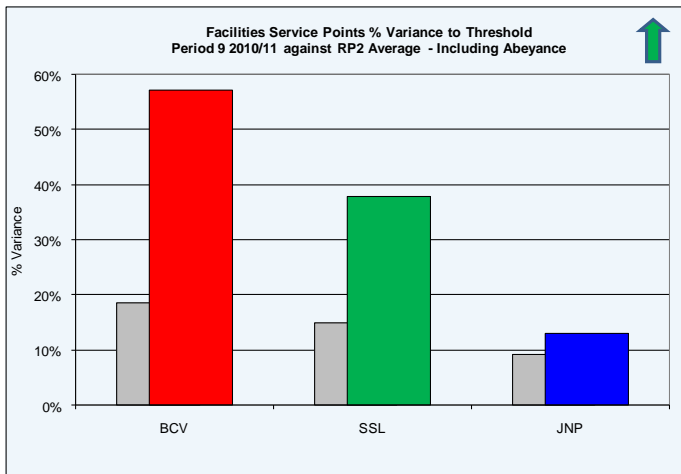
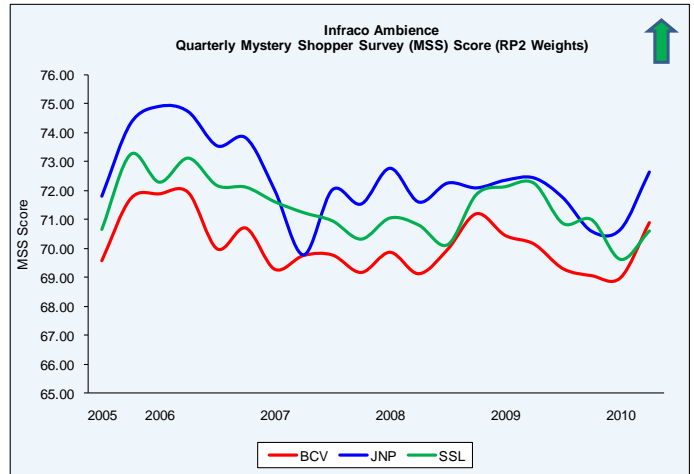
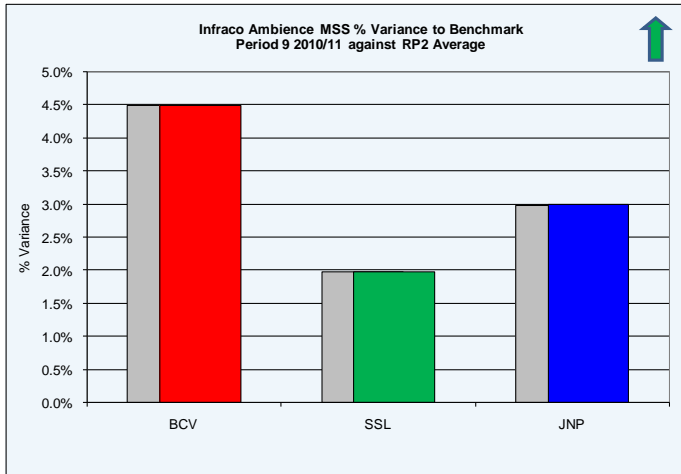
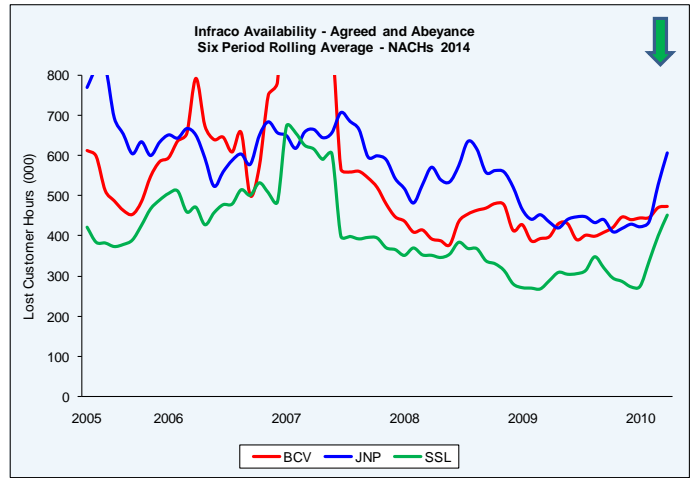
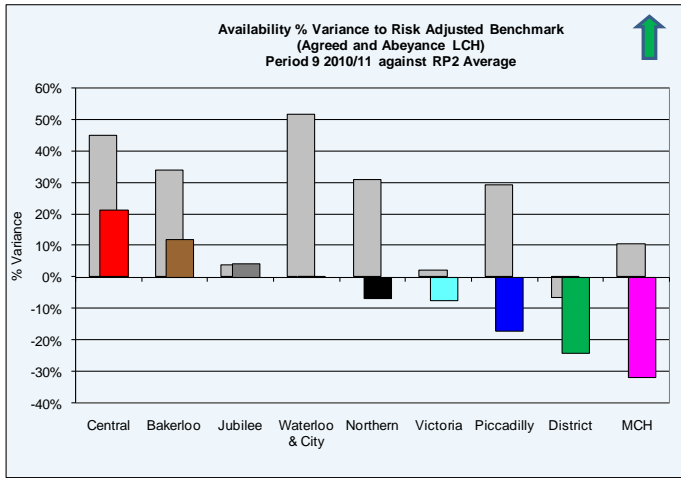
Other non-contractual measures used to assess the underlying asset performance are also reported here, including failure rates for rolling stock and asset renewal volumes. Also included are details of maintenance costs and capital expenditure on renewals. A full glossary of terms used is included at the back of the report.

Explanation of convention for graphs and charts

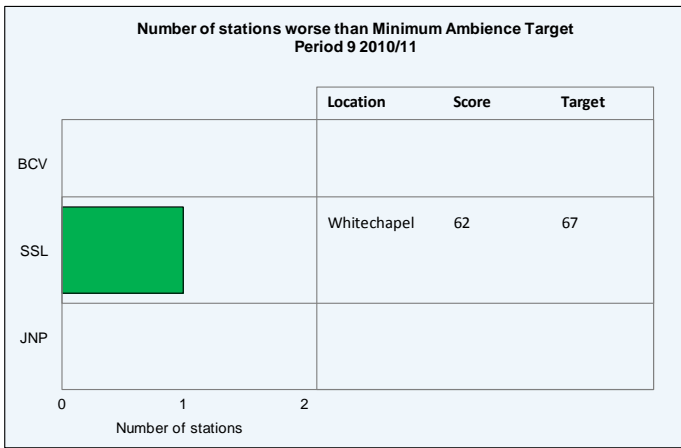
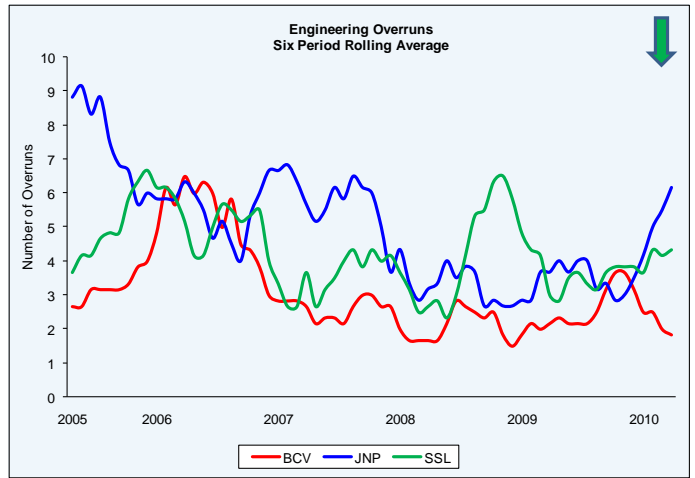
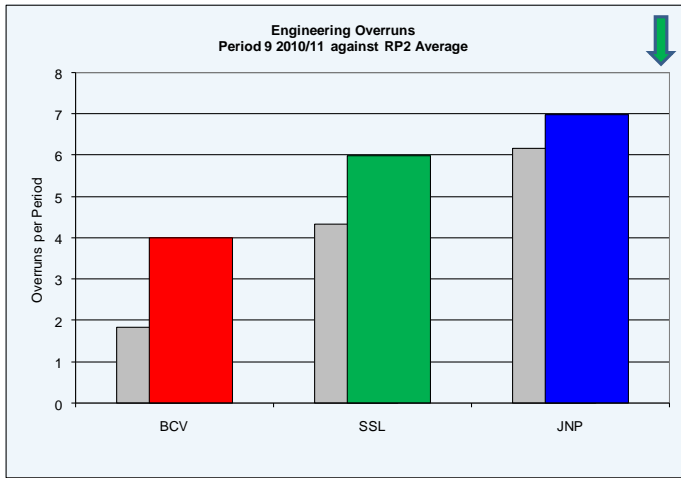
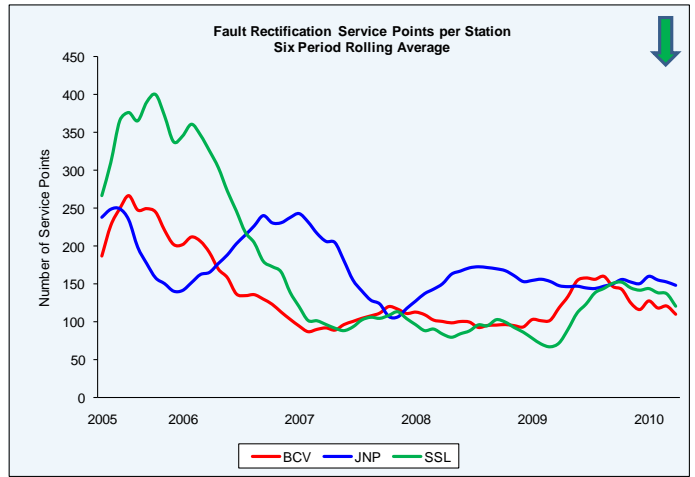
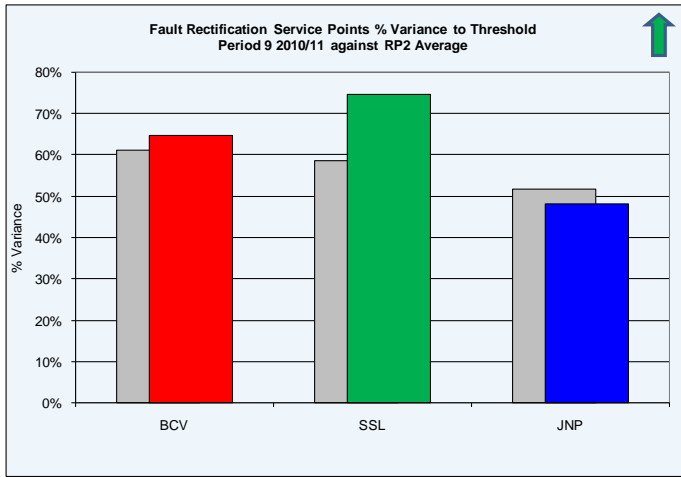
The green arrows (↑) in the graphs show which direction would constitute:

- better performance where there is comparison between lines (or Infracos) within the same performance or payment period;
- Improving performance where there is a trend, i.e. performance is shown over many periods.

PPP Contractual performance (Period 9 2010/11)



PPP Contractual performance



PPP Contractual performance

ISC Performance Adjustments (Period 8 2010/11)

(One Period in arrears)



PPP Contractual Performance

Availability

As part of the Periodic Review process, the value of disruption to customers has been revised and the NACHs (Nominally Accumulated Customer Hours) values with which this is measured have been revised to reflect the change in the value of disruption — e.g. current demand patterns, upgraded timetables expected in the second contract period (RP2). This change took effect from 27 June 2010.

Performance targets are set in accordance with the NACHs values, so in future years the targets have been uplifted, with the contractual Benchmark representing the expected performance of an economic and efficient Infraco.

Whereas for Availability there was one “Benchmark” for each line in RP1, RP2 sees the introduction of two additional targets. Firstly, the Aspirational Benchmark, set to half the value of the line Benchmark, identifies the level of LCH under which there is an increased marginal rate of bonus, encouraging further improvement. The Risk Adjusted Benchmark takes into account the inherent volatility of the measure, and is the level at which worse performance will incur performance abatement.

The Benchmark in RP2 represents expected performance, and LCH between Benchmark and Risk Adjusted Benchmark attracts performance bonuses.

In order to present consistent trends, the value of past incidents has been uplifted to NACHs 2014 using factors specific to each line.

These changes apply from Period 4 2010/11, when Restated Terms took effect.

BCV Availability

The **Bakerloo line** RP2 agreed availability was 52% better than risk adjusted benchmark. The largest agreed item was a defective lift at Elephant & Castle (4,620 LCH), while the largest item in abeyance was a defective train at Warwick Avenue (3,432 LCH).

Central line RP2 agreed availability was 65% better than risk adjusted benchmark. The largest agreed item was a points failure at North Acton (18,171 LCH), while the largest item in abeyance was a defective train withdrawn from service at Queensway (9,713 LCH).

The **Victoria line** RP2 agreed availability was 24% better than risk adjusted benchmark. The largest item agreed was a faulty train at Warren Street (30,973 LCH) and the largest item in abeyance was a train delay at King’s Cross due to activation of a sensitive door edge (13,515 LCH).

The **Waterloo & City line** RP2 agreed availability was 93% better than risk adjusted benchmark. However in abeyance was a full line suspension due to excessive grease on the track (21,786 LCH) and subsequent agreement of this incident has caused LCH for the period to exceed the risk adjusted benchmark.

SSL Availability

The **District line** RP2 agreed availability was 28% better than risk adjusted benchmark. The largest incident agreed was a signal failure at Elm Park (5,462 LCH) and the largest incident in abeyance was a delay at Turnham Green due to a signal failing to clear (21,393 LCH).

The **Metropolitan, Circle & Hammersmith lines** RP2 agreed availability was 38% better than risk adjusted benchmark. The largest incident agreed was a train rear tripped between Farringdon and King’s Cross (11,197 LCH) and the largest incident in abeyance was a signal failure causing trains to be trapped in Barking Sidings (16,800 LCH).

JNP Availability

Jubilee line predicted availability is 219,399 LCH, which is an improvement from the availability recorded in Period 8. The performance of the assets is much better whilst also running the Jubilee line in TBTC revenue service. In the period the two largest incidents were a track circuit failure at Canning Town due to faulty contacts in the trainstop associated with signal TM20, and a train which became non-communicating during TBTC revenue service. The train was driven in restricted manual which resolved the issue. The lost customer hours for these two incidents were 13,154 and 8,334 respectively.

The predicted LCH for the **Northern Line** is 137,039 LCH. The most significant incidents concerned a train stalling on entering Kennington sidings due to a lack of sidings traction power being present (worth 35,823 LCH) and a signal failure at Clapham South as a result of a sticky trainstop valve associated with signal S684A (worth 26,008 LCH). The largest incident in abeyance is the rail grinder (146,768 LCH) in Period 5.

Predicted availability for the **Piccadilly line** is 130,072 LCH. The largest items– Green Park escalator 3 which had a loose chain wheel return track worth 35,666 LCH, Russell Square lift 1 out of action to undertake essential repairs to the main gear box and was worth 6,809 LCH, Green Park station was closed due to a failure of the Public Address system which incurred 6,728 LCH.

Facilities

BCV Facilities

Performance since the start of RP2 has been better than the new threshold. The highest agreed incident in Period 9 was a toilet fault at Woodford station.

SSL Facilities

Performance since the start of RP2 has also been better than the new threshold. The highest agreed incident in Period 9 was a faulty dot matrix indicator at Mile End station.

Tube Lines Facilities

There were 7,981 agreed Facilities (AS) Service Points in the period. The communications team and maintainer continue to work within the new contract regime and as such the faults continue to be within the Tube Lines threshold for AS service points. Continual analysis is taking place on faults to establish any initiatives that can be incorporated into existing improvement plans.

Engineering Overruns

BCV

Line	Location	SD Cat	Start	End
CEN	MARBLE ARCH	TDL	21/11 07:03	21/11 07:22
CEN	WHITE CITY DEPOT	TCN	26/11 05:10	28/11 05:28
BAK	ELEPHANT & CASTLE	PLS	10/12 05:04	10/12 05:46

SSL

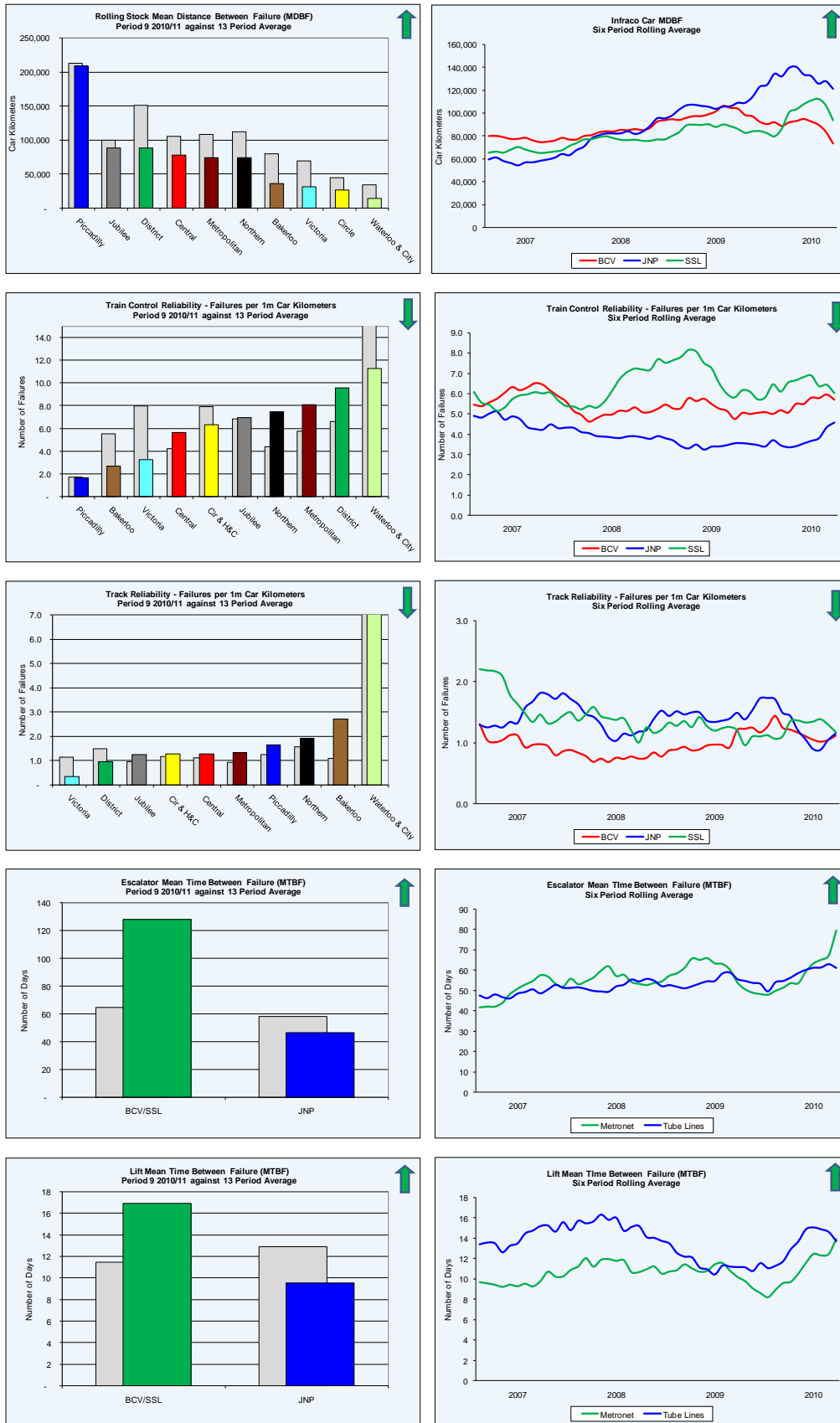
Line	Location	SD Cat	Start	End
DIS	EAST HAM	SIG	14/11 05:50	14/11 06:02
DIS	PARSONS GREEN SIDINGS	TCN	16/11 04:31	16/11 04:36
H&C	ROYAL OAK	TDL	23/11 04:24	23/11 04:39
DIS	PARSONS GREEN	TDL	27/11 04:31	27/11 04:51
H&C	HAMMERSMITH (C & H)	TDL	28/11 06:21	28/11 06:28
DIS	WHITECHAPEL	PLS	01/12 05:20	01/12 06:15

JNP

Line	Location	SD Cat	Start	End
NOR	EAST FINCHLEY	TCN	20/11 05:20	20/11 05:23
JUB	STRATFORD DEPOT	TCN	23/11 05:24	23/11 05:29
PIC	COCKFOSTERS	TDL	24/11 05:10	24/11 05:18
JUB	STRATFORD	TDL	03/12 05:24	03/12 05:29
JUB	CANARY WHARF	PLS	10/12 05:28	10/12 06:35

(Incidents where attribution has not been agreed are highlighted in yellow)

Asset performance (Period 9 2010/11)



Asset Performance

Rolling Stock

Bakerloo line

A poor MDBF result with 51 incidents reported. Doors and loss of door closed visual account for the majority of failures, some due to the cold conditions with doors working intermittently between outside and tunnel sections. Reliability modifications updating the door closed visual light bulbs to LEDs has been signed off and approved by TU reps. A trial on three cabs is being planned.

Central line

MDBF worsened with 90 incidents reported. The 'at risk' flashed over motor programme remains ahead of target for the period. The third stage of the door relay change out is awaiting resources to be allocated in order to commence.

Victoria line

MDBF improved for '67 stock with 22 reported incidents. MDBF for '09 Stock worsened with 73 reported incidents. For '67 stock the issues were doors and code tripping for which daily management and monitoring remains in place. For '09 stock some issues with loss of ATO/ATP and with sensitive edge activation continue to be investigated by Bombardier.

Waterloo & City line

MDBF worsened with 6 incidents reported. Data equipment has been analysed and risk assessed this period, looking at data bus and modules, digital inputs/outputs, traction logic and the DTS switch. Next period will concentrate on assessing ambience-related equipment (PA/lighting etc).

Metropolitan line

MDBF worsened with 61 incidents reported, three for the new S stock. Improvement plans remain behind due to the damper and shoe beam/brackets cracks, this should not be an issue during period 10. Auto couplers are undergoing non-destructive testing to determine remaining life. Defective couplers will be changed on a casualty basis.

District line

MDBF worsened with 47 incidents reported. Failure analysis has been completed for a condition assessment which has been carried out on door relays and has recommended that a new type of relay should be used to improve reliability and will be installed on a casualty basis. To address rust contamination in air systems, air hoses will be relocated on 10 units as a trial scheduled for January 2011.

Circle & Hammersmith line

A poor MDBF result with 57 incidents reported. For the traction project, a review is underway of bearing and power switch seizure problems. Plans for improving the Rotary Pneumatic Actuators and delivering enhanced training will be completed by the end of the year.

Jubilee line

MDBF in the period is predicted to be 12,513 km and the number of incidents recorded is 46. This is an improvement of 7% compared to Period 8. In the period CCTV remains to be the highest failing train asset with seven failures reported this area is currently under investigation and is awaiting the results of a 3 month survey, due early 2011.

Northern line

The period MDBF is estimated at 16,163 km resulting from 58 service affecting failures. The failures were predominantly communications and Train Management Systems (TMS) related. 11 failures were defective CCTV. Three trains incurred double failures as they failed at consecutive stations, so actually only eight faults. Five were diagnosed as defective CCTV racks. ALSTOM have contracted Advanced Research & Technology to provide documentation for 1st and 2nd line fault-finding and recommend enhanced test facilities be pursued. Telent, who repair the racks, are being pressed for reports on the root causes and actions to prevent recurrence. TMS had 17 failures and were spread across a number of different types of equipment (Propulsion Inverter Electronics {PIE}, Auxiliary Converter Electronics {ACE} and Incident Recorder). The PIE's are currently undergoing a programme of configuration control to ensure that they are all at the same modification level which, until P9, had proved very successful in reducing the failure rate. A similar process which was successful for PIE's is now being considered for ACE's.

Piccadilly line

MDBF is predicted to be 37,383 km against a recorded 25 incidents for the period. This is still a healthy reliability figure showing sustained good performance on the Fleet.

Train Control

Bakerloo line

An improvement with 5 incidents reported. Failure modes were varied from a faulty receiver, a stuck train stop, scaling on a blockjoint, one signal fault where no fault was

found and an incident involving ice in the switchblade of 18 points at London Road.

Central line

An increase to 50 incidents reported. Invensys is in the process of testing modifications on code generators to determine if the failures experienced on our network will recur. Installation has begun on more secure track connections, due to be completed by the end of March 2011.

Victoria line

A good result with 10 incidents reported. As with last period, most were due to defects associated with the new signalling equipment, particularly fixed block processors which were rectified by re-booting. The issues are currently under investigation with the upgrade team. Other incidents include signals bobbing, these are also under investigation.

Waterloo & City line

An improvement with one reported incident for a PLC alarm activating following staff relocating a sensitivity box in the signal equipment room.

Metropolitan, Circle and Hammersmith & City lines

The Metropolitan line worsened with 37 incidents reported. The Circle and Hammersmith & City lines worsened with 10 incidents reported. Current monitoring has been extended to the EC track circuit running between Finchley Rd and Baker St. Cables are to be installed by the end of the year and a quote is expected for installation of the monitoring equipment.

District line

The District line worsened with 40 incidents reported. Additional maintenance has been scheduled following incidents involving M63

points at Acton and South Kensington. The trainstop renewal programme (addressing the 50 highest risk trainstops) is ahead of plan with half the target number of units renewed.

Jubilee line

Signals recorded 29 incidents of which 6 are agreed. TBTC revenue service on 11 December recorded a total of 305 minutes of delays. Of this 117 minutes were attributable to Tube Lines. The lost customer hours associated with the revenue service on the 11th was 20,230. The two largest incidents were a Track circuit failure at Canning Town, due to faulty contacts in the trainstop associated with signal TM20, and a train which became non-communicating during the TBTC revenue service. The train was driven in restricted manual which resolved the issue.

Northern line

Signalling asset performance takes the biggest portion of the Northern line Lost Customer Hours and has been impacted by the ageing of the asset, predominantly resulting programme machine events (Non-Vital control systems). It is still expected that a positive improvement will be observed within the Control System arena, with the roll out of the Electronic Program Machines. The materials order is currently being progressed and awaits final approval, with the expectation for fitment to be complete by the end of March 2011.

Piccadilly line

Signals incurred nine incidents. No repeat patterns evolving from them but included a defective trainstop, hose burst, drinks can under a trainstop, the levers binding on 18 points at Northfields, a signal fuse blowing and adverse weather.

Track

Bakerloo line

A worse result with five reported incidents. Two were for loss of traction - one for a defective plunger. A late surrender occurred following discovery of a broken rail overnight. Smouldering occurred under a positive pot and there was an incident where a train overran the platform which is under investigation to determine if the rail was contaminated.

Central line

An improvement with nine reported incidents. Six speed restrictions were imposed, two for 2401 points at Hanger Lane where the rail gaps were found to be excessive, others were imposed due to rail defects found during inspections. At Notting Hill Gate, the negative rail ramp became displaced and a train was gapped at Hainault depot due to ice on the current rail.

Victoria line

An improvement with one reported incident for a train overrunning the platform due to suspected railhead contamination.

Waterloo & City line

There was an increase to three reported incidents. One was due to poor rail adhesion and two were due to a repeat of problems with the Network Rail supply as experienced earlier in the year.

Metropolitan, Circle and Hammersmith & City lines

An increase to six reported incidents on the Metropolitan and a decrease to two reported on the Circle and Hammersmith & City lines. The Metropolitan had three speed restrictions imposed, one for a broken stud bolt, one for a broken rail and one for rail defects found

during inspections. Points at Baker Street failed due to dry slide chairs, mitigation is in place. On the Circle and Hammersmith & City lines late repairs to a defective checkrail blockjoint caused delays and a speed restriction was imposed due to a defective weld on the wing rail of 18a points at Farringdon.

District line

A similar result with four incidents reported. One speed restriction was imposed for a rail defect found on inspection. One incident related to a train becoming tripped on an obstruction. No obstruction was found following inspections of the track. Two incidents involved faulty kickboards, one of which had a defective bracket.

Jubilee line

Five track incidents recorded. The most significant was a report of three separate ultrasonic defects within a 370mm section of rail. Following discussions it was agreed for emergency re-railing works to be done due to the positioning of the defects. A late surrender of protection was implemented. Services were then suspended Green Park to Canary Wharf to re-rail; a test train was then run through the section after which the service resumed.

Northern line

10 incidents reported. Of which 33% were made up of problems with points. The right hand switch of points at Finchley Central was found damaged and required a speed restriction until it could be repaired. A fault occurring on a set of points at Charing Cross associated resulted in two disruptions, it was investigated and the cause of failure could not be determined.

Piccadilly line

The Piccadilly line had nine incidents. There were six incidents in the period which were as a result of the ultrasonic test teams detecting flaws in the rails. Two incidents involving train shoes being found about the track at Northfields, suspected to be a dip on the left hand running rail causing too much strain on the collector shoes.

Escalators

BCV

Availability excluding planned works was 99.6%, better than last period. Escalator 1 at Bank has been taken out of service for 20 weeks to undergo refurbishment.

SSL

Availability excluding planned works was 99.8%, better than last period. The escalator floor plate modification initiative has identified 10 high value sites where modifying the plates will help return the assets into service faster by improving accessibility.

JNP

Escalator availability this period on the JLE was affected by module intervention works on Canary Wharf 12, North Greenwich 6, Southwark 5 and West Ham 2. Minor stoppages also affected availability. Non JLE Escalator availability was affected this period by Enhanced Maintenance, Intervention works on Knightsbridge 1, Green Park 3, Balham 1, & Tottenham Court Road 5. Faults on Heathrow 1, Wood Green 2 and Leicester Square 3 also have an effect on availability.

Lifts

BCV

Availability was 96%, worse than last period. New circuit breakers are being installed at Lancaster Road to replace the old bespoke breaker and improve reliability.

SSL

Availability was 97.9%, better than last period. King's Cross St. Pancras lift chamber is the latest to undergo Lean management and be stocked with service critical spares. Also at King's Cross St. Pancras, works done to improve reliability of lift 8 are to be repeated on the other new assets which are still experiencing poor reliability mainly due to door defects.

JNP

'Primary' Lift performance was primarily affected by faults at Caledonian Road Lift 3, Hampstead Lift 4 & Tufnell Park 1. Also planned works to Chalk Farm Lift no 1 & Russell square lift nos. 1 & 3. 'Secondary' Hydraulic lifts demonstrated good performance within the period.

PPP Programme delivery performance

Line Upgrades

Victoria Line Upgrade

Overall system reliability improved this period, as a result of successful modifications to the trains and signalling coming on-stream. The benefits of a further raft of modifications to the trains (phase 1 of the door modification plan) and signalling are expected to drive additional reliability growth with immediate effect. The adverse weather affected rolling stock material supplies to the Bombardier Derby facility and production slowed slightly for the period, Bombardier having achieved record levels of production over two previous weeks.

Sub Surface Upgrade

A significant milestone in the upgrade of the Sub-surface lines was achieved as period 9 ended. Four new S stock trains were already operating in customer service on the northern sections of the Metropolitan line and on 12 December a new working timetable was introduced which saw the new trains run to Baker Street for the first time.

Jubilee Line Upgrade

After further successful testing and trial operations during the period, a weekday TBTC service was introduced on the Jubilee line from 29 December.

Line Upgrade Milestones

Project	Milestone	Approved Target	Current Forecast	Current Status	Comment
Victoria Line Upgrade	10 Production Trains Accepted For Service	24/07/2010	20/07/2010	Achieved	
Victoria Line Upgrade	Demonstrate Operation Of the New Service Control Centre	21/08/2010	20/07/2010	Achieved	
Victoria Line Upgrade	20 Production Trains Accepted For Service	11/12/2010	25/11/2010	Achieved	
SSR Upgrade	Pre-production train ready for use in Traffic Hours	26/06/2010	24/06/2010	Achieved	
SSR Upgrade	Delivery to Old Dalby Test Track Train 4 (production train 2)	24/07/2010	18/06/2010	Achieved	
SSR Upgrade	First S8 train in Passenger Service	18/09/2010	31/07/2010	Achieved	
SSR Upgrade	Appoint ATC Contractor	05/02/2011	15/03/2011		
SSR Upgrade	S7 Test Train delivered to London and available for Testing	31/03/2011	31/03/2011		

Programme delivery performance

Station Upgrades

BCV Stations

2009/10 Stations	Contract date	LU PM Forecast date	Movement from previous forecast (weeks)	Status
Hainault (M)	11/01/10	19/05/09	0	Complete
Brixton (M)	15/11/09	16/04/10	0	Complete
Wanstead (R)	27/04/10	26/11/09	0	Complete
Oxford Circus (M)	25/05/09	25/01/10	0	Complete
Mile End (M)	28/04/10	30/06/10	0	Declared

SSL Stations

2009/10 Stations	Contract date	LU PM Forecast date	Movement from previous forecast (weeks)	Status
Aldgate East (M)	27/06/10	15/07/10	0	Declared
Earl's Court (M)	28/12/09	17/07/09	0	Complete
King's Cross (M)	27/02/11	15/10/10	0	Complete
Aldgate (ER)	03/10/11	08/02/11	0	Construction
Brixton (R)	15/11/09	16/04/10	0	Complete

JNP Stations

2010/11 Stations	Contract date	Actual / Forecast date	Movement from previous forecast (weeks)	Status
West Finchley (ER)	29/05/10	11/11/08	0	Complete
Edgware (ER)	29/05/10	15/06/09	0	Complete
Heathrow T123 (ER)	30/12/10	30/12/10	0	Construction
Finsbury Park (M)	31/10/10	31/10/10	0	Construction
Covent Garden (M)	29/05/10	06/05/09	0	Complete
Balham (R)	29/05/10	11/12/09	0	Complete
Bermondsey (R)	29/05/10	15/12/09	0	Complete
North Greenwich (R)	29/05/10	15/12/09	0	Complete
Hatton Cross (ER)	29/05/10	22/04/10	0	Complete
Clapham Common (R)	29/05/10	31/07/09	0	Complete
Clapham North (R)	29/05/10	18/03/10	0	Complete
Oval (R)	29/05/10	31/07/09	0	Complete
Tooting Broadway (ER)	29/05/10	20/11/09	0	Complete
London Bridge (R)	29/05/10	18/11/09	0	Complete
Southwark	29/05/10	25/11/09	0	Complete
High Barnet (R)	29/05/10	02/11/09	0	Complete
Hyde Park Corner (R)	29/05/10	11/12/09	0	Complete
Goodge Street (M)	29/05/10	25/11/09	0	Complete
Canada Water (R)	29/05/10	19/02/10	0	Complete
Canary Wharf (R)	29/05/10	05/03/10	0	Complete
Wood Green (R)	29/05/10	30/01/10	0	Complete
Stanmore (ER)	29/05/10	01/04/09	0	Complete

2010/11 RP2 Stations	Contract date	Actual / Forecast date	Movement from previous forecast (weeks)	Status
Archway (M)	25/06/08	20/05/10	0	Complete
Canning Town (R)	29/05/10	20/05/10	0	Complete
Westminster (R)	29/05/10	28/05/10	0	Complete
Colliers Wood (R)	27/05/11	12/04/10	0	Complete
Tooting Bec (R)	29/05/10	14/04/10	0	Complete
Stratford (R)	29/05/10	25/05/10	0	Complete
West Ham (R)	29/05/10	24/05/10	0	Complete
Houslow East (R)	27/05/11	10/06/10	0	Complete
South Wimbledon	27/05/11	15/06/10	0	Complete
Clapham South (R)	29/05/10	19/05/10	0	Complete

'Declared' – means work complete but still subject to formal sign-off

Programme delivery performance

Lifts & Escalators

BCV and SSL Lifts and Escalators

2009/10 Stations	Booked Access	Actual / Forecast date	Movement from previous forecast (weeks)	Status
Oxford Circus E5	19/04/10	06/04/10	0	RTS
Oxford Circus E1	31/05/11	31/05/11	0	OSS
Oxford Circus E2	31/05/11	31/05/11	0	OSS
Oxford Circus E3	31/05/11	31/05/11	0	OSS
Piccadilly Circus E7	30/11/10	10/12/10	1	RTS
Piccadilly Circus E1	01/07/10	01/07/10	0	RTS
Bank/Monument E1	20/05/11	20/05/11	0	OSS
Bank/Monument E2	03/11/10	22/11/10	3	RTS
Bank/Monument E11	28/02/11	08/11/10	(16)	RTS
Kings Cross E6	01/02/11	01/02/11	0	OSS
Warren St E5	19/09/10	21/09/10	0	RTS
Warren St E9	12/02/11	12/02/11	0	OSS

2009/10 Stations	Booked Access	Actual / Forecast date	Movement from previous forecast (weeks)	Status
South Kensington E2 Refurb	20/08/09	20/08/09	0	RTS

JNP Lifts and Escalators

2010/11 Stations	Booked Access End	Actual / Forecast RTS date	Movement from previous forecast (weeks)	Status
Swiss Cottage E1	14/06/10	15/06/10	0	RTS
Waterloo E7	30/06/10	30/06/10	0	RTS
Waterloo E8	30/06/10	30/06/10	0	RTS
London Bridge E20	25/06/10	25/06/10	0	RTS
Heathrow T123 E1	14/06/2010	06/06/10	0	RTS
Heathrow T123 E2	14/06/2010	06/06/10	0	RTS
North Greenwich E6	21/12/10	21/12/10	0	RTS
West Ham E2	19/01/11	19/01/11	0	OOS
Southwark E5	23/03/11	23/03/11	0	OOS
London Bridge E11	09/06/10	09/06/10	0	RTS

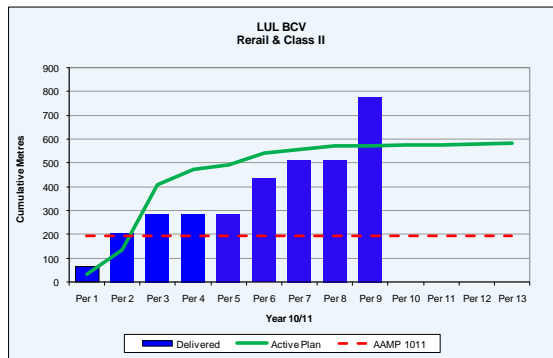
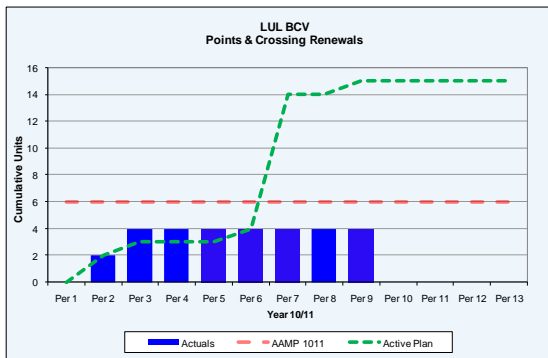
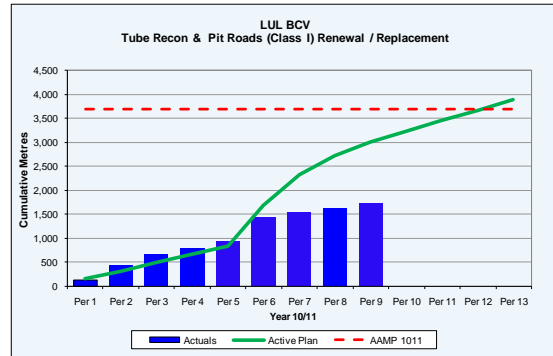
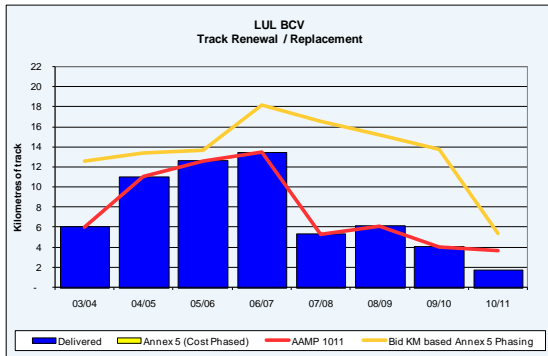
'RTS' – Returned to service

'OOS' – Out of service

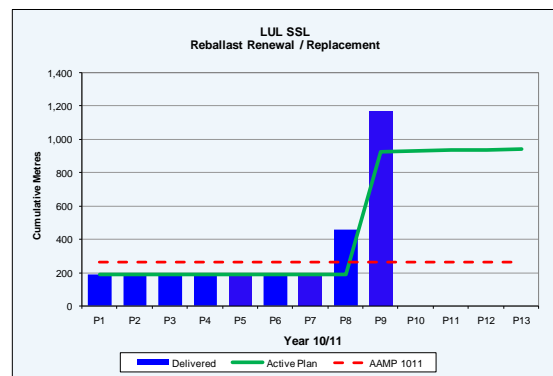
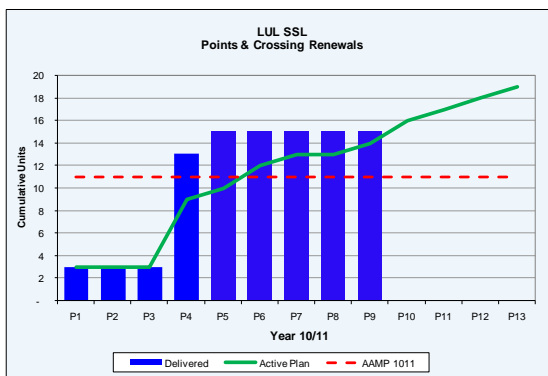
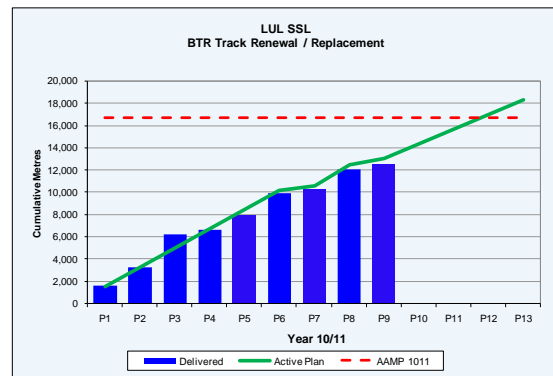
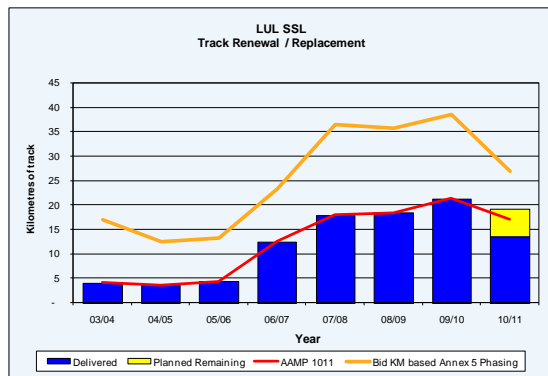
Programme delivery performance

Track

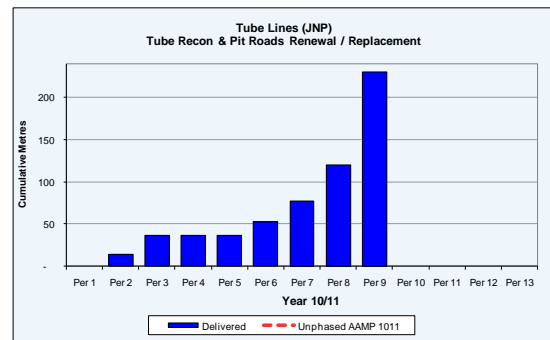
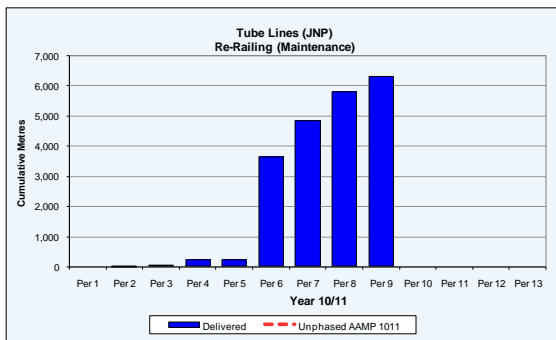
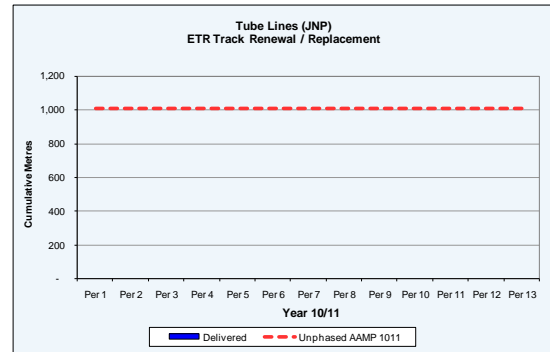
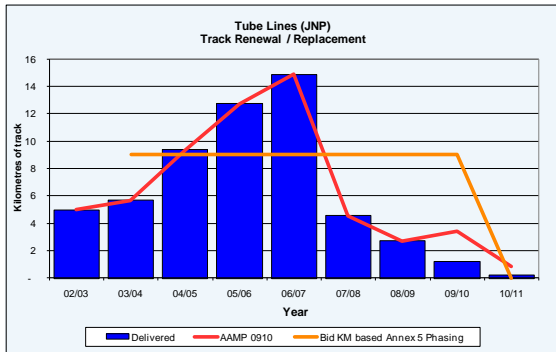
BCV Track



SSL Track



JNP Track



BCV and SSL Maintenance Cost and Performance

BCV & SSL Maintenance Costs**Period 9 2010/11**

Activity	Current Period			Year to date			Full Year		
	Actual £m	Budget £m	Variance £m	Actual £m	Budget £m	Variance £m	Forecast £m	Budget £m	Variance £m
Maintenance									
Fleet - BCV	4.5	6.8	2.3	55.5	63.1	7.6	78.5	89.6	11.1
Fleet - SSL	3.8	4.0	0.2	34.7	39.0	4.2	51.4	54.4	3.1
Fleet - Trains	(0.0)	0.5	0.5	(1.9)	3.6	5.5	(0.7)	5.6	6.2
Fleet - Total	8.3	11.3	3.0	88.3	105.6	17.3	129.3	149.6	20.3
Track	6.0	6.7	0.6	53.5	56.5	3.1	84.6	83.1	(1.5)
Signals	3.5	4.9	1.4	37.2	43.8	6.6	54.6	62.9	8.4
ILU	0.1	0.0	(0.0)	0.7	0.4	(0.3)	1.0	0.6	(0.4)
MRIS	0.3	0.4	0.1	2.2	4.2	2.0	3.9	5.8	1.9
Track & Signals - Total	9.9	12.0	2.1	93.6	104.9	11.4	144.0	152.4	8.4
Stations	7.1	6.8	(0.3)	60.1	63.9	3.8	89.4	93.0	3.7
Civils & Facilities	2.3	2.1	(0.2)	19.3	26.2	6.9	29.4	34.5	5.1
Stations & Civils - Total	9.4	8.9	(0.5)	79.4	90.1	10.7	118.8	127.6	8.8
Central Departments - Total	2.8	2.9	0.1	23.3	25.9	2.6	29.9	37.5	7.6
TOTAL MAINTENANCE	30.3	35.1	4.8	284.6	326.6	42.0	422.0	467.1	45.1

Commentary**Fleet - BCV & SSL:**

Fleet underspend is due to issues surrounding the SAP manufacturing solution which are being investigated by Axon.

The Sales Order Issue has impacted the Trains Division by reducing material costs and reallocated labour charges as these have been included in the WIP calculation. The result of this is to show a £0.5m surplus against the current period. Other SAP Issues have impacted on the YTD position, most notably the fix last period to resolve the issue of external invoicing.

Track and Signals:

Signals Period and YTD variances are due to Signals Projects booking more time to Projects than budgeted. Track and Signals variances offset in the Full year position.

The Q3 outturn forecast decrease is primarily due to transfer of Signal Projects and Power Delivery to Projects and reductions to the forecasts for Grinding, Premises, AIT and charges from MIS.

Stations:

Period overspend due to Materials for New Maintenance Regime and transfer of Materials from DLO re MDS steps. Stations YTD underspend is mainly due to lack of demand from Operations for minor works.

Civils:

The Period is over spent as a result of a catch up on the previous periods underspend. YTD underspends due to delay in placing Bridges and Structures Inspection contract, reduced Network Rail Access Charges and Facilities Management new buildings not yet handed over from Projects.

Central Departments

No material variances in the period.

(These costs include depreciation)

BCV Fleet Maintenance Cost

Period 9 2010/11

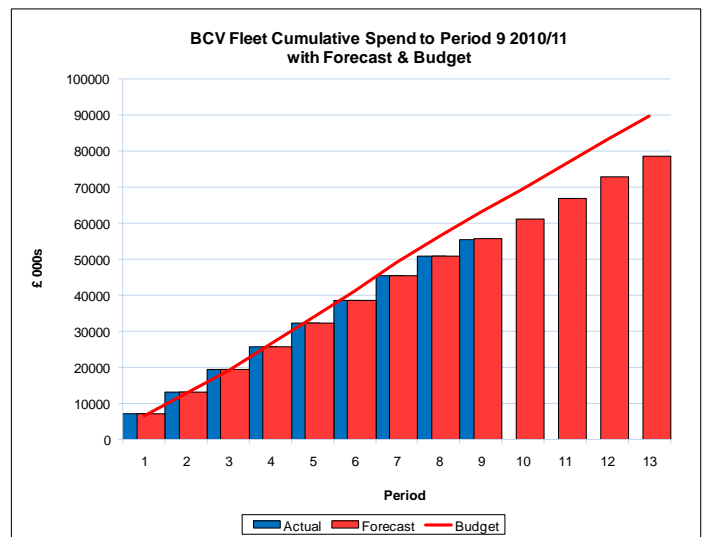
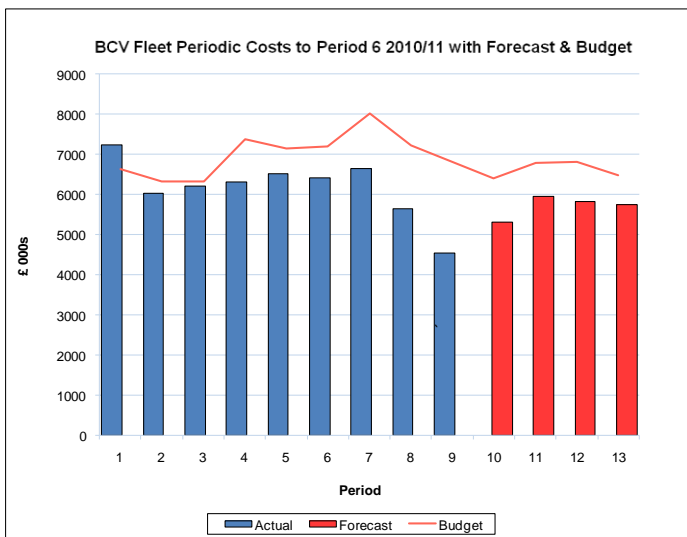
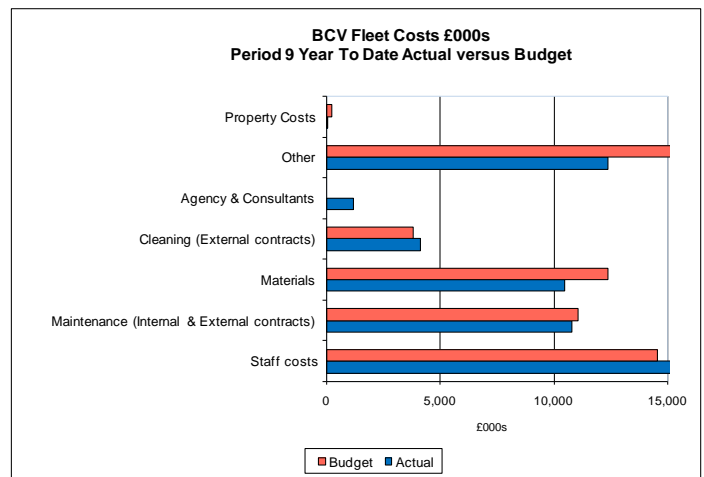
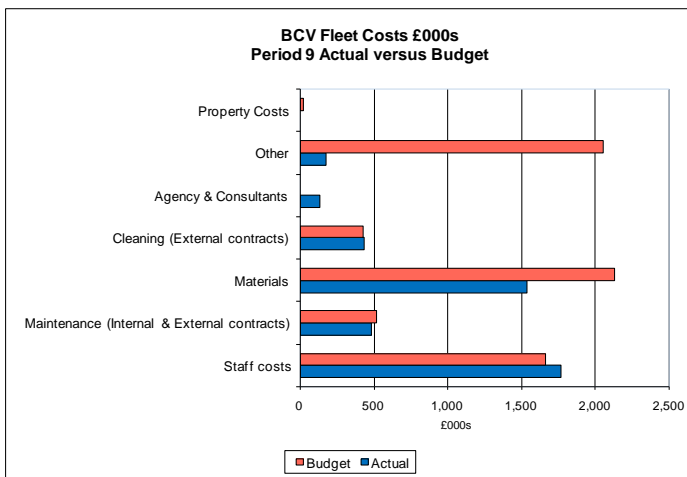
BCV Fleet

Operating Costs By Area

	Period 9			Period 9 Year To Date			Full Year at Period 9		
	Actual £k	Budget £k	Var £k	Actual £k	Budget £k	Var £k	Forecast £k	Budget £k	Var £k
Bakerloo	1,130	1,012	(118)	9,190	9,403	213	13,060	13,619	560
Central	2,047	4,236	2,189	33,703	37,434	3,730	48,329	53,770	5,441
Victoria	1,215	1,627	413	11,250	15,140	3,889	16,002	21,517	5,514
Other	142	(63)	(205)	1,354	1,117	(236)	1,151	702	(449)
Total	4,533	6,812	2,279	55,497	63,094	7,597	78,542	89,608	11,065

Operating Costs By Type

	Period 9			Period 9 Year To Date			Full Year at Period 9		
	Actual £k	Budget £k	Var £k	Actual £k	Budget £k	Var £k	Forecast £k	Budget £k	Var £k
Staff costs	1,769	1,660	(109)	16,648	14,548	(2,100)	23,711	21,001	(2,710)
Maintenance (Internal & External contracts)	481	516	35	10,772	11,059	287	12,685	13,121	436
Materials	1,536	2,133	596	10,439	12,388	1,950	15,165	20,589	5,424
Cleaning (External contracts)	434	424	(10)	4,122	3,820	(301)	5,894	5,518	(376)
Agency & Consultants	136	0	(136)	1,159	0	(1,159)	1,388	0	(1,388)
Other	177	2,055	1,879	12,345	21,063	8,718	19,686	29,067	9,381
Property Costs	0	24	24	13	216	203	13	312	298
Total	4,533	6,812	2,279	55,497	63,094	7,597	78,542	89,608	11,065



SSL Fleet Maintenance Cost

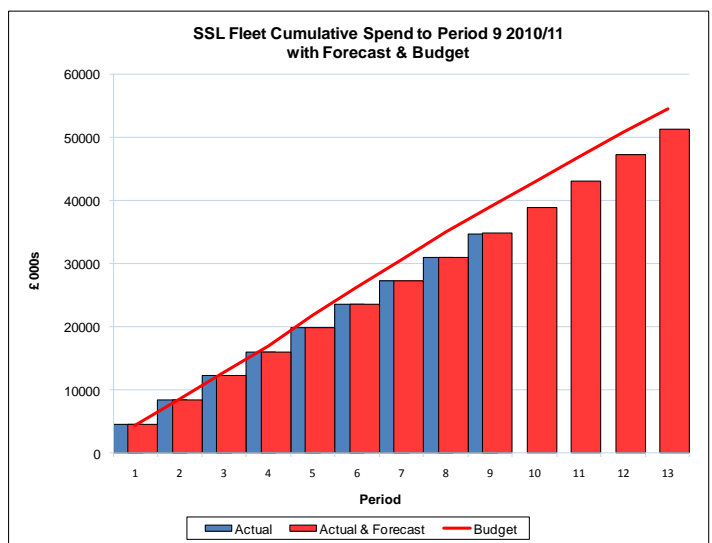
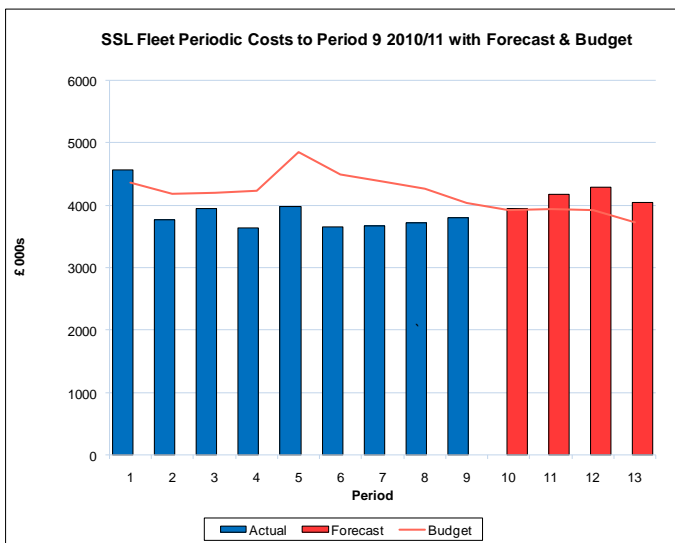
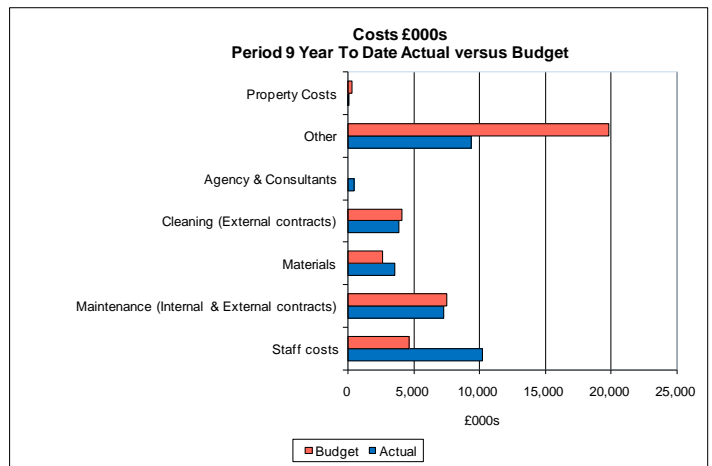
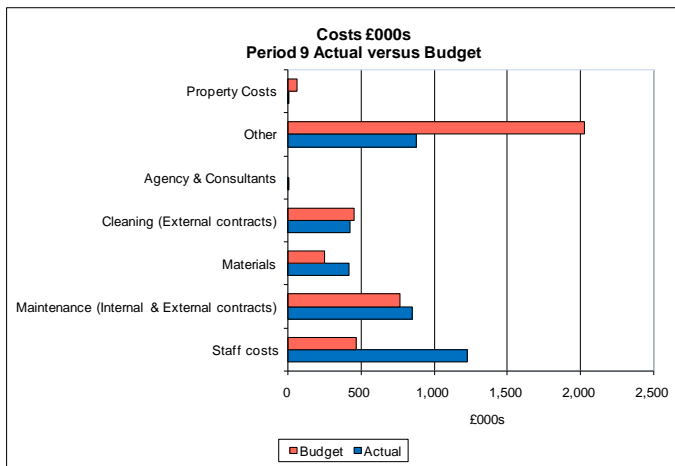
Period 9 2010/11

SSL Fleet

	Period 9			Period 9 Year To Date			Full Year at Period 9		
	Actual £k	Budget £k	Var £k	Actual £k	Budget £k	Var £k	Forecast £k	Budget £k	Var £k
Operating Costs By Area									
District	1,175	1,483	308	10,924	13,404	2,480	16,298	19,035	2,736
H&C/Circle	701	829	127	6,797	7,735	938	9,871	10,985	1,114
Metropolitan	1,031	1,031	(0)	8,972	10,122	1,149	12,722	14,046	1,324
Other	897	684	(213)	8,044	7,694	(350)	12,469	10,356	(2,113)
Total	3,804	4,026	222	34,737	38,954	4,218	51,360	54,422	3,062

Operating Costs By Type

Staff costs	1,223	467	(756)	10,249	4,655	(5,594)	15,764	6,531	(9,233)
Maintenance (Internal & External contracts)	847	768	(79)	7,267	7,474	208	10,598	10,561	(37)
Materials	419	252	(167)	3,534	2,626	(908)	4,496	3,561	(935)
Cleaning (External contracts)	425	453	28	3,901	4,081	180	5,664	5,895	230
Agency & Consultants	10	0	(10)	426	0	(426)	3,226	0	(3,226)
Other	879	2,023	1,145	9,340	19,809	10,469	11,388	27,520	16,132
Property Costs	0	63	62	19	309	290	224	355	131
Total	3,804	4,026	222	34,737	38,954	4,218	51,360	54,422	3,062

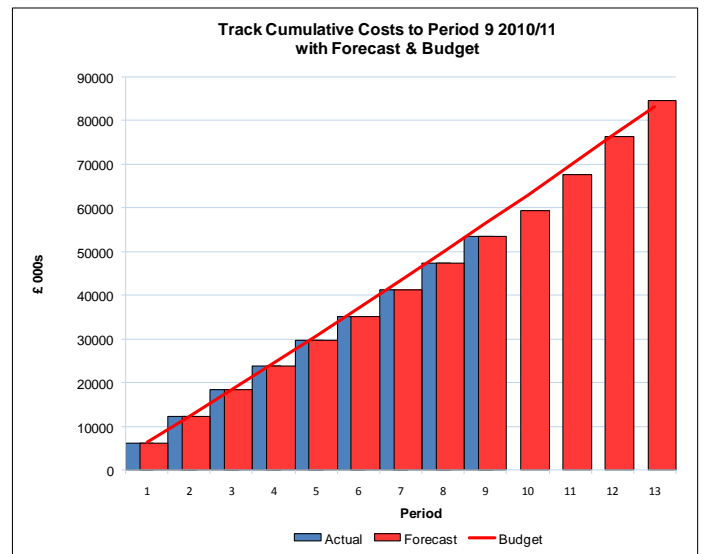
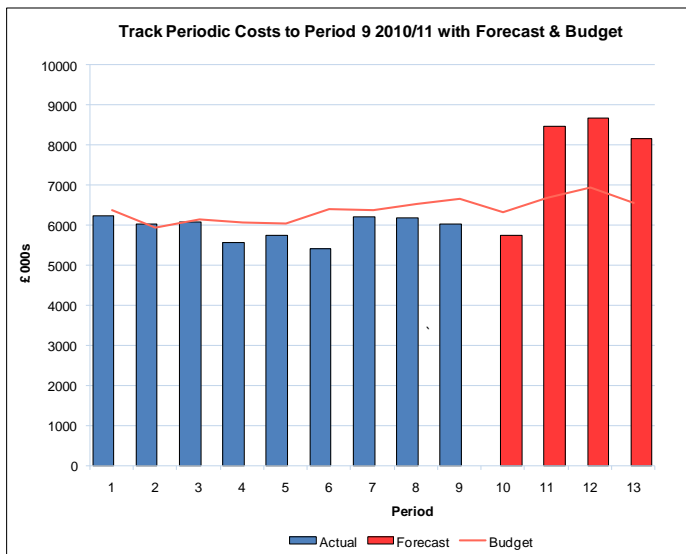
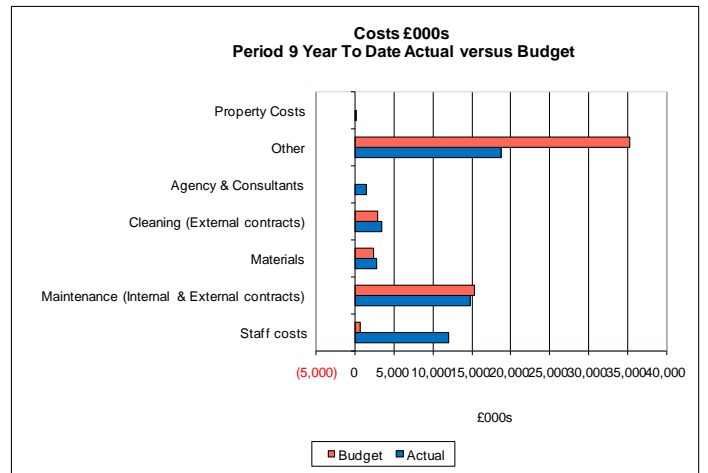
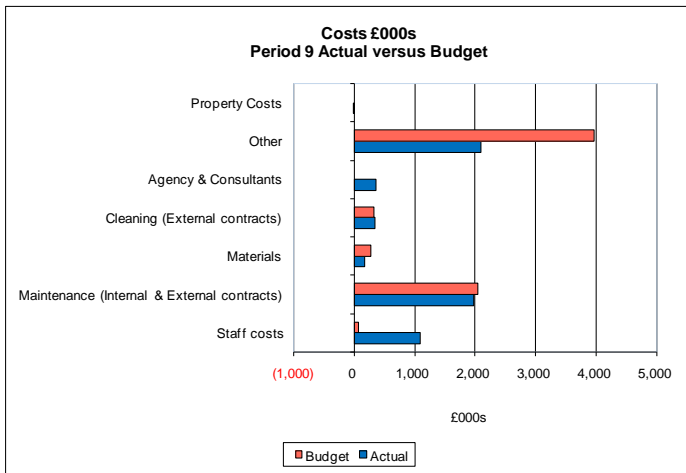


Track Maintenance Cost

Period 9 2010/11

Track	Period 9			Period 9 Year To Date			Full Year at Period 9		
	Actual £k	Budget £k	Var £k	Actual £k	Budget £k	Var £k	Forecast £k	Budget £k	Var £k
Operating Costs By Area									
BCV Track	2,265	2,580	315	20,638	21,166	528	34,304	30,659	(3,645)
SSL Track	3,694	3,913	219	31,938	33,729	1,791	48,260	50,079	1,819
Other	66	180	114	878	1,643	765	1,992	2,348	356
Total	6,025	6,674	648	53,454	56,538	3,084	84,555	83,085	(1,470)

Operating Costs By Type	Period 9			Period 9 Year To Date			Full Year at Period 9		
	Actual £k	Budget £k	Var £k	Actual £k	Budget £k	Var £k	Forecast £k	Budget £k	Var £k
Staff costs	1,091	76	(1,015)	12,075	683	(11,393)	15,284	986	(14,298)
Maintenance (Internal & External contracts)	1,973	2,041	68	14,839	15,343	505	23,892	23,853	(40)
Materials	164	279	115	2,845	2,373	(472)	3,856	3,481	(375)
Cleaning (External contracts)	345	321	(24)	3,417	2,889	(528)	5,003	4,173	(830)
Agency & Consultants	364	0	(364)	1,485	0	(1,485)	2,629	0	(2,629)
Other	2,102	3,957	1,855	18,803	35,249	16,446	33,887	50,592	16,706
Property Costs	(12)	0	12	(11)	0	11	3	0	(3)
Total	6,025	6,674	648	53,454	56,538	3,084	84,555	83,085	(1,470)



Signals Maintenance Cost

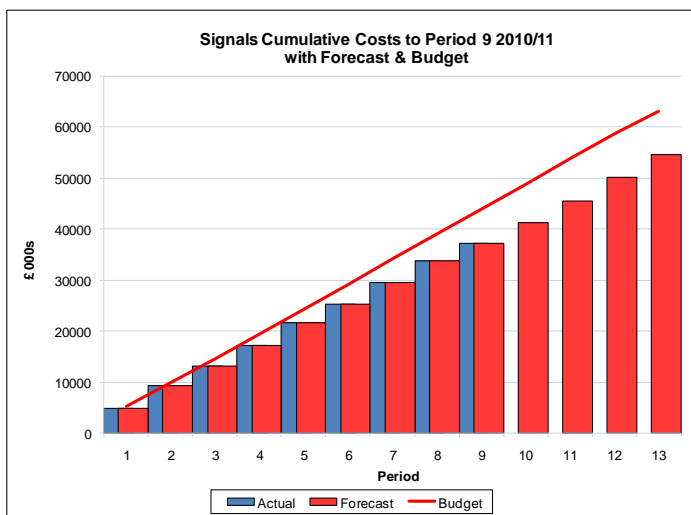
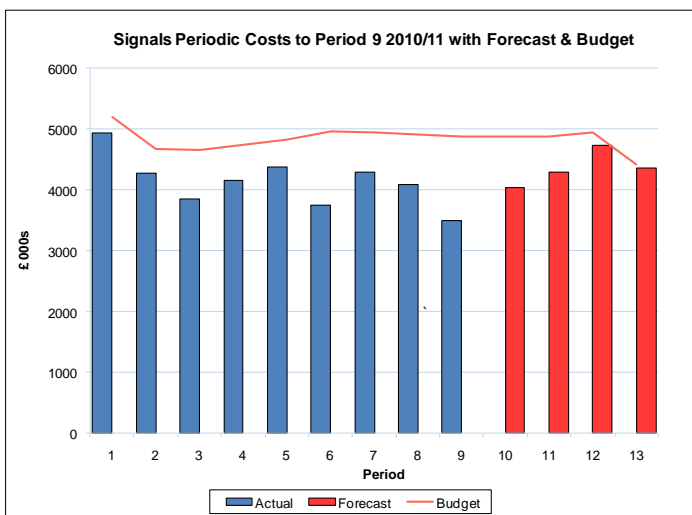
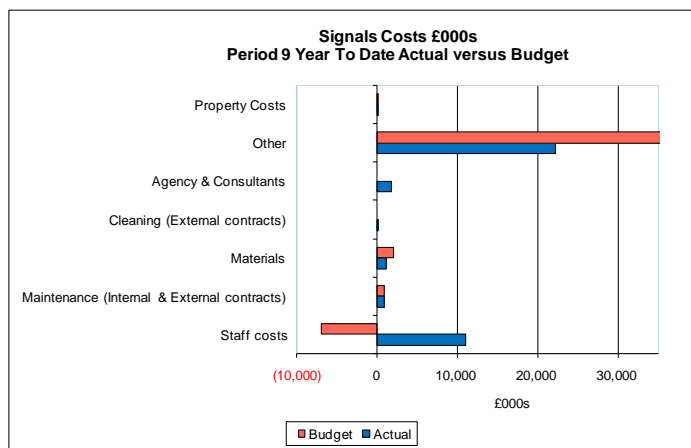
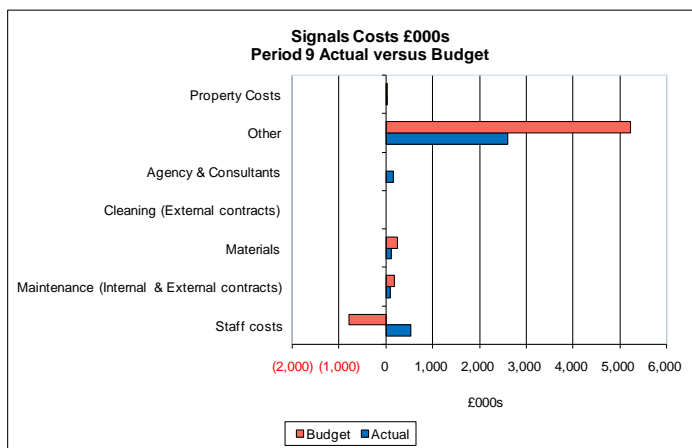
Period 9 2010/11

Signals

	Period 9			Period 9 Year To Date			Full Year at Period 9		
	Actual £k	Budget £k	Var £k	Actual £k	Budget £k	Var £k	Forecast £k	Budget £k	Var £k
Operating Costs By Area									
BCV Signals	1,484	1,703	219	13,512	15,677	2,164	20,468	22,251	1,783
SSL Signals	1,447	2,034	587	14,300	16,947	2,647	21,597	24,963	3,366
Signal Projects	(20)	391	411	1,652	3,864	2,212	1,997	5,335	3,337
Power Delivery	331	584	254	5,529	5,784	255	7,751	8,172	421
Other	253	170	(84)	2,207	1,541	(666)	2,766	2,209	(556)
Total	3,495	4,882	1,387	37,200	43,813	6,613	54,578	62,929	8,351

Operating Costs By Type

Staff costs	524	(782)	(1,306)	11,038	(6,912)	(17,950)	13,630	(10,030)	(23,660)
Maintenance (Internal & External contracts)	96	179	82	960	934	(27)	1,480	1,774	294
Materials	113	254	141	1,185	2,008	823	2,208	2,964	757
Cleaning (External contracts)	0	0	0	1	0	(1)	1	0	(1)
Agency & Consultants	150	0	(150)	1,797	0	(1,797)	3,849	0	(3,849)
Other	2,603	5,230	2,627	22,195	47,780	25,585	33,396	68,217	34,821
Property Costs	9	1	(8)	24	3	(20)	15	5	(10)
Total	3,495	4,882	1,387	37,200	43,813	6,613	54,578	62,929	8,351



Stations Maintenance Cost

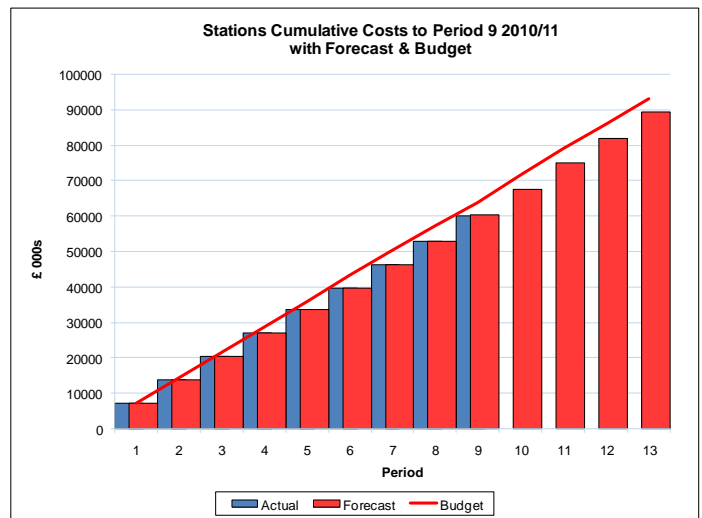
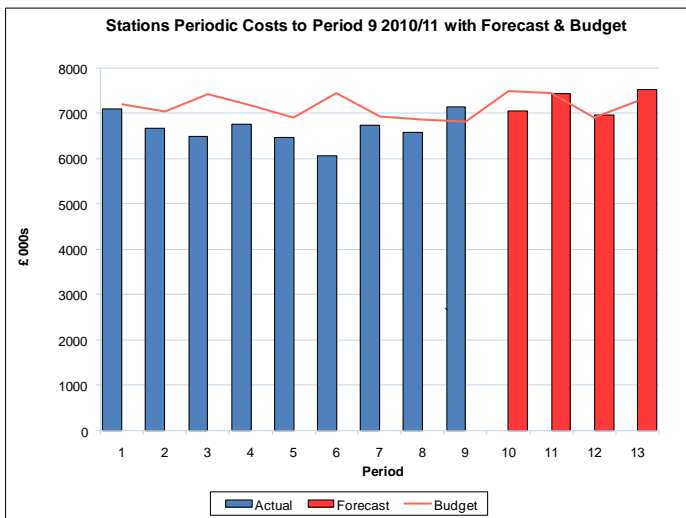
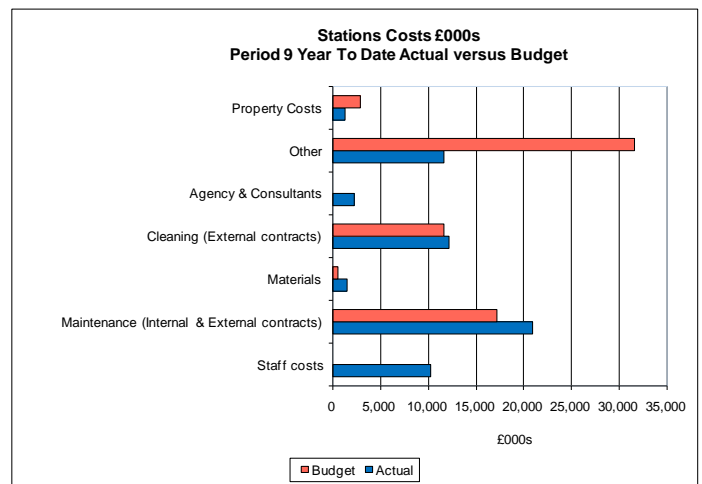
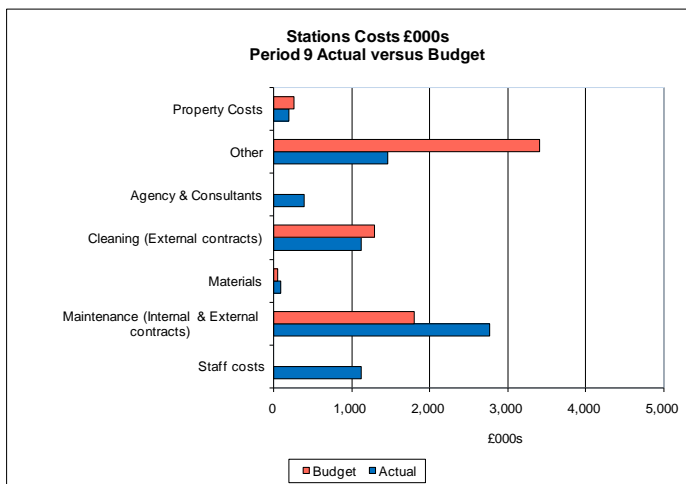
Period 9 2010/11

Stations

	Period 9			Period 9 Year To Date			Full Year at Period 9		
	Actual £k	Budget £k	Var £k	Actual £k	Budget £k	Var £k	Forecast £k	Budget £k	Var £k
Operating Costs By Area									
Premises & Structures	2,968	3,371	404	28,144	30,410	2,267	41,518	43,844	2,326
Station Equipment	311	117	(194)	1,114	1,059	(54)	1,424	1,519	94
Station Systems	657	693	36	4,570	5,924	1,355	7,806	8,167	361
Minor Works	111	362	250	1,150	3,254	2,104	1,288	4,700	3,412
LE&P DLO	1,554	1,437	(118)	13,824	13,821	(4)	21,109	21,010	(99)
Comms & Elec DLO	1,459	968	(491)	10,404	9,964	(440)	15,023	14,835	(188)
VP Stations & Civils	90	(123)	(213)	874	(535)	(1,409)	1,218	(1,034)	(2,252)
Total	7,150	6,824	(326)	60,078	63,897	3,819	89,386	93,040	3,654

Operating Costs By Type

Staff costs	1,125	0	(1,125)	10,221	0	(10,221)	14,888	0	(14,888)
Maintenance (Internal & External contracts)	2,763	1,801	(962)	20,912	17,233	(3,679)	33,000	24,666	(8,334)
Materials	87	56	(32)	1,536	500	(1,036)	1,596	722	(875)
Cleaning (External contracts)	1,122	1,293	170	12,175	11,633	(542)	17,060	16,803	(257)
Agency & Consultants	390	0	(390)	2,249	0	(2,249)	2,968	0	(2,968)
Other	1,468	3,409	1,941	11,683	31,619	19,936	17,826	46,352	28,527
Property Costs	195	265	70	1,302	2,912	1,610	2,048	4,497	2,449
Total	7,150	6,824	(326)	60,078	63,897	3,819	89,386	93,040	3,654



Civils Maintenance Cost

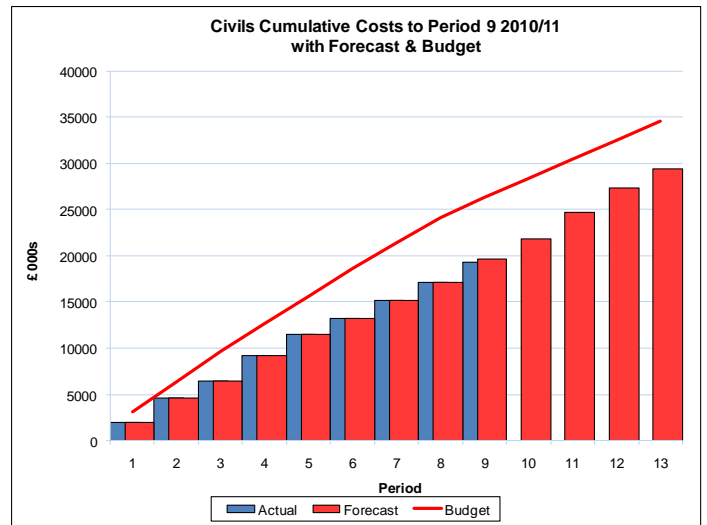
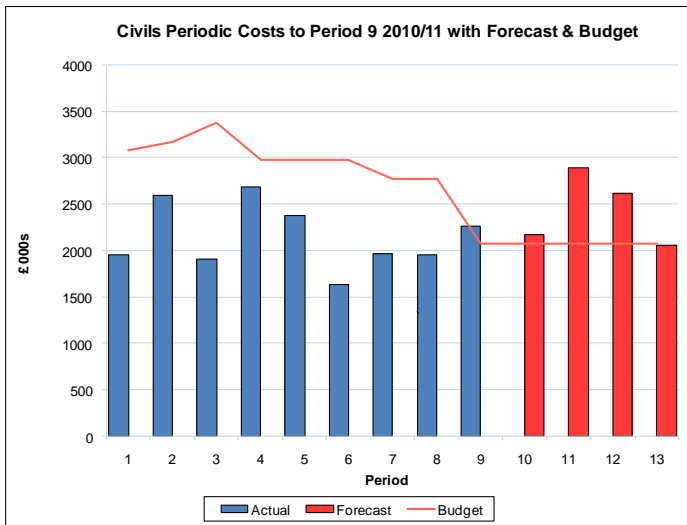
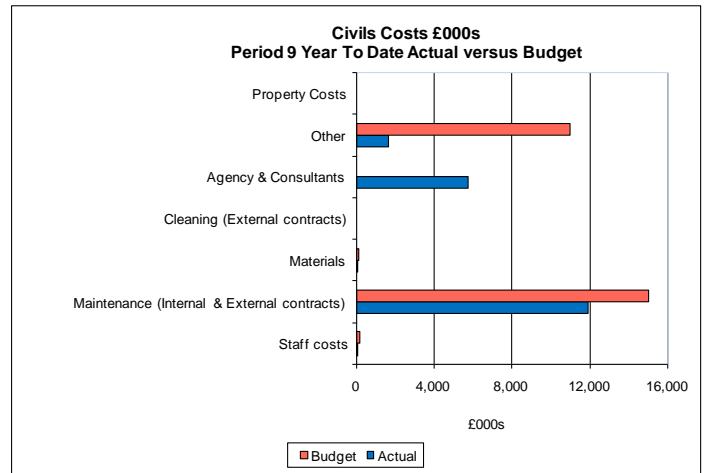
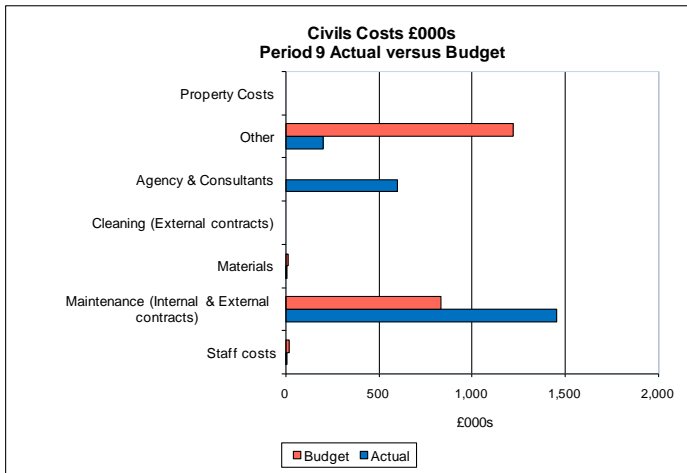
Period 9 2010/11

Civils & Facilities

	Period 9			Period 9 Year To Date			Full Year at Period 9		
	Actual £k	Budget £k	Var £k	Actual £k	Budget £k	Var £k	Forecast £k	Budget £k	Var £k
Operating Costs By Area									
Civils	1,657	1,110	(547)	13,589	17,497	3,908	20,180	21,938	1,758
Civils Assess/Inspect	0	0	0	0	0	0	0	0	0
Civils Maintenance	601	970	369	5,757	8,726	2,968	9,218	12,604	3,385
Civils Management	0	0	0	0	0	0	0	0	0
Total	2,258	2,080	(178)	19,346	26,222	6,876	29,398	34,542	5,143

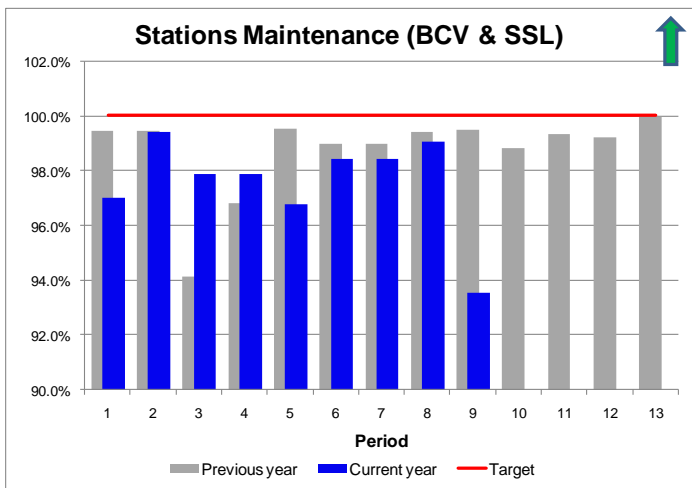
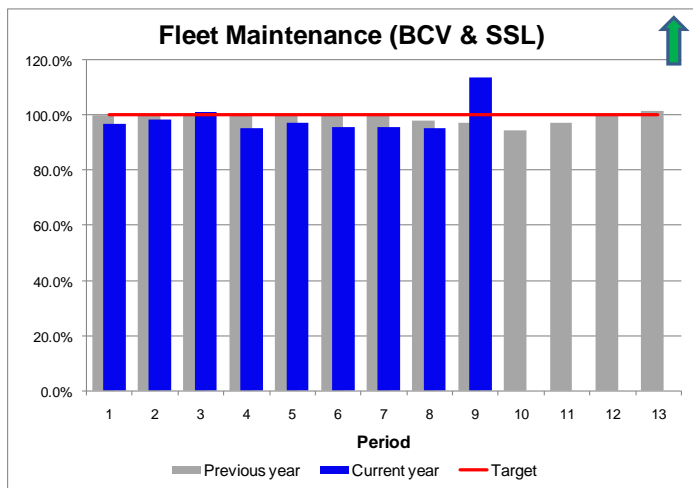
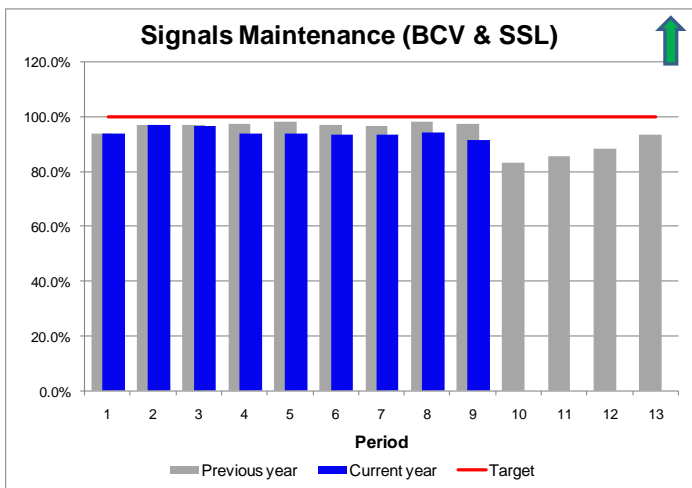
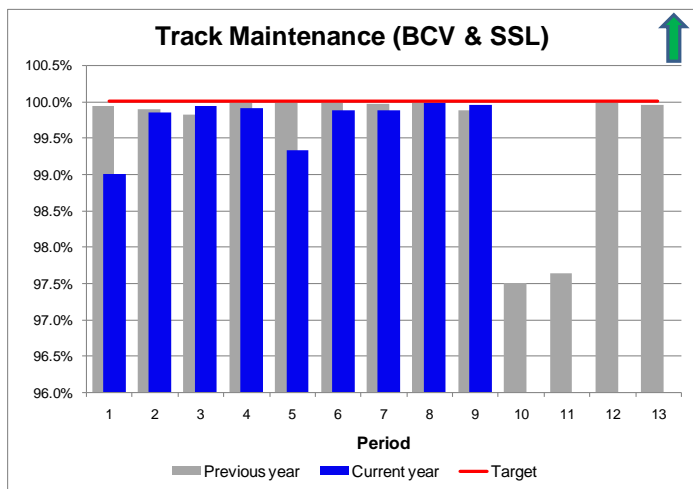
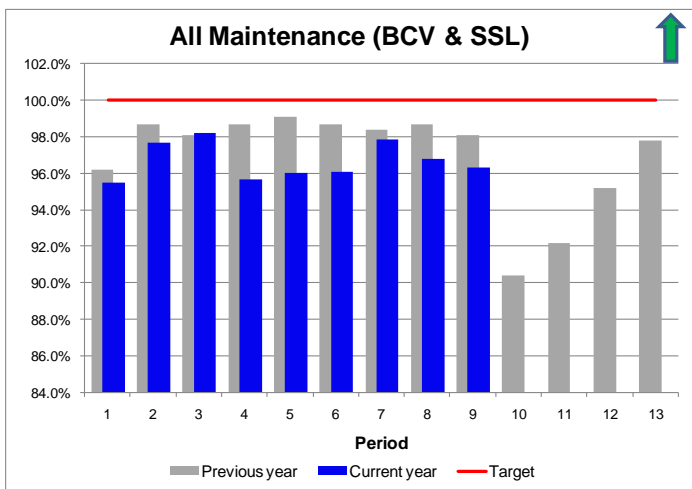
Operating Costs By Type

Staff costs	2	17	15	6	154	148	4	222	218
Maintenance (Internal & External contracts)	1,453	833	(620)	11,892	14,997	3,105	17,695	18,327	632
Materials	4	12	9	61	111	50	119	161	42
Cleaning (External contracts)	0	0	0	0	0	0	0	0	0
Agency & Consultants	599	0	(599)	5,752	0	(5,752)	9,214	0	(9,214)
Other	200	1,218	1,018	1,636	10,960	9,325	2,366	15,832	13,465
Property Costs	0	0	0	0	0	0	0	0	0
Total	2,258	2,080	(178)	19,346	26,222	6,876	29,398	34,542	5,143



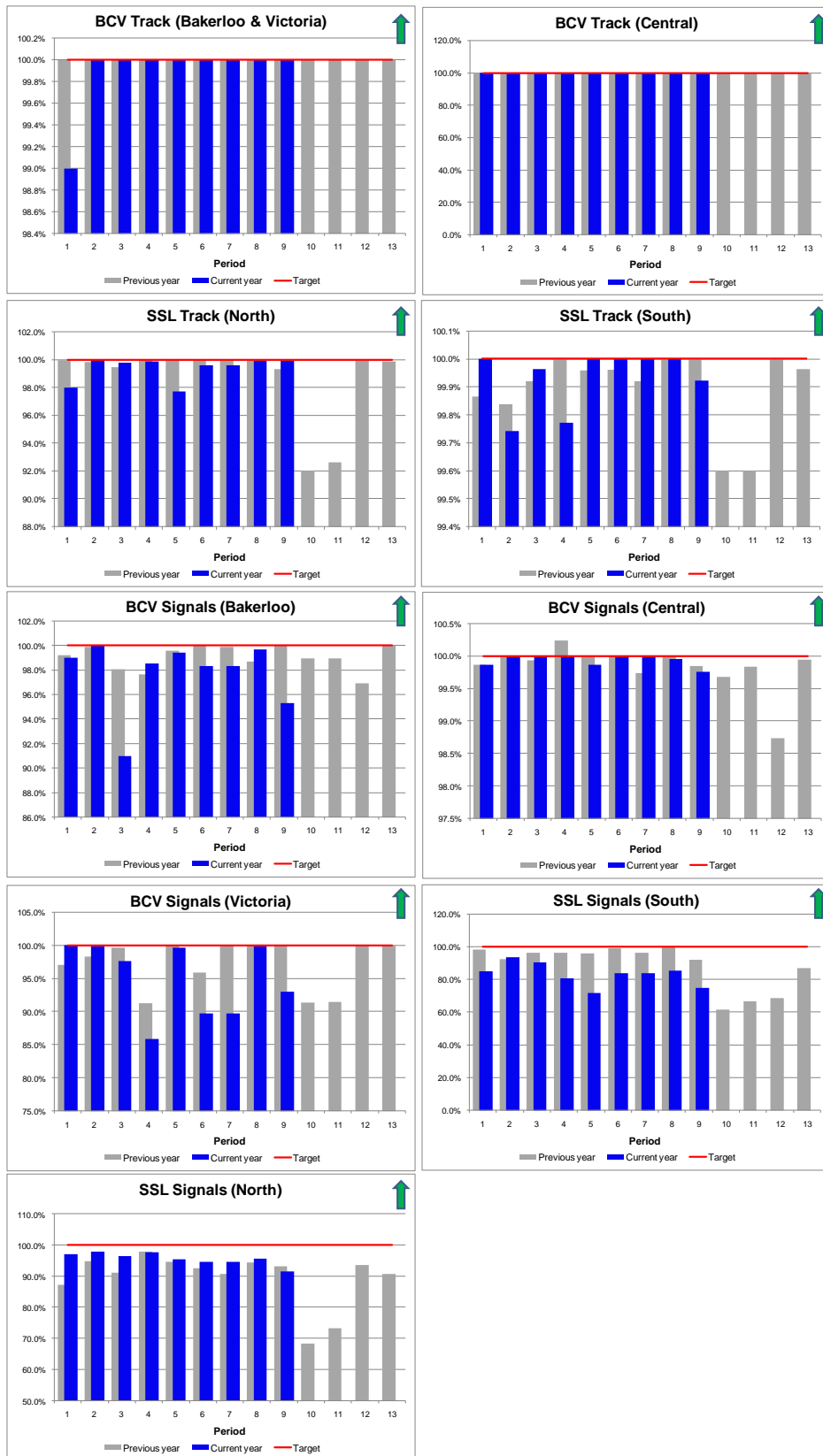
% of Planned Maintenance Completed

Period 9 2010/11



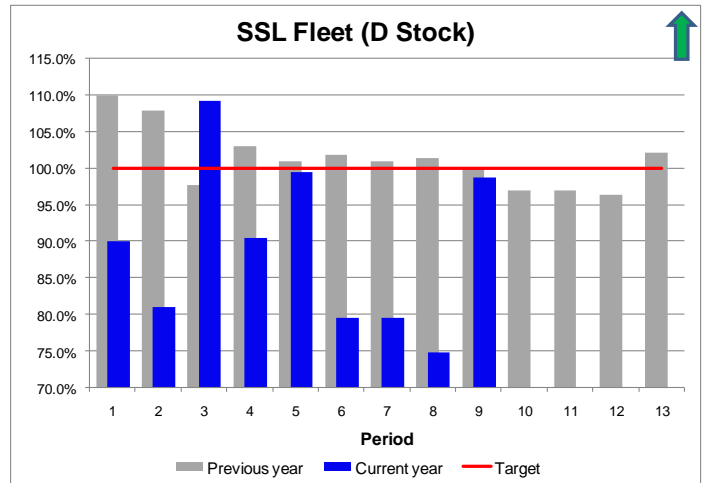
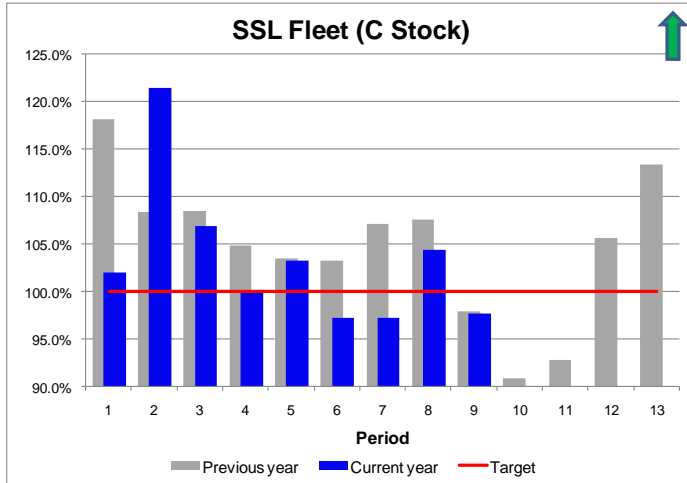
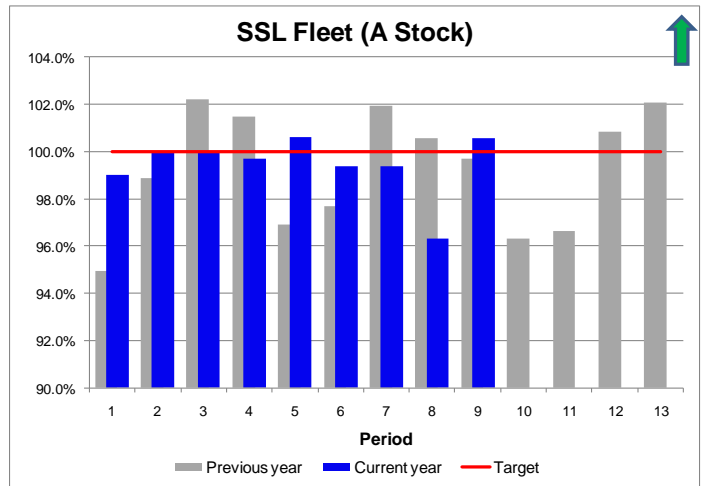
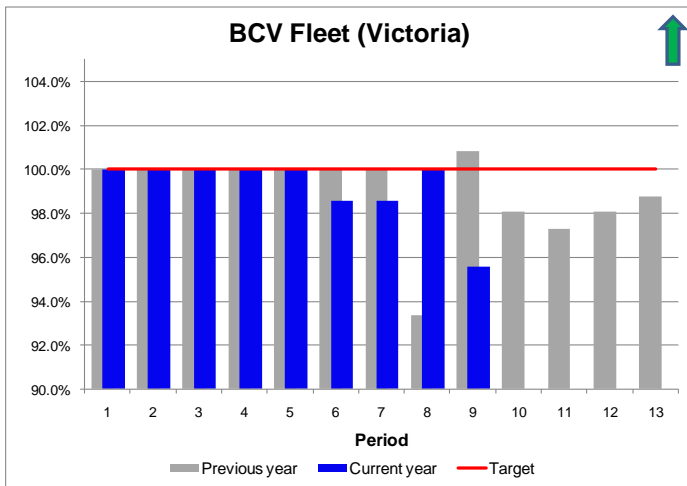
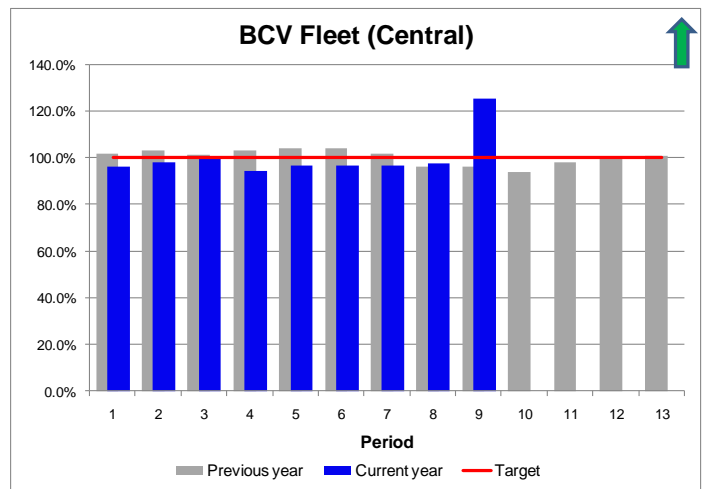
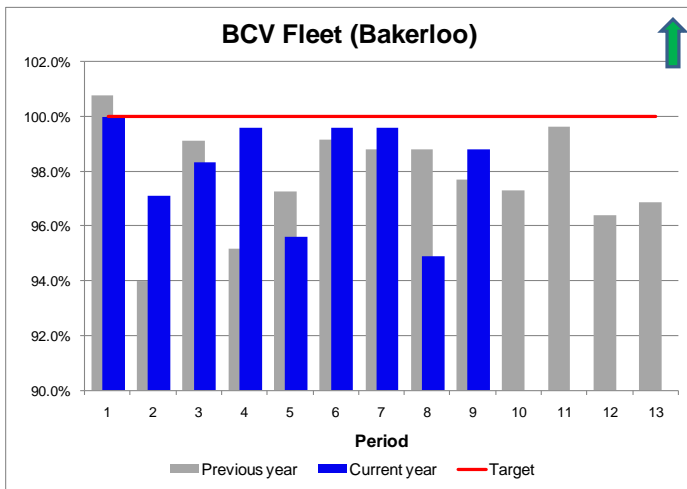
% of Planned Maintenance Completed (Track and Signals)

Period 9 2010/11



% of Planned Maintenance Completed (Fleet)

Period 9 2010/11



BCV & SSL Capital Expenditure

Period 9 2010/11

System	Sub System	Period			Year to Date			Full Year Forecast		
		Actual £m	Budget £m	Variance £m	Actual £m	Budget £m	Variance £m	Forecast £m	Budget £m	Variance £m
Upgrades - Capex Projects										
Train Systems	Rolling Stock	39.6	31.7	-7.9	256.4	281.8	25.3	399.8	410.7	10.9
	Signalling & Control	10.5	11.0	0.4	92.6	116.9	24.3	137.3	151.7	14.4
	Depots	2.3	6.2	3.9	13.6	47.5	33.9	23.7	73.2	49.5
Train Systems Total		52.4	48.9	-3.6	362.6	446.2	83.6	560.8	635.6	74.8
Stations Systems	Accessibility	0.7	1.4	0.7	6.7	14.3	7.6	11.1	18.2	7.1
	Station Improvements	0.5	0.0	-0.5	7.0	0.0	-7.0	9.1	0.0	-9.1
	Stations Remodelling	0.3	0.0	-0.3	6.4	1.6	-4.8	7.0	1.6	-5.3
Stations Systems Total		1.4	1.4	0.0	20.2	15.9	-4.2	27.2	19.8	-7.4
Infrastructure Systems	Bridges and Structures	0.0	0.1	0.1	0.5	1.6	1.0	1.4	2.5	1.1
	Earth Structures	1.8	0.0	-1.8	26.0	0.0	-26.0	39.6	0.0	-39.6
	Track Remodelling	0.6	0.2	-0.4	2.5	1.5	-1.0	3.9	2.5	-1.4
	Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Power	1.6	1.1	-0.5	12.9	17.1	4.2	16.0	22.5	6.6
Infrastructure Systems Total		4.0	1.3	-2.7	42.0	20.2	-21.8	60.8	27.5	-33.3
BCVSSL Upgrades Total		57.8	51.6	-6.3	424.8	482.3	57.6	648.8	682.9	34.1
Non Upgrades - Capex Projects										
Train Systems	Rolling Stock	0.1	0.9	0.8	0.8	4.3	3.5	2.6	7.6	5.0
	Signalling & Control	0.0	0.8	0.8	0.3	7.6	7.3	0.6	10.8	10.2
	Depots	0.1	0.2	0.0	0.4	1.5	1.1	1.2	2.1	0.9
Train Systems Total		0.2	1.9	1.6	1.5	13.4	11.8	4.5	20.5	16.0
Stations Systems	Future Stations	1.4	1.1	-0.3	16.7	15.1	-1.6	20.6	16.8	-3.9
	Completion on Site	0.7	0.1	-0.6	15.7	11.6	-4.1	17.0	12.5	-4.5
	DIS Completion	-0.1	0.0	0.1	0.4	1.2	0.8	0.6	1.2	0.7
	Accessibility	0.0	1.5	1.5	0.4	5.5	5.1	0.4	11.5	11.1
	Asset Stabilisation	0.0	0.9	1.0	0.4	4.2	3.8	0.5	8.2	7.7
	Station Improvements	0.0	1.7	1.7	-0.1	4.4	4.4	-0.1	10.0	10.1
	Other Non Stations Specific	0.3	0.0	-0.3	0.6	1.1	0.4	1.4	1.7	0.3
	Escalators	2.0	2.9	0.9	15.2	18.7	3.5	22.3	31.3	9.0
	Lifts	0.1	0.5	0.4	0.2	1.3	1.1	0.7	3.0	2.4
	Power	0.1	0.6	0.4	2.0	2.3	0.3	2.8	2.7	0.0
	Management Costs	0.3	0.9	0.5	5.4	8.6	3.2	7.4	12.4	5.0
Stations Systems Total		4.9	10.2	5.3	56.8	73.8	16.9	73.6	111.4	37.8
Infrastructure Systems	Bridges and Structures	0.3	3.6	3.3	2.8	21.8	19.0	3.6	27.2	23.6
	Earth Structures	1.1	1.3	0.2	9.8	13.0	3.1	15.5	18.4	2.9
	Deep Tube Tunnel	1.1	2.1	1.0	16.4	18.5	2.1	24.4	24.5	0.1
	Pumps & Drainage	1.9	0.0	-1.9	16.6	0.1	-16.5	20.1	0.1	-20.0
	Points & Crossings	0.4	0.5	0.1	7.8	10.0	2.2	13.8	18.9	5.2
	Ballasted Track Renewal	3.3	4.8	1.5	35.4	44.8	9.3	54.3	65.0	10.7
	Development	-0.1	0.2	0.3	-0.1	1.9	2.0	-0.1	2.7	2.8
	Power	0.0	0.6	0.6	0.0	5.3	5.3	0.7	7.6	6.9
	Track Remodelling	0.0	0.0	0.0	0.1	0.5	0.3	0.2	0.6	0.4
	Lifts	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	-0.5
	Depots	0.1	0.2	0.1	1.1	2.6	1.5	1.6	3.6	2.0
	Management Costs	0.2	2.9	2.7	2.1	20.3	18.2	13.5	29.5	16.0
	Infrastructure Systems Total		8.2	16.2	7.9	92.1	138.8	46.6	148.1	198.1
Other Expenditure	Admin Projects	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
	Risk & Contingency	0.0	-2.1	-2.1	0.0	0.8	0.8	-6.7	-9.4	-2.6
Other Expenditure Total		0.0	-2.1	-2.1	0.0	0.8	0.8	-6.7	-9.3	-2.6
Non Upgrade Total		13.3	26.1	12.7	150.5	226.8	76.2	219.5	320.8	101.3
Capital Projects Total		71.1	77.6	6.5	575.3	709.1	133.8	868.4	1,003.7	135.3
Opex Projects										
Train Systems	Rolling Stock, Depots & Signals	0.3	1.0	0.7	3.2	9.0	5.8	6.2	13.0	6.9
Stations Systems	Stations and L&E	1.5	1.4	-0.1	8.9	18.5	9.6	19.6	25.1	5.5
Infrastructure Systems	Track & Civils	1.1	0.9	-0.3	9.2	11.4	2.2	12.8	14.4	1.6
Opex Projects Total		2.9	3.2	0.4	21.3	38.9	17.5	38.6	52.5	13.9
PPP Total		74.0	80.9	6.8	596.6	748.0	151.4	906.9	1,056.2	149.3

BCV Capital Expenditure

Period 9 2010/11

System	Sub System	£m			Year to Date			Full Year			
		Actual £m	Budget £m	Variance £m	Actual £m	Budget £m	Variance £m	Forecast £m	Budget £m	Variance £m	
Upgrades - Capex Projects											
Train Systems	Rolling Stock	17.9	14.6	-3.3	129.9	134.1	4.2	191.2	185.0	-6.2	
	Signalling & Control	1.3	1.5	0.2	13.3	15.8	2.4	19.4	20.3	0.8	
	Depots	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.3	0.1	
Train Systems Total		19.2	16.1	-3.1	143.2	150.0	6.8	210.8	205.5	-5.3	
Stations Systems	Accessibility	0.2	0.3	0.1	2.0	2.5	0.5	2.7	3.6	0.9	
	Station Improvements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Stations Remodelling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Stations Systems Total		0.2	0.3	0.1	2.0	2.5	0.5	2.7	3.6	0.9	
Infrastructure Systems	Bridges and Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Earth Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Track Remodelling	0.0	0.0	0.0	0.1	0.0	-0.1	0.1	0.0	-0.1	
	Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Power	0.1	0.1	0.0	2.0	1.8	-0.3	2.0	2.2	0.2	
Infrastructure Systems Total		0.2	0.1	-0.1	2.1	1.8	-0.4	2.1	2.2	0.1	
Victoria Line Upgrade Total		19.5	16.5	-3.1	147.3	154.3	6.9	215.6	211.3	-4.3	
Non Upgrades - Capex Projects											
Train Systems	Rolling Stock	0.1	0.9	0.8	0.6	3.8	3.3	2.3	7.2	4.9	
	Signalling & Control	0.0	0.3	0.3	0.3	3.2	2.9	0.6	4.6	4.0	
	Depots	0.0	0.1	0.1	0.1	0.9	0.8	0.6	1.3	0.6	
Train Systems Total		0.1	1.3	1.2	1.0	8.0	7.0	3.5	13.0	9.5	
Stations Systems	Future Stations	0.0	0.0	0.0	-0.1	0.0	0.1	-0.1	0.0	0.1	
	Completion on Site	0.4	0.1	-0.3	13.3	10.1	-3.2	14.5	11.0	-3.5	
	DIS Completion	0.0	0.0	0.0	0.5	1.2	0.7	0.6	1.2	0.6	
	Accessibility	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Asset Stabilisation	0.0	0.6	0.6	0.1	1.3	1.2	0.1	2.0	1.9	
	Station Improvements	0.0	0.9	0.9	-0.1	2.7	2.8	-0.1	6.1	6.2	
	Other Non Stations Specific	0.0	0.0	0.0	0.3	0.4	0.1	0.7	1.1	0.4	
	Escalators	1.8	2.5	0.7	13.5	15.2	1.7	20.1	25.9	5.8	
	Lifts	0.1	0.4	0.3	0.2	1.1	1.0	0.3	2.6	2.3	
	Power	0.1	0.6	0.4	2.0	2.3	0.3	2.8	2.7	0.0	
	Management Costs	0.1	0.2	0.2	1.7	2.8	1.1	2.3	3.8	1.5	
	Stations Systems Total		2.7	5.3	2.6	31.2	37.2	5.9	41.2	56.5	15.2
	Infrastructure Systems	Bridges and Structures	0.0	0.2	0.2	0.0	3.1	3.1	0.0	4.7	4.6
Earth Structures		0.5	0.5	0.0	4.3	5.4	1.1	5.2	7.2	1.9	
Deep Tube Tunnel		1.1	2.1	1.0	16.4	18.5	2.1	24.4	24.5	0.1	
Pumps & Drainage		0.1	0.0	-0.1	2.6	0.1	-2.5	3.2	0.1	-3.1	
Points & Crossings		0.3	0.3	0.0	6.1	7.2	1.1	11.5	13.4	1.8	
Ballasted Track Renewal		0.1	1.0	1.0	1.3	4.0	2.7	2.3	4.0	1.6	
Development		0.0	0.1	0.1	0.0	1.2	1.2	0.0	1.7	1.7	
Power		0.0	0.3	0.3	0.0	3.0	3.0	0.0	4.3	4.3	
Track Remodelling		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lifts		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	-0.5	
Depots		0.1	0.1	0.0	1.1	1.5	0.4	1.5	2.0	0.5	
Management Costs		0.2	1.6	1.4	1.5	12.6	11.1	6.5	18.1	11.6	
Infrastructure Systems Total		2.4	6.4	4.0	33.2	56.5	23.3	55.2	79.9	24.7	
Other Expenditure	Admin Projects	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	
	Risk & Contingency	0.0	-1.7	-1.7	0.0	-4.1	-4.1	-4.4	-11.4	-6.9	
Other Expenditure Total		0.0	-1.7	-1.7	0.0	-4.0	-4.0	-4.4	-11.3	-6.9	
Non Upgrade Total		5.2	11.4	6.2	65.5	97.6	32.2	95.5	138.1	42.5	
Capital Projects Total		24.7	27.8	3.1	212.8	251.9	39.1	311.1	349.3	38.2	
Opex Projects											
Train Systems	Rolling Stock, Depots & Signals	0.3	0.4	0.1	1.7	3.1	1.4	3.0	4.7	1.7	
	Stations Systems	0.8	0.8	0.0	5.7	11.3	5.6	11.9	14.9	3.0	
Infrastructure Systems	Track & Civils	0.4	0.8	0.4	2.7	9.7	7.0	3.8	12.4	8.5	
Opex Projects Total		1.4	2.0	0.5	10.1	24.1	14.0	18.8	31.9	13.1	
PPP Total		26.1	29.8	3.7	222.9	276.0	53.1	329.9	381.3	51.4	

SSL Capital Expenditure

Period 9 2010/11

System	Sub System	Period			Year to Date			Full Year Forecast			
		Actual £m	Budget £m	Variance £m	Actual £m	Budget £m	Variance £m	Forecast £m	Budget £m	Variance £m	
Upgrades - Capex Projects											
Train Systems	Rolling Stock	21.8	17.2	-4.6	126.6	147.7	21.1	208.6	225.7	17.1	
	Signalling & Control	9.2	9.5	0.3	79.3	101.2	21.9	117.9	131.5	13.6	
	Depots	2.3	6.2	3.9	13.5	47.3	33.8	23.5	72.9	49.4	
Train Systems Total		33.3	32.8	-0.5	219.3	296.1	76.8	350.0	430.1	80.1	
Stations Systems	Accessibility	0.5	1.1	0.6	4.7	11.8	7.1	8.5	14.6	6.2	
	Station Improvements	0.5	0.0	-0.5	7.0	0.0	-7.0	9.1	0.0	-9.1	
	Stations Remodelling	0.3	0.0	-0.3	6.4	1.6	-4.8	7.0	1.6	-5.3	
Stations Systems Total		1.2	1.1	-0.1	18.2	13.5	-4.7	24.5	16.3	-8.3	
Infrastructure Systems	Bridges and Structures	0.0	0.1	0.1	0.5	1.6	1.0	1.4	2.5	1.1	
	Earth Structures	1.8	0.0	-1.8	26.0	0.0	-26.0	39.6	0.0	-39.6	
	Track Remodelling	0.5	0.2	-0.4	2.4	1.5	-0.9	3.8	2.5	-1.3	
	Development	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Power	1.5	1.0	-0.5	10.9	15.4	4.5	14.0	20.3	6.4	
Infrastructure Systems Total		3.8	1.2	-2.6	39.8	18.4	-21.4	58.7	25.3	-33.4	
SSL Line Upgrade Total		38.3	35.1	-3.2	277.4	328.0	50.6	433.2	471.6	38.4	
Non Upgrades - Capex Projects											
Train Systems	Rolling Stock	0.0	0.0	0.0	0.3	0.5	0.2	0.3	0.5	0.1	
	Signalling & Control	0.0	0.5	0.5	0.0	4.3	4.4	0.0	6.2	6.1	
	Depots	0.1	0.1	-0.1	0.3	0.6	0.3	0.6	0.8	0.2	
Train Systems Total		0.1	0.5	0.4	0.5	5.4	4.9	1.0	7.5	6.5	
Stations Systems	Future Stations	1.4	1.1	-0.3	16.8	15.1	-1.7	20.8	16.8	-4.0	
	Completion on Site	0.2	0.0	-0.2	2.5	1.5	-1.0	2.5	1.5	-1.0	
	DIS Completion	-0.1	0.0	0.1	-0.1	0.0	0.1	-0.1	0.0	0.1	
	Accessibility	0.0	1.5	1.5	0.4	5.5	5.1	0.4	11.5	11.1	
	Asset Stabilisation	0.0	0.4	0.4	0.3	2.9	2.6	0.4	6.2	5.8	
	Station Improvements	0.0	0.8	0.8	0.0	1.6	1.6	0.0	3.9	3.9	
	Other Non Stations Specific	0.2	0.0	-0.2	0.4	0.7	0.3	0.7	0.7	0.0	
	Escalators	0.2	0.4	0.3	1.7	3.4	1.8	2.2	5.4	3.2	
	Lifts	0.0	0.1	0.1	0.0	0.1	0.1	0.4	0.4	0.0	
	Power	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Management Costs	0.3	0.6	0.4	3.7	5.7	2.1	5.1	8.6	3.5	
	Stations Systems Total		2.2	4.8	2.7	25.6	36.6	11.0	32.4	55.0	22.6
	Infrastructure Systems	Bridges and Structures	0.3	3.4	3.1	2.8	18.7	15.9	3.5	22.5	19.0
Earth Structures		0.6	0.7	0.2	5.5	7.6	2.0	10.2	11.2	1.0	
Deep Tube Tunnel		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pumps & Drainage		1.8	0.0	-1.8	14.0	0.1	-14.0	17.0	0.1	-16.9	
Points & Crossings		0.0	0.1	0.1	1.7	2.9	1.2	2.2	5.6	3.3	
Ballasted Track Renewal		3.2	3.7	0.5	34.2	40.8	6.6	52.0	61.1	9.1	
Development		-0.1	0.1	0.1	-0.1	0.7	0.8	-0.1	1.0	1.1	
Power		0.0	0.3	0.3	0.0	2.3	2.3	0.7	3.3	2.6	
Track Remodelling		0.0	0.0	0.0	0.2	0.5	0.3	0.2	0.6	0.4	
Depots		0.0	0.1	0.1	0.1	1.1	1.1	0.2	1.6	1.5	
Management Costs		0.0	1.3	1.3	0.5	7.7	7.2	7.0	11.4	4.4	
Infrastructure Systems Total		5.8	9.7	3.9	58.9	82.2	23.3	92.9	118.3	25.4	
Other Expenditure	Admin Projects	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Risk & Contingency	0.0	-0.4	-0.4	0.0	4.9	4.9	-2.3	2.0	4.3	
Other Expenditure Total		0.0	-0.4	-0.4	0.0	4.9	4.8	-2.3	2.0	4.3	
Non Upgrade Total		8.1	14.7	6.6	85.1	129.1	44.1	124.0	182.7	58.7	
Capital Projects Total		46.4	49.8	3.4	362.5	457.2	94.7	557.3	654.4	97.1	
Opex Projects											
Train Systems	Rolling Stock, Depots & Signals	0.0	0.6	0.6	1.5	5.9	4.4	3.1	8.3	5.2	
	Stations Systems	0.7	0.6	-0.1	3.2	7.2	4.0	7.7	10.2	2.5	
Infrastructure Systems	Track & Civils	0.8	0.1	-0.7	6.5	1.7	-4.9	9.0	2.0	-7.0	
Opex Projects Total		1.4	1.3	-0.2	11.3	14.8	3.5	19.8	20.6	0.8	
PPP Total		47.9	51.1	3.2	373.7	472.0	98.2	577.0	674.9	97.9	

BCV & SSL Capital Expenditure Variance Analysis

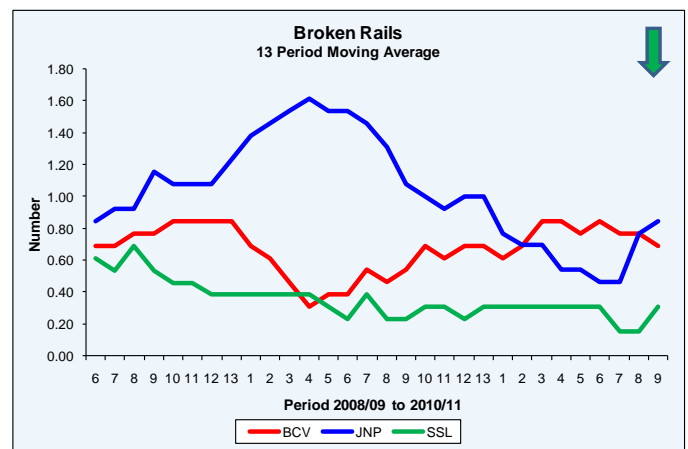
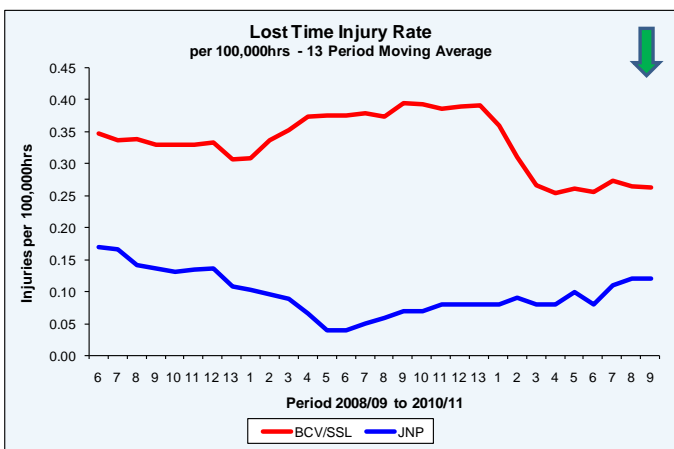
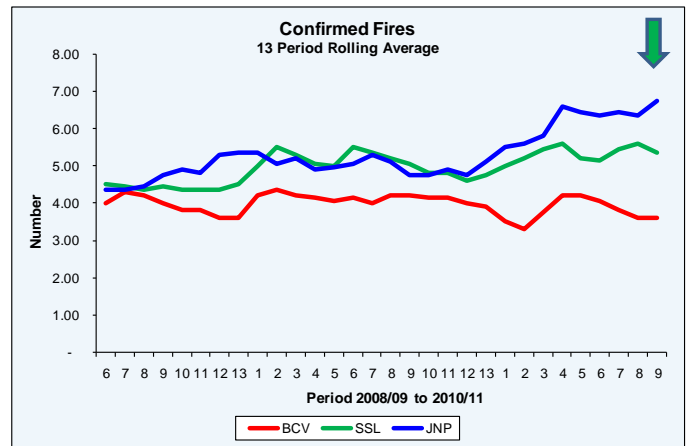
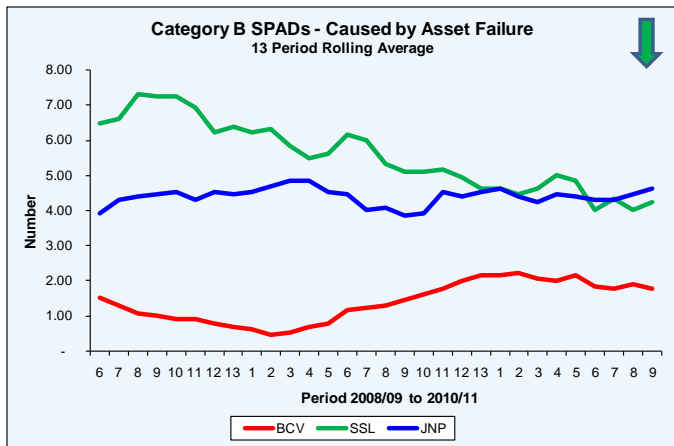
Period 9 2010/11

Projects Expenditure Variances - BCV & SSL P9 2010/11				Variances		
System	Period Variance Commentary	YTD Variance Commentary	Full Year Variance Commentary	Period £m	Year to Date £m	Full Year Forecast £m
SUP	Minor over spend due to rolling stock overlay as well as an overspend on DC traction depot project which has mainly been offset by an under spend from rephasing of Rolling stock minor delays in completion of trains 1&3 from bombardier, and reduced costs on legacy signalling projects and Neasden depots.	Under spend results from rephasing of Rolling stock delivery, minor delays in completion of trains 1&3 from bombardier, and reduced costs on legacy signalling projects. Minor under spends have also occurred on enabling projects such as signalling immunization, legacy systems and Neasden depot works offset by a rolling stock overlay.	FYF Variance due to delays in manufacture & delivery of new rolling stock and reduced costs on the Neasden depot works and conductor rail upgrade savings	-3.20	50.64	38.39
VLU	Period overspend due to a catch up on the milestones BTUK train delivery.	Slippage on the milestones of BTUK train delivery by approximately £4.5m YTD, expected to recover later in the year. Delay in the installation of lineside equipment has also resulted in a £1.6m underspend.	FYF Variance as a result of an overspend in the delivery of BTUK Train by £8.5m (pre-production & new signalling phase) which was offset by delay in installation of lineside equipment (£1.6m) and savings of £2.6m from the VLU service centre.	-3.07	6.94	-4.33
Upgrade Total				-6.28	57.57	34.06
Train Systems Total	Period underspend as a result of many small variances mainly on the 92TS Half life ambience upgrade, Signalling life extension works and Tunnel cleaning train savings	There are many small variances. These include underspends on the 92TS half life ambience upgrade of £2.3m, Signal life extension works of £1.8m, E&B signalling works of £1.8m, delays in Tunnel cleaning of approximately £1m and other small individual variances	Under spend is due to delays in the Tunnel cleaning train project and the 92TS ambience upgrade which have been delayed into 2010/11, and the reflection of YTD underspends on earthing and bonding compliance as the full year forecast.	1.64	11.83	16.03
Stations Systems Total	There are many small variances. The main cause is underspends on station improvement works and SSL RVAR accessibility project.	YTD underspend caused by underspends across many categories, but mainly on SSL -RVAR Accessibility - £5.9m, Asset stabilisation - £4.1m, Management costs - £3.2m, Escalator renewals - £2.9m and stations improvement of £4.3m offset by an overspend of £4.1m against completion on site	FYF Variance due to £7.6m under spend on various escalator renewals, £7.7m lower on asset stabilisation due to delays in the contract award processes and a transfer to projects, £15m underspend on Accessibility, £4.9m on Management costs and £10m on station improvements. These have been offset mainly by an overspend on the Kingscross station modernisation project of £3.1m, and £4.5m on completion on site.	5.30	16.94	37.79
Infrastructure Systems Total	The period variance is mainly due to an underspend of £2.7m on Management costs, £2.9m on Drainage renewals and £1.8m on BTR.	Savings of £18m and £9m each on Management costs and BTR works. In addition, there are net savings of £5m on Power, £4m on Pumps & Drainage, £3m on Earth structures and £2m on Points & Crossings.	There are net savings of of £10m on BTR and £16m on Management costs. Bridges & Structures costs are underspent by £2m, Pumps & Drainage by £6m and Power projects are underspent by £6m.	7.92	46.65	50.05
Other Expenditure Total	The period variance is due to a slight overspend on contingency	The YTD variance is due to under spends of risk which is slightly offset by an overspend on Contingency	Risk capping provisions included in the budget have been largely removed.	-2.12	0.82	-2.59
Opex Projects	The period under spend is due to underspends against the D stock maintenance recovery works and the asset stabilization projects	The YTD under spend is because of delays to non-capitalised asset stabilisation scoping, underspends against the D stock maintenance recovery works, and because of underspends on Wheel/Rail interface studies and PACE	An overspend is expected in Opex asset stabilisation which compensates for the capex under spend. In addition, there are underspends against Wire Degradation projects and Project PACE. The impact of the transfer of Grinding is also reflected in the full year forecast.	0.37	17.53	13.93
Non Upgrades TO TAL				13.12	93.78	115.21
				6.84	151.35	149.27

- Overspend

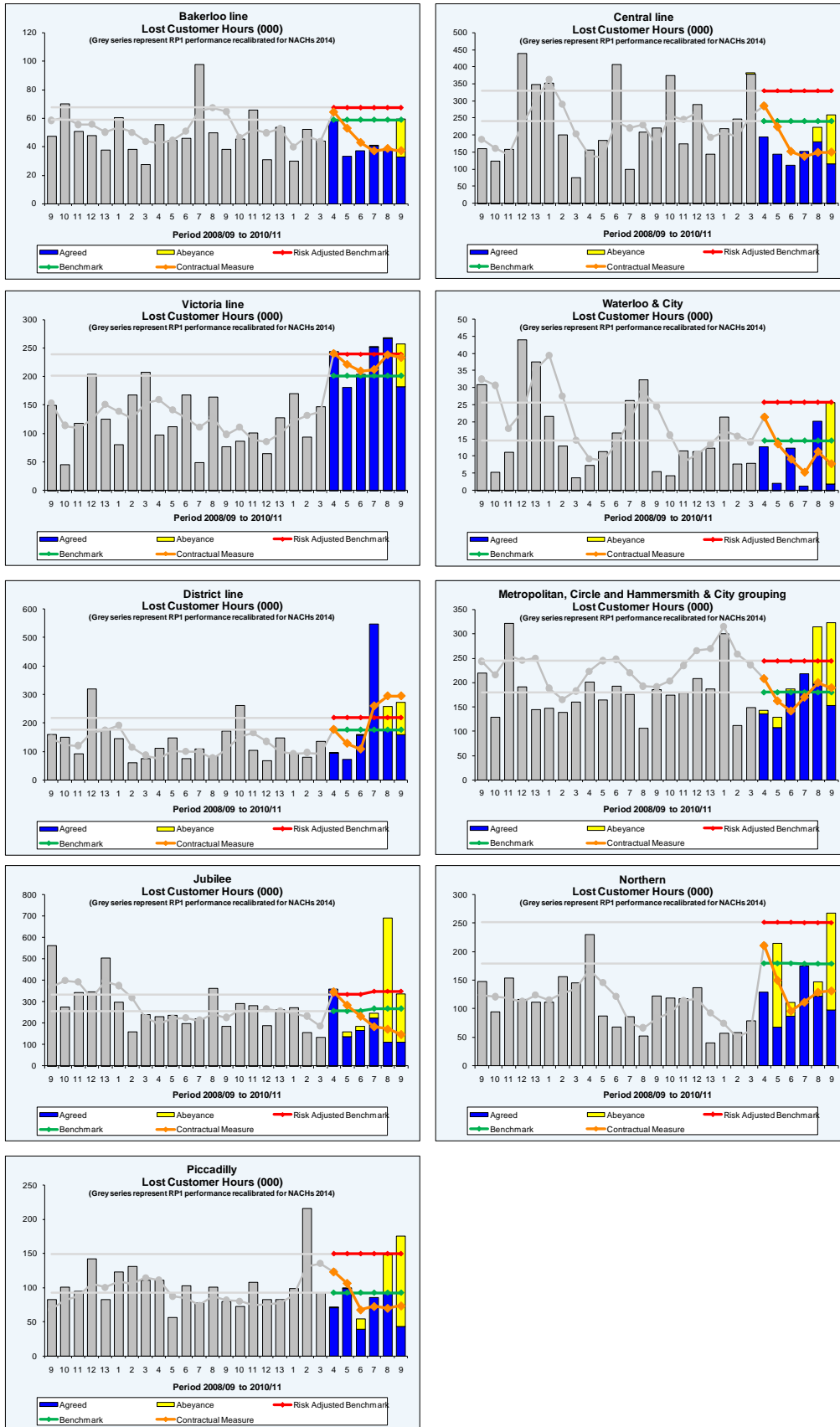
+ Under spend

Safety Performance



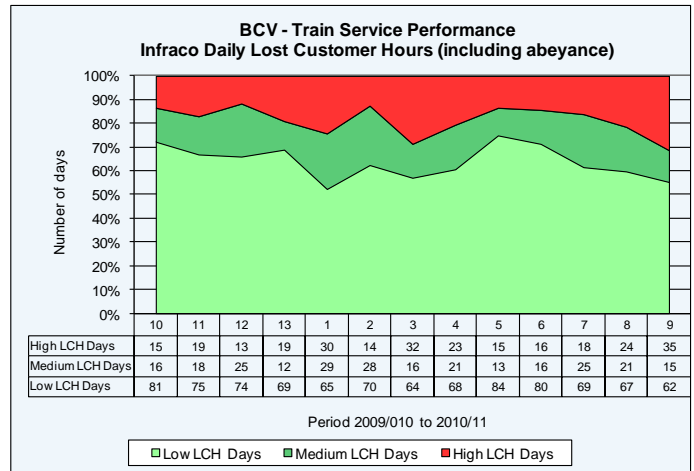
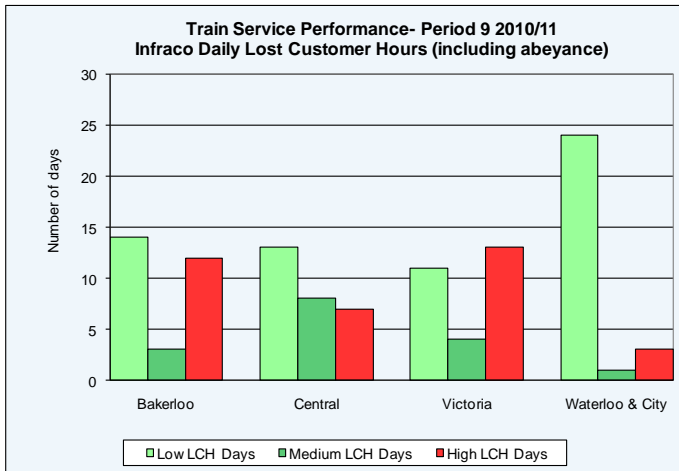
Appendix

Availability performance (by line)



Infraco BCV Availability performance – Train service impacts

Period 9 2010/11

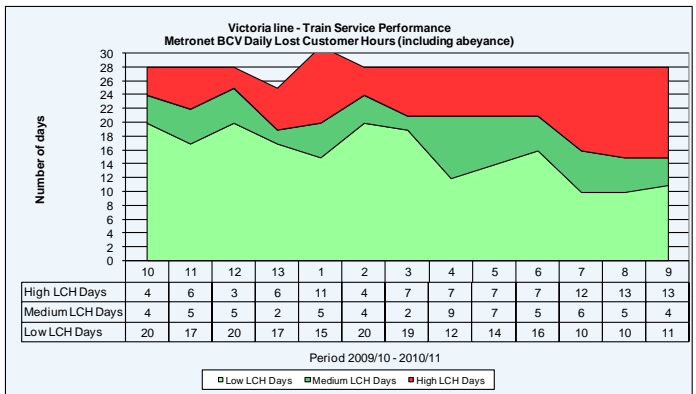
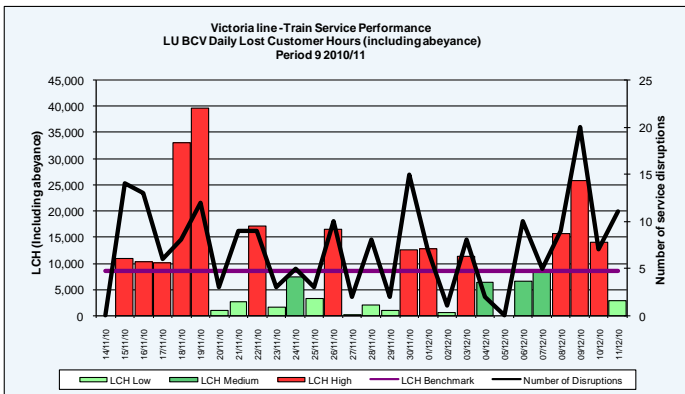
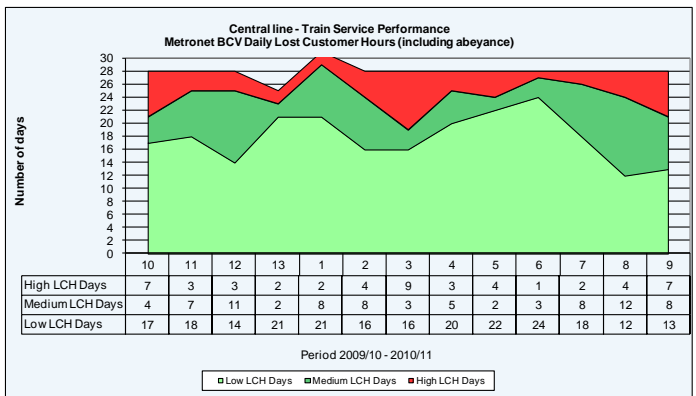
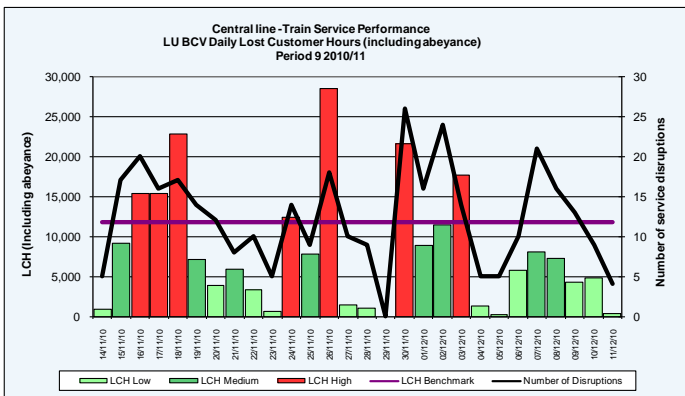
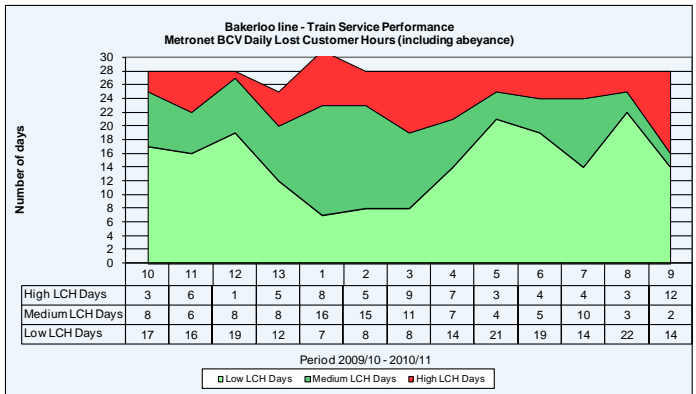
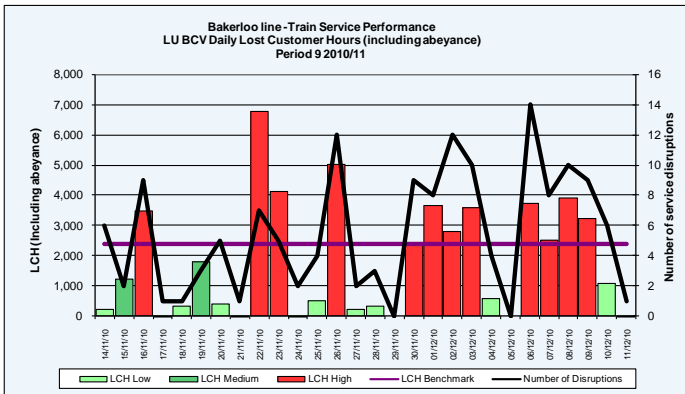


Period 9 2009/10 - High LCH Days				
Line	Date	No. of incidents	LCH for day	Description of major incidents
Bakerloo	16/11/10	6	3,495	Train withdrawn due to defective speedometer - 2,289 LCH.
Bakerloo	22/11/10	5	6,773	Train withdrawn due to T/Op unable to get pilot light - 2,417 LCH. Train delayed due to B & D doors in car opening - 2,660 LCH. Train delayed due to signal defect - 1,270 LCH.
Bakerloo	23/11/10	3	4,135	Train withdrawn from service due to T/Op unable to obtain pilot light - 3,432 LCH.
Bakerloo	26/11/10	6	5,018	Train withdrawn from service due to persistent audible warning - 2,507 LCH. Train delayed at Lambeth North due to T/Op unable to open the doors on the No2 side - 1,470 LCH.
Bakerloo	30/11/10	6	2,415	Train withdrawn due to defective Traction Brake controller - 1,019 LCH. Defective speedometer - 698 LCH.
Bakerloo	01/12/10	6	3,646	Train delayed due to track circuit failure - 1,436 LCH. Train withdrawn due to door problems - 846 LCH. Lost time on road due to defective motors affecting speed - 445 LCH.
Bakerloo	02/12/10	7	2,785	Train delays due to points defect - 964 LCH. Train withdrawn due to smell of burning - 916 LCH. Defective train radio - 435 LCH.
Bakerloo	03/12/10	7	3,576	Train withdrawn due to defective driver seat - 1,646 LCH. Train delayed due to traction current plungers tripping out - 815 LCH.
Bakerloo	06/12/10	10	3,738	T/Op unable to get a pilot light - 1,494 LCH. Train cancelled in depot due to door defect - 771 LCH. Train delayed due to defective monitor on platform - 431 LCH.
Bakerloo	07/12/10	6	2,521	Train delayed due to flap on the de icer filler cap open - 650 LCH. Train withdrawn due to defective relay - 622 LCH. Loss of pilot light - 615 LCH.
Bakerloo	08/12/10	8	3,901	Train withdrawn due to door problems - 1,831 LCH. Train cancelled due to grinding noise - 820 LCH.
Bakerloo	09/12/10	7	3,222	Train delayed due to loss of line air - 1,327 LCH. Train passed platform by 3/4 car length - 1,186 LCH.
Central	16/11/10	16	15,386	Train delayed arriving in Wanstead platform due to no code at Block Marker - 3,331 LCH. Train withdrawn due to aux fault on unit - 2,274 LCH. Train cancelled due to the cab heater not working - 1,269 LCH.
Central	17/11/10	10	15,407	Train delayed due to points failing to normalize - 7,419 LCH. Train withdrawn due to a fault on rear car - 2,777 LCH. Train withdrawn due to loss of ATO - 1,826 LCH.
Central	18/11/10	11	22,823	Service suspended between West Ruislip/North Acton and Ealing Broadway due to points failing to reverse - 18,171 LCH.
Central	24/11/10	11	12,753	Train withdrawn due to multiple brake decoder faults - 9,713 LCH.
Central	26/11/10	13	28,328	Train withdrawn due to faulty coupler studs between units - 8,407 LCH. Train withdrawn due to defective master relay - 8,322 LCH. Train withdrawn due to defect in ATO - 5,966 LCH.
Central	30/11/10	22	21,560	Train stalled as entering platform at Epping - 5,230 LCH. Train delayed due to signal failing to clear - 2,929 LCH. Train delayed due to loss of codes - 1,588 LCH.
Central	03/12/10	11	17,556	Train withdrawn due to loss of main line air - 10,072 LCH. Train delayed due to track circuit failure - 2,813 LCH.

Period 9 2009/10 - High LCH Days				
Line	Date	No. of incidents	LCH for day	Description of major incidents
Victoria	15/11/10	14	10,838	Two separate train delays due to activation of sensitive door edge - 4,543 LCH. Train delayed departing Pimlico after over running the normal stopping mark - 2,049 LCH.
Victoria	16/11/10	9	10,368	Train delayed due to track circuits failing - 6,290 LCH. Loss of ATO and ATP - 1,711 LCH.
Victoria	17/11/10	4	10,084	Train delayed due to loss of codes - 5,125 LCH. Train withdrawn due to flattened wheels - 3,223 LCH.
Victoria	18/11/10	6	33,002	Train withdrawn due to brake encoder fault - 26,314 LCH.
Victoria	19/11/10	9	39,562	Train delayed departing Finsbury Park due to the loss of ATO - 30,973 LCH.
Victoria	22/11/10	8	17,030	Train delayed in departure at Kings Cross due to activation of a sensitive door edge - 13,515 LCH.
Victoria	26/11/10	10	16,563	Train delayed signal failing to clear - 6,300 LCH. Train delayed due to activation of a sensitive door edge - 3,665 LCH. No forward movement of train - 2,337 LCH.
Victoria	30/11/10	13	12,626	Train delayed arriving at Seven Sisters due to signal failing to clear - 9,000 LCH.
Victoria	01/12/10	6	12,737	Train delayed between Oxford Circus and Victoria due to activation of code trip valve - 9,489 LCH.
Victoria	03/12/10	6	11,252	Train withdrawn due to activation of a sensitive door edge - 5,375 LCH. Train delayed due to doors failing to close - 2,834 LCH.
Victoria	08/12/10	7	15,768	Two separate train withdrawals due to door sensitive edge alarm failing to reset - 8,805 LCH. Train delayed due to activation of a sensitive door edge - 3,094 LCH.
Victoria	09/12/10	17	25,839	Train withdrawn due to MCU power monitor failure - 10,160 LCH. Train delayed due to activation of a sensitive door edge - 2,930 LCH. Train withdrawn due to overrunning platform stopping marks - 2,055 LCH.
Victoria	10/12/10	5	14,111	Train withdrawn due to defective doors on car - 12,495 LCH.
W&C	19/11/10	1	1,286	Train withdrawn due to report of door opening incorrectly - 1,286 LCH.
W&C	30/11/10	2	971	Train withdrawn due to No OK stock - 777 LCH.
W&C	09/12/10	1	21,786	Line suspended due to excessive grease on rails, which required manual cleaning - 21,786 LCH.

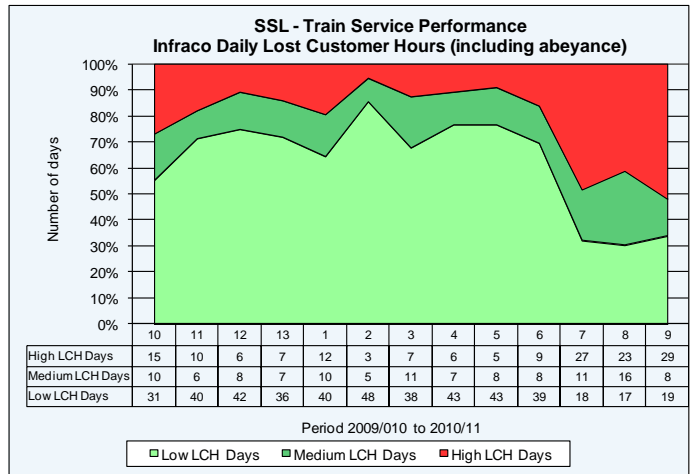
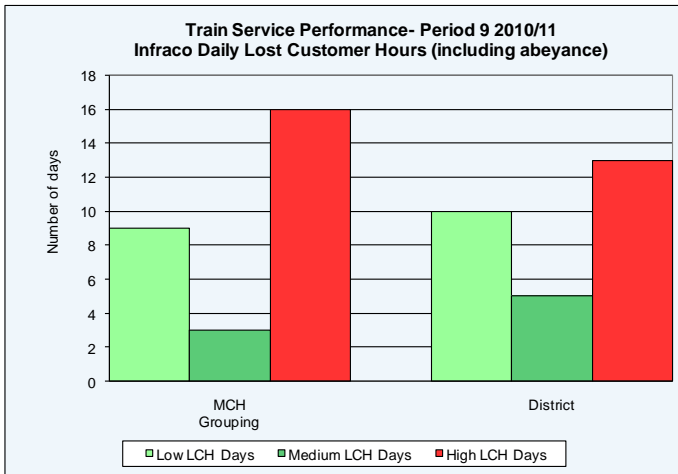
Infraco BCV Availability performance by line – Train service impacts

Period 9 2010/11



Infraco SSL Availability performance – Train service impacts

Period 9 2010/11

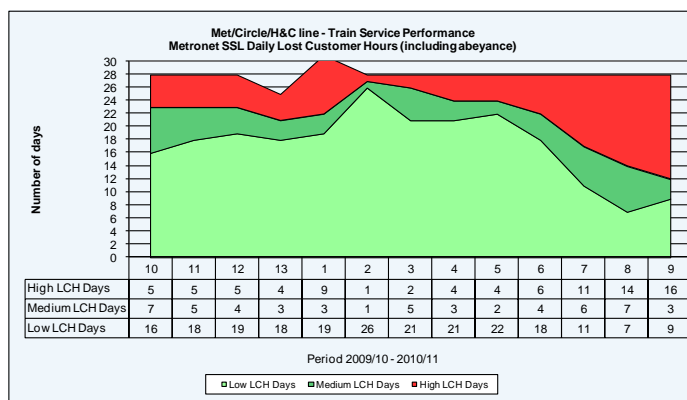
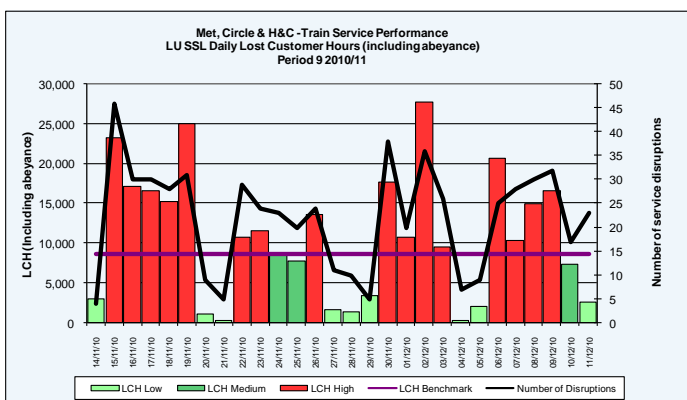
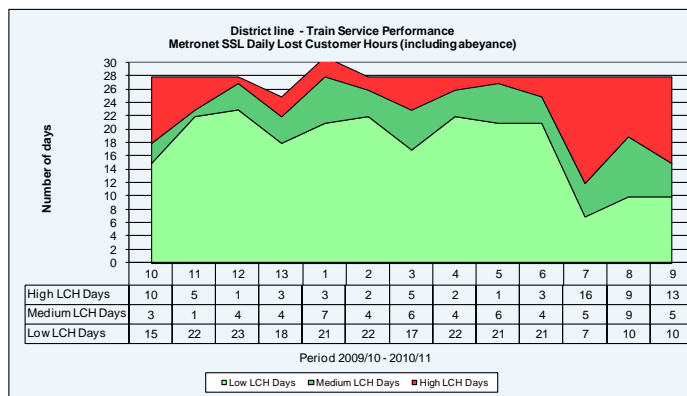
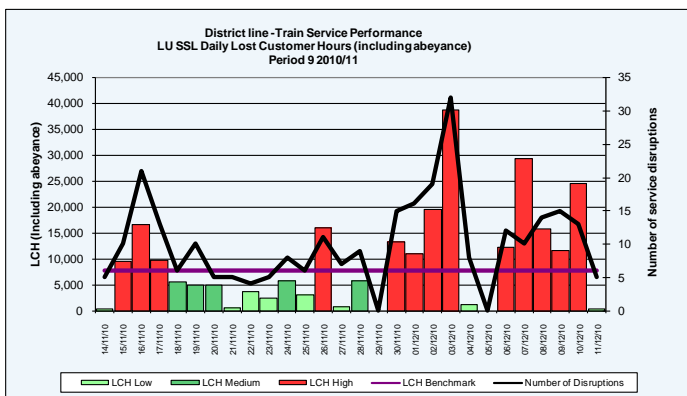


Period 9 2009/10 - High LCH Days				
Line	Date	No. of incidents	LCH for day	Description of major incidents
District	15/11/10	8	9,681	Train delayed due to the failure of the Signalling Departments Equipment - 2,535 LCH. Train withdrawn due to doors failing to close - 2,000 LCH. Train cancelled due to No OK stock - 1,529 LCH.
District	16/11/10	18	16,631	Train withdrawn due to doors failing to close - 3,436 LCH. Two trains cancelled due to No OK stock - 3,020 LCH.
District	17/11/10	11	9,878	Three trains cancelled due to No OK stock - 4,694 LCH.
District	26/11/10	10	16,193	Train delayed at East Putney due signal failing to clear - 8,502 LCH. Train delayed at Tower Hill due signal failing to clear - 6,167 LCH.
District	30/11/10	13	13,262	Train delayed due to no forward movement - 2,967 LCH. Defective train due to overloading - 2,791 LCH. Train cancelled due to No OK stock - 1,579 LCH.
District	01/12/10	13	11,052	Two trains cancelled due to No OK stock - 3,119 LCH. Service delayed due to late surrender of protection - 1,419 LCH.
District	02/12/10	17	19,620	Train delayed at Elm Park due signal failing to clear - 5,462 LCH. Train delayed at Barking due signal failing to clear - 5,462 LCH.
District	03/12/10	28	38,647	Train delayed at East Putney due to signals failing to clear - 7,838 LCH. Two trains withdrawn due to a earth registering on the traction earth detector - 7,851 LCH.
District	06/12/10	10	12,193	Train delayed departing Aldgate East due to wrong signal being lowered - 3,625 LCH. Train withdrawn due to defect - 1,928 LCH. Train cancelled due to No OK stock - 1,485 LCH.
District	07/12/10	10	29,304	Train cancelled due to signal failing to clear - 21,393 LCH.
District	08/12/10	10	15,879	Train withdrawn due to defective doors - 3,822 LCH. Train withdrawn due to brake fault - 2,806 LCH. Train cancelled due to No OK stock - 1,521 LCH.
District	09/12/10	13	11,691	Three trains cancelled due to No OK stock - 4,441 LCH.
District	10/12/10	10	24,484	Service delayed due to train front tripping as approaching signal in the vicinity points - 17,278 LCH.
Met, Cir, H&C	15/11/10	23	22,713	Two trains cancelled due to No OK stock - 8,816 LCH. Train late entering service - 2,601 LCH.
Met, Cir, H&C	16/11/10	13	17,070	Two trains cancelled due to No OK stock - 6,604 LCH. Train withdrawn due to flattened wheels - 2,595 LCH.

Period 9 2009/10 - High LCH Days				
Line	Date	No. of incidents	LCH for day	Description of major incidents
Met, Cir, H&C	17/11/10	16	16,529	Two trains cancelled due to No OK stock - 7,517 LCH. Train withdrawn due to defective motors - 1,786 LCH.
Met, Cir, H&C	18/11/10	14	18,277	Two trains cancelled due to No OK stock - 6,973 LCH. Defective weld on the wing rail of points - 6,267 LCH.
Met, Cir, H&C	19/11/10	19	21,847	Service delayed due to train rear tripping - 11,197 LCH. Two trains cancelled due to No OK stock - 5,956 LCH.
Met, Cir, H&C	22/11/10	12	10,694	Trains cancelled due to No OK stock - 7,960 LCH.
Met, Cir, H&C	23/11/10	10	11,539	Trains cancelled due to No OK stock - 7,080 LCH.
Met, Cir, H&C	26/11/10	14	13,538	Train delayed due to signal remaining at danger - 5,030 LCH. Delays on O/R Circus due to frozen points 2,055 LCH. Train cancelled due to No OK stock - 1,644 LCH.
Met, Cir, H&C	30/11/10	22	17,630	Train cancelled due to No OK stock - 2,806 LCH. Train delayed due to loss of pilot light - 2,708 LCH. Train withdrawn due to defective doors - 2,372 LCH.
Met, Cir, H&C	01/12/10	11	10,660	Two trains withdrawn due to tripcock being unable to be tested due to adverse weather - 5,220 LCH. Train cancelled due to No OK stock - 1,628 LCH.
Met, Cir, H&C	02/12/10	19	27,712	Trains trapped in Barking Sidings due to a signal failure - 16,800 LCH. Service delays due to adverse weather - 4,587 LCH.
Met, Cir, H&C	03/12/10	18	9,512	Train delayed due to door failing to open - 2,843 LCH. Train delayed due to signal failure - 1,484 LCH. Train delayed due points defect - 896 LCH.
Met, Cir, H&C	06/12/10	16	20,626	Various signal failures disrupting service - 14,149 LCH.
Met, Cir, H&C	07/12/10	20	10,222	Station closure due to activation of fire control panel - 4,170 LCH. Train withdrawn whilst in service - 1,048 LCH.
Met, Cir, H&C	08/12/10	22	14,876	Trains cancelled due to No OK stock - 3,142 LCH. Train withdrawn due to flattened wheels - 1,584 LCH.
Met, Cir, H&C	09/12/10	22	16,528	Train delayed departing Kings Cross station following the removal of a loose inter car barrier - 3,446 LCH. Train withdrawn due to no power to the middle motors of car - 1,427 LCH. Train cancelled due to No OK stock - 1,536 LCH.

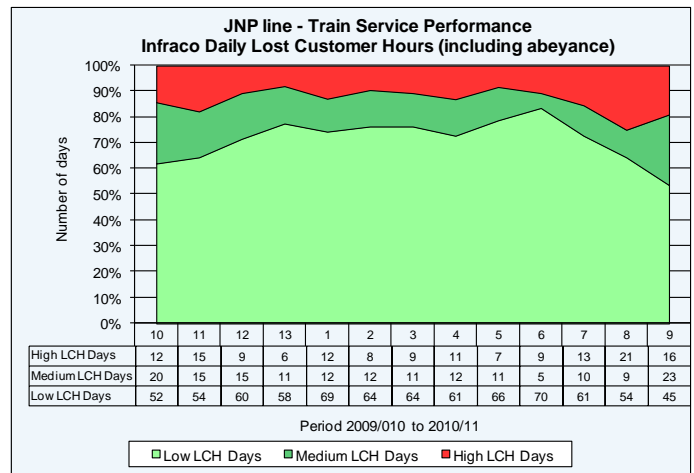
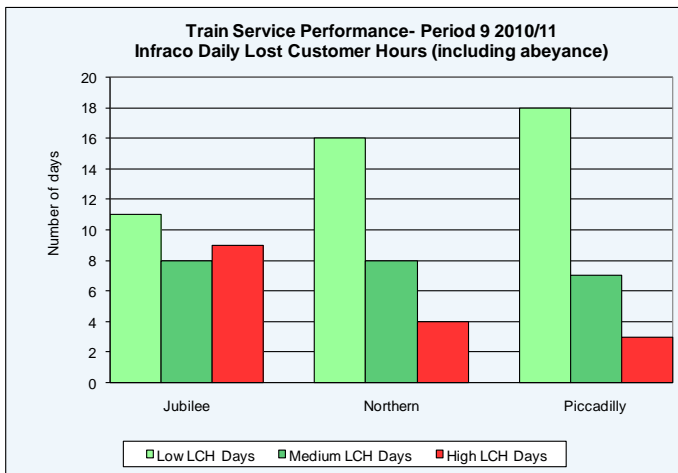
Infraco SSL Availability performance by line – Train service impacts

Period 9 2010/11



Infraco JNP Availability performance – Train service impacts

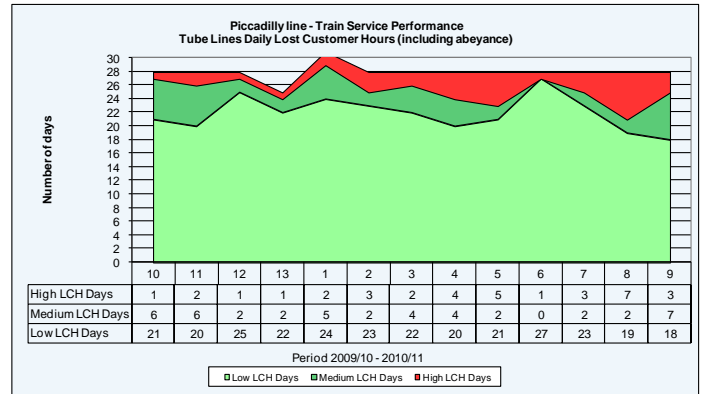
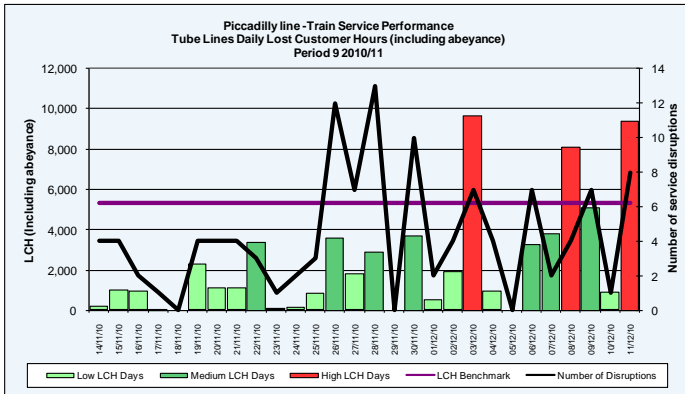
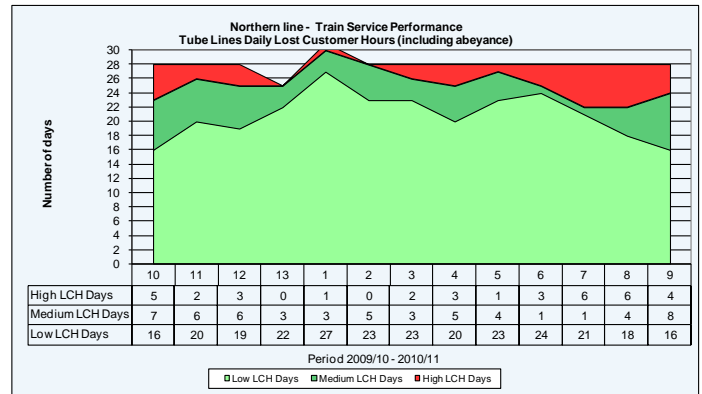
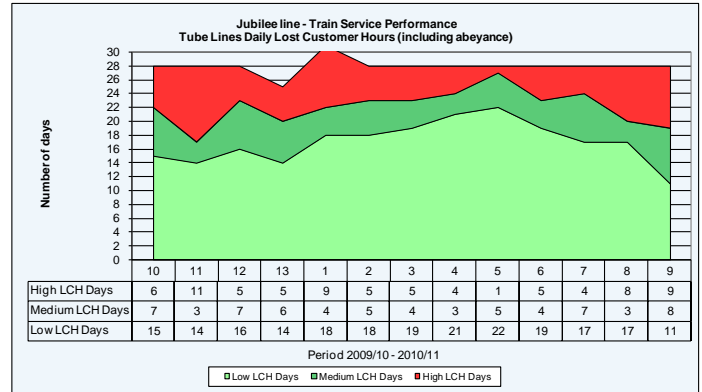
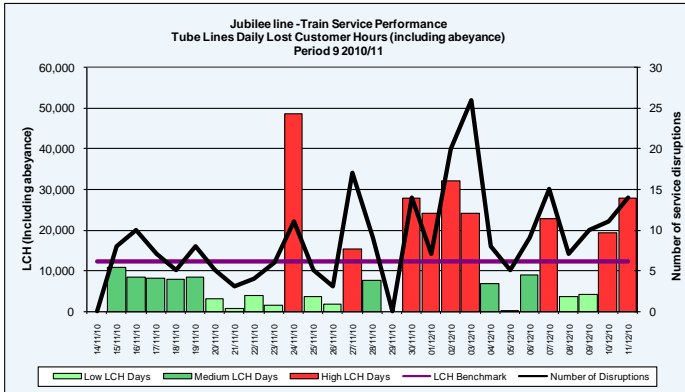
Period 9 2010/11



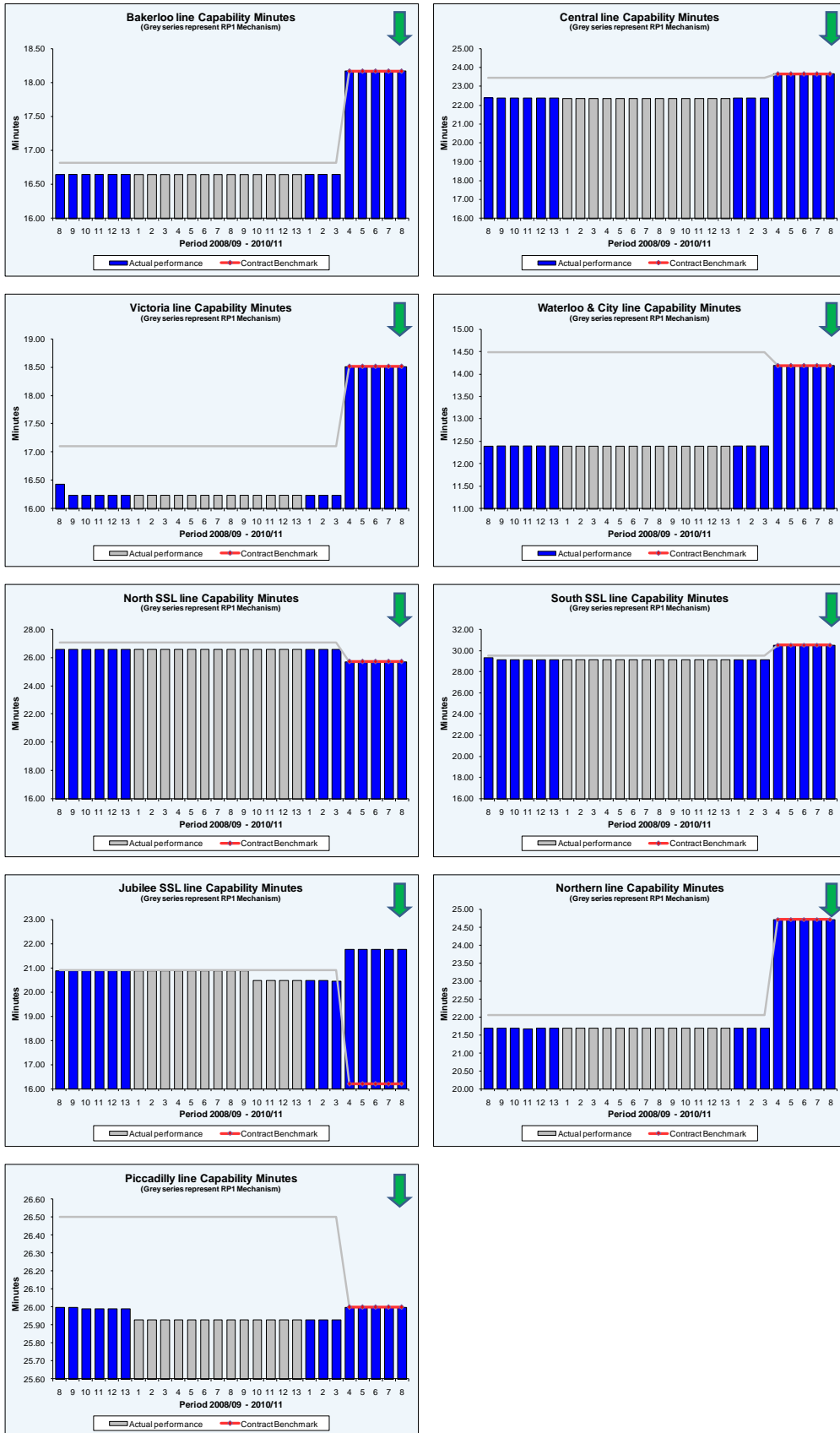
Period 9 2009/10 - High LCH Days				
Line	Date	No. of incidents	LCH for day	Description of major incidents
Jubilee	24/11/10	10	48,531	Train withdrawn after developing an over speed indication in car - 41,356 LCH.
Jubilee	27/11/10	10	15,277	Train withdrawn after Doors Closed visuals could not be obtained in unit - 10,361 LCH.
Jubilee	30/11/10	10	27,772	Train withdrawn due to loss of pilot light on unit - 15,032 LCH. Train withdrawn due to the doors failing to close - 5,798 LCH. Train withdrawn due to a track circuit failure - 3,182 LCH.
Jubilee	01/12/10	5	24,209	Service suspension due to track circuit failure - 20,832 LCH.
Jubilee	02/12/10	14	32,248	Train withdrawn due to a critical alarm stating the Mainline air pressure was low - 13,024 LCH. Train withdrawn due to in-cab CCTV failure - 4,614 LCH. Train delayed due to snow and ice on door runners - 4,362 LCH.
Jubilee	03/12/10	17	24,060	Train delayed due to a points failure - 5,697 LCH. Two trains withdrawn due to in-cab CCTV failure - 9,286 LCH.
Jubilee	07/12/10	9	22,723	Train delayed to a defective handset in unit - 7,808 LCH. Train withdrawn due to door irregularity - 2,917 LCH. Train withdrawn due to ATP fault - 2,838 LCH.
Jubilee	10/12/10	8	19,353	Service suspension due to a cracked rail - 8,221 LCH. Train withdrawn due to defect - 5,805 LCH. Train withdrawn due to an ongoing seat bay alarm - 1,830 LCH.
Jubilee	11/12/10	10	27,811	Train delayed due to defect - 10,934 LCH. Train delayed due to tracks underneath it and ahead of it closed - 8,122 LCH. Service suspension due to train gapped - 6,155 LCH.
Northern	17/11/10	6	21,762	Service suspension due to loss of traction - 20,450 LCH.
Northern	18/11/10	8	14,016	Train delayed arriving at Old Street platform due to signals failing to clear - 12,282 LCH.
Northern	01/12/10	11	28,582	Train delayed arriving at Clapham South due to signals failing to clear - 26,008 LCH.
Northern	02/12/10	17	12,216	Train withdrawn due to TMS indicating saloon communication fault - 1,942 LCH. Train delays due to signal failing to clear on two separate occasions - 3,550 LCH.
Piccadilly	03/12/10	5	9,701	Train withdrawn due to mainline burst - 6,454 LCH. Train delayed due to loss of signal control in the Northfields area - 2,664 LCH.
Piccadilly	08/12/10	3	8,108	Trains delayed arriving and departing from Boston Manor due to signals remaining at danger - 5,907 LCH.
Piccadilly	11/12/10	6	9,383	Station closure due to loss of all Public Address system facilities, including emergency evacuation messages - 6,728 LCH.

Infraco JNP Availability performance by line – Train service impacts

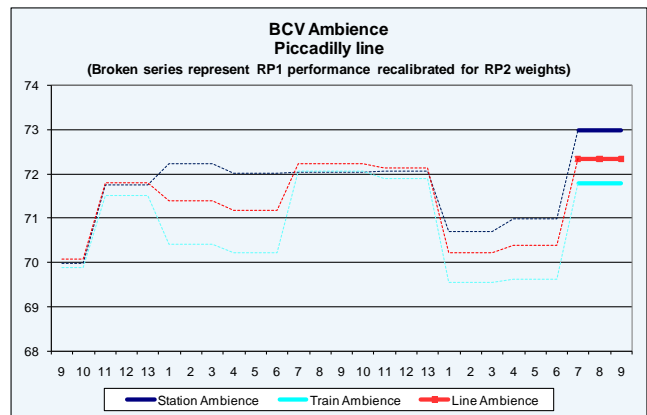
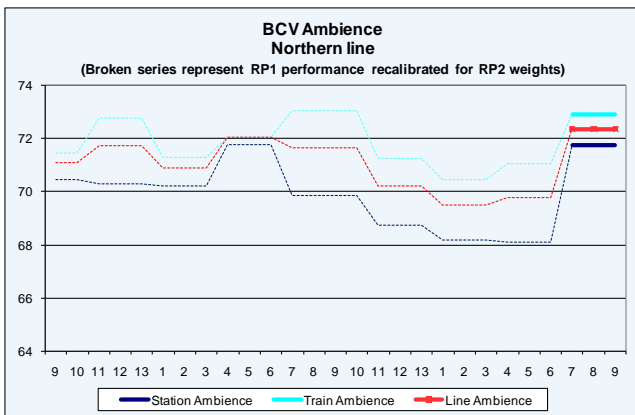
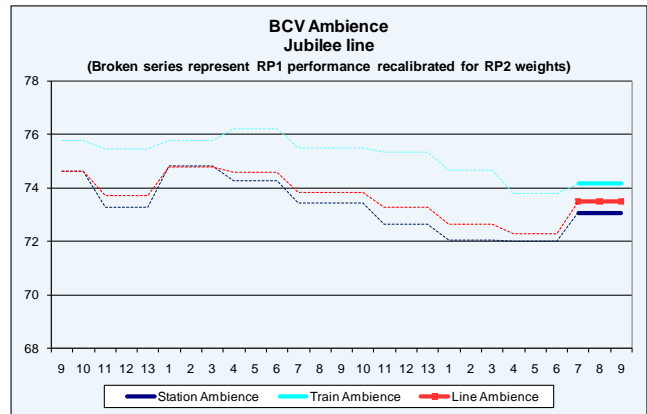
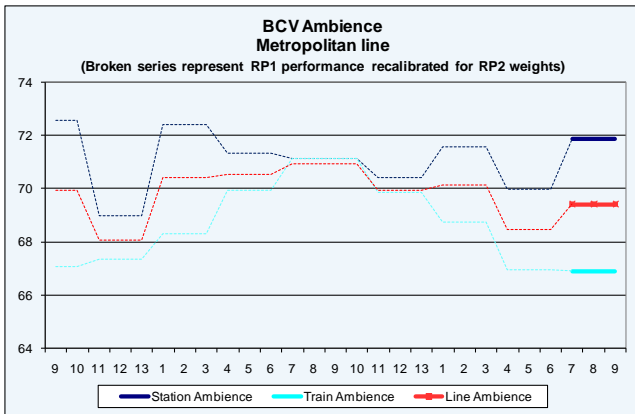
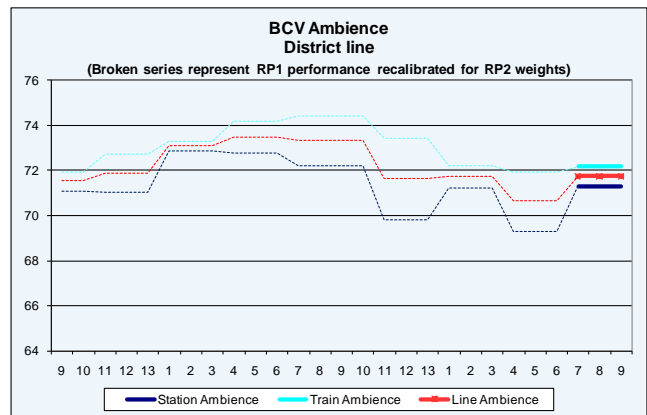
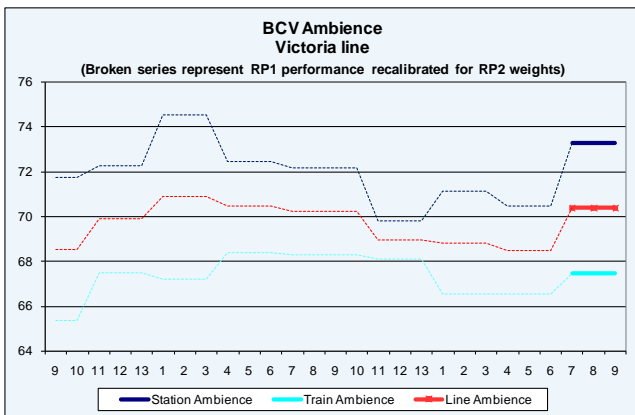
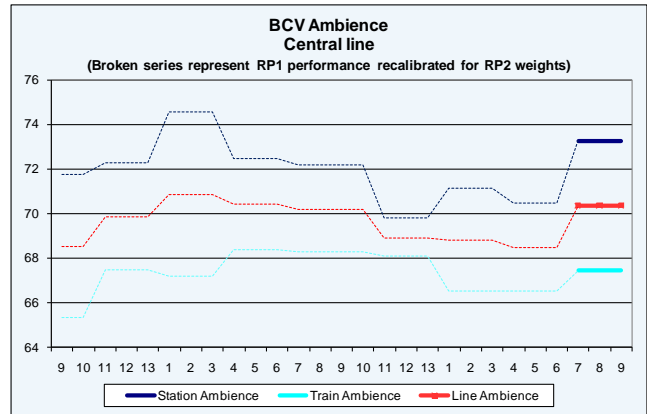
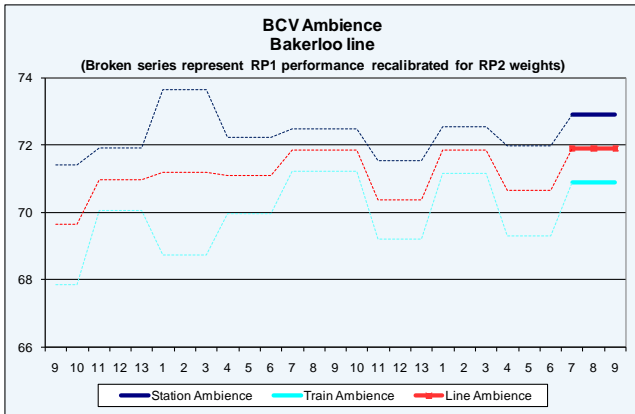
Period 9 2010/11



Capability performance (by line) (One Period in arrears)

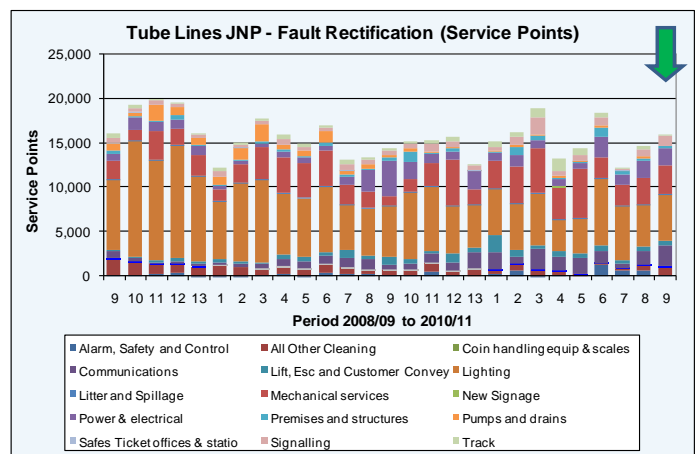
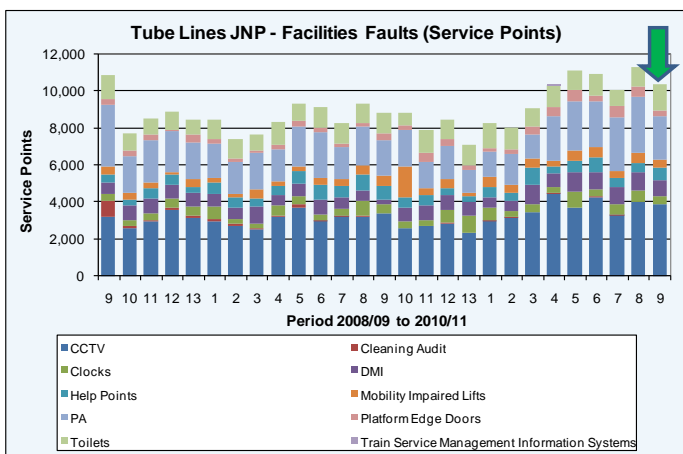
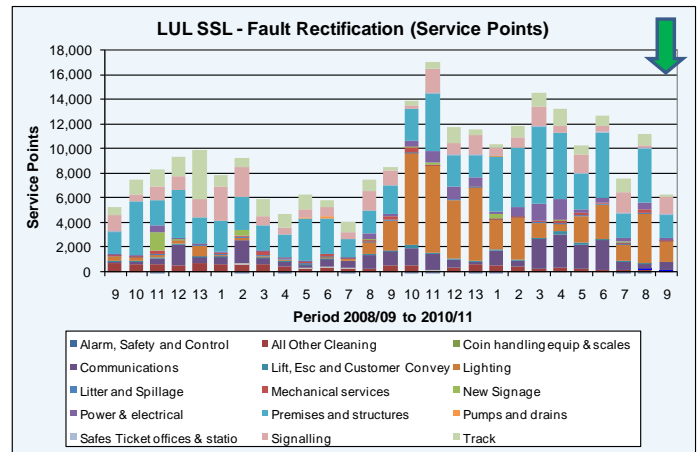
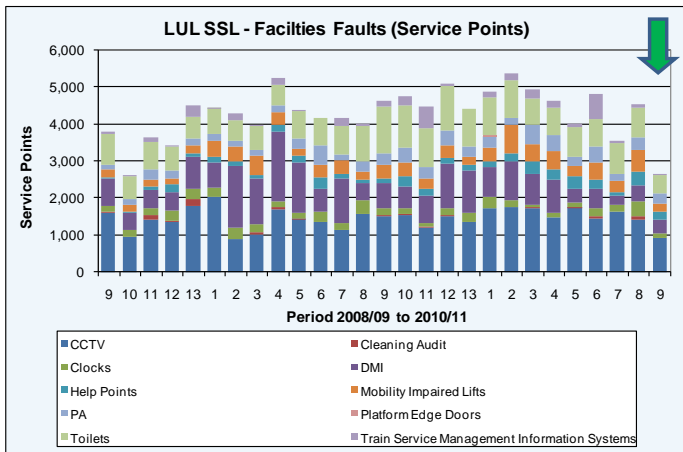
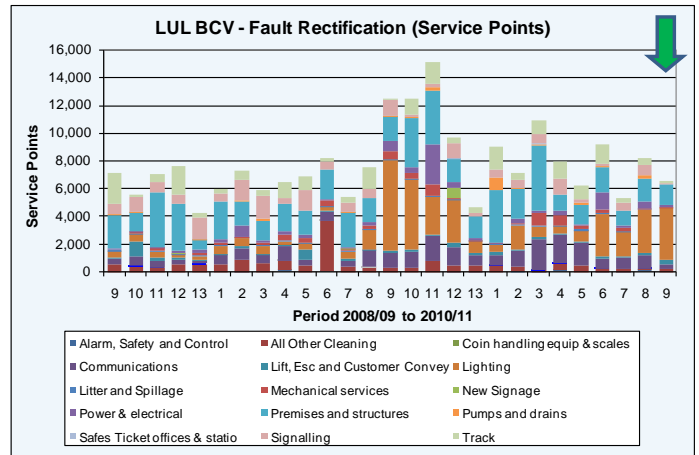
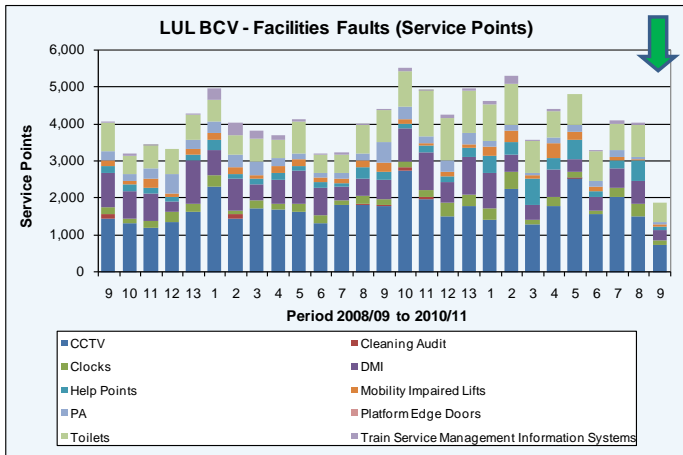


Ambience performance (by line)



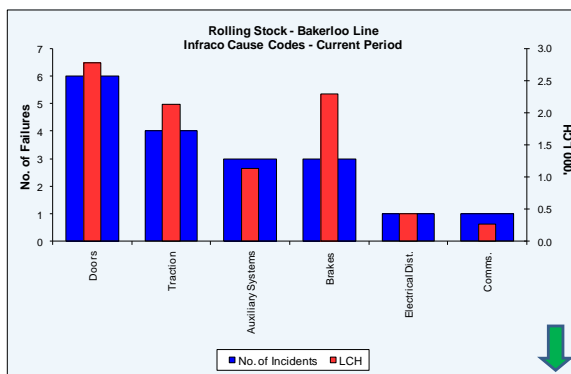
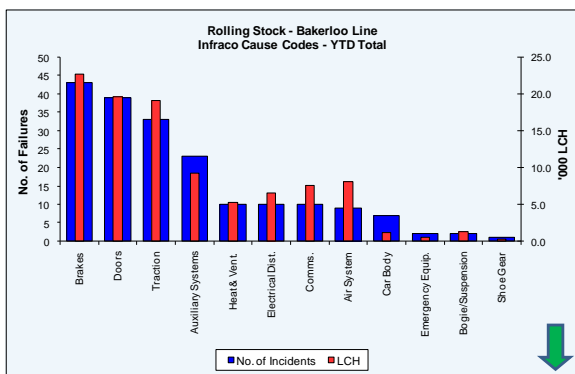
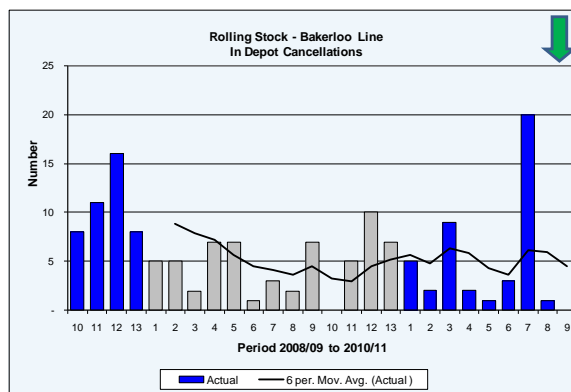
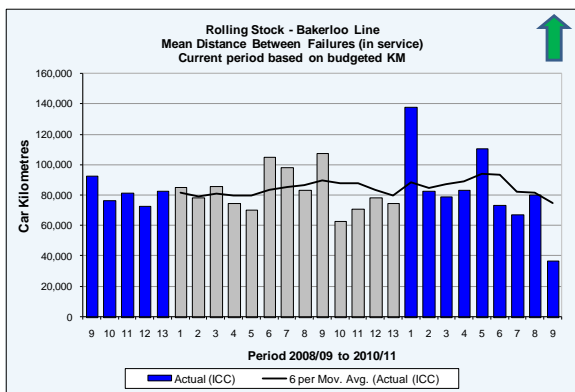
Service Point performance

(MIP lifts included under Facilities Faults)

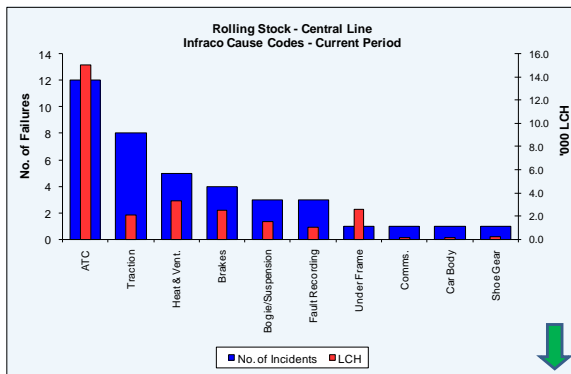
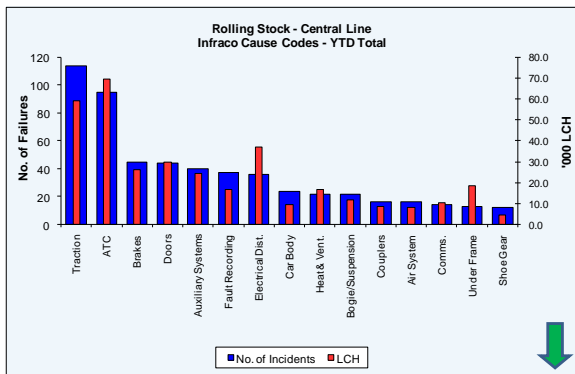
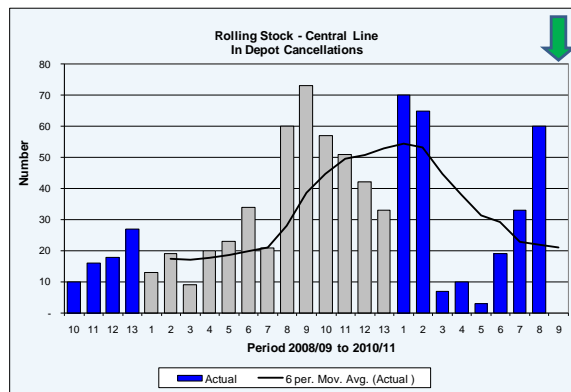
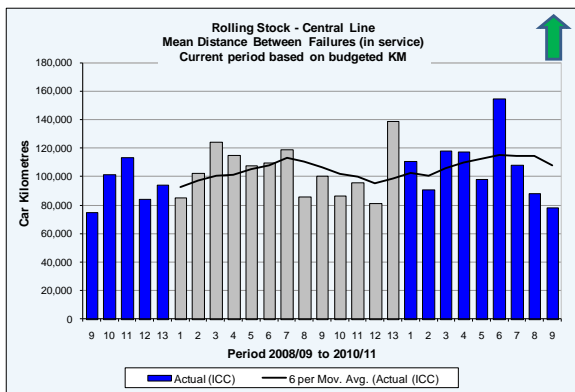


Rolling stock reliability performance (by line)

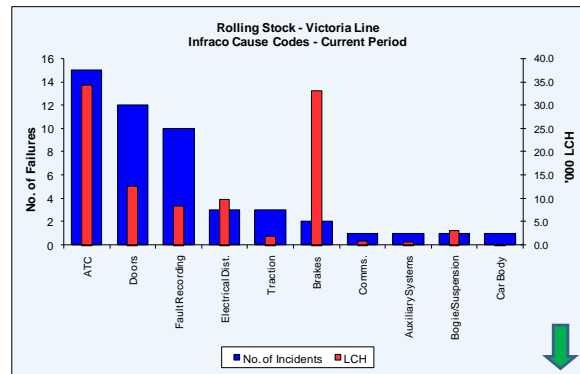
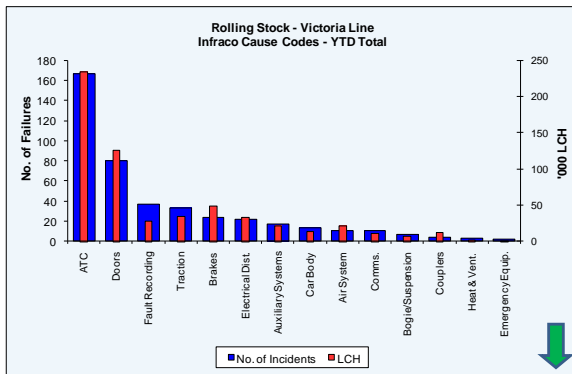
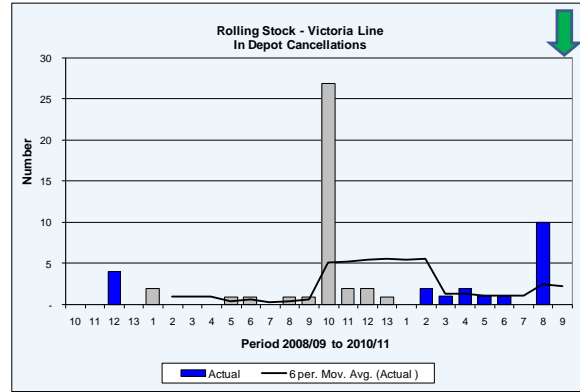
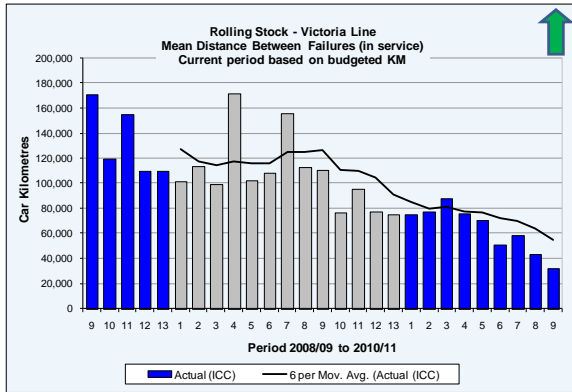
Bakerloo line



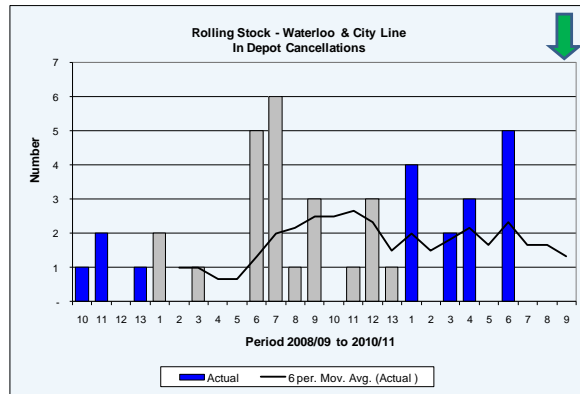
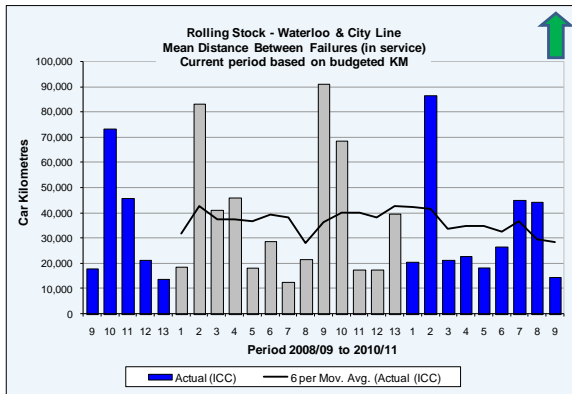
Central line



Victoria line

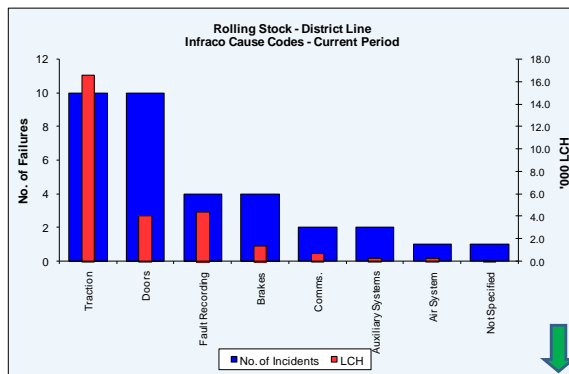
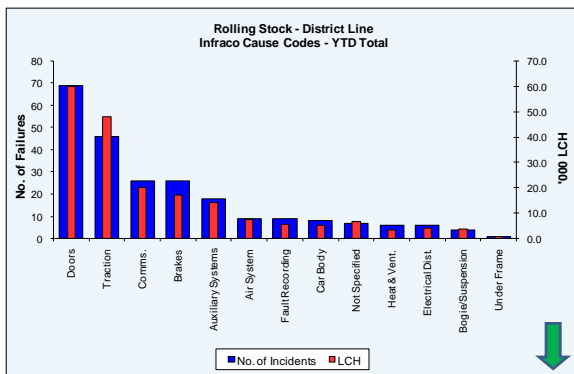
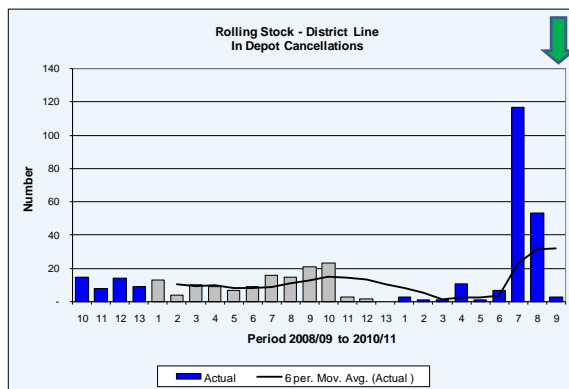
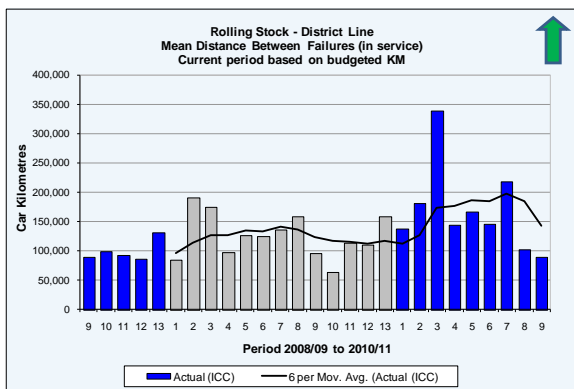


Waterloo & City line

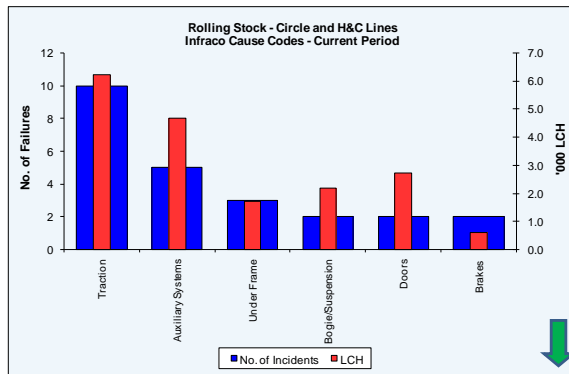
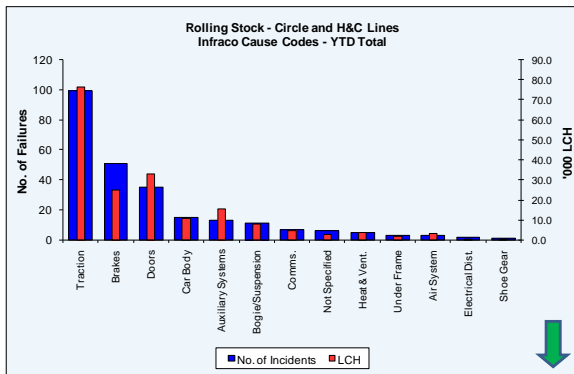
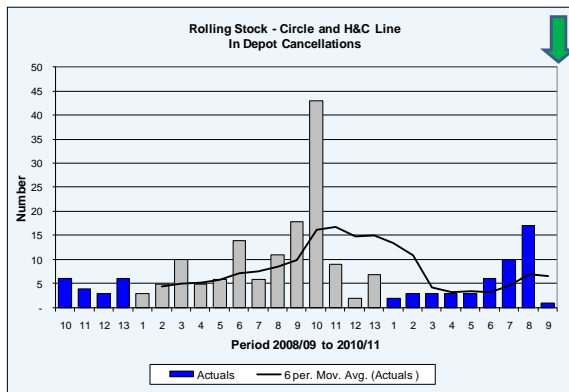
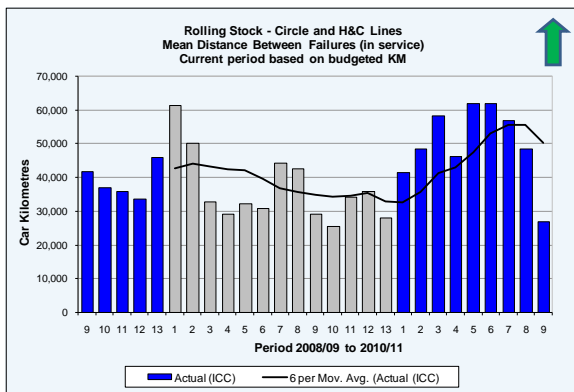


Note: Cause Codes for Waterloo & City line form part of reporting for Central Line stock

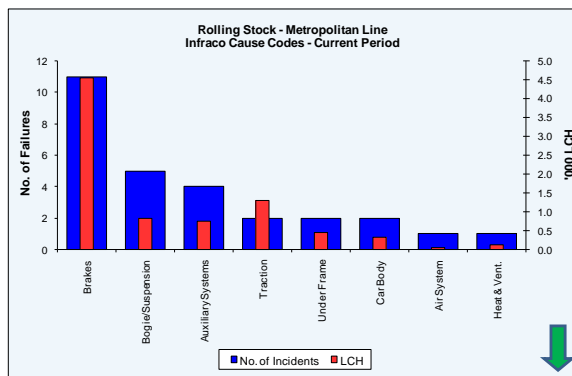
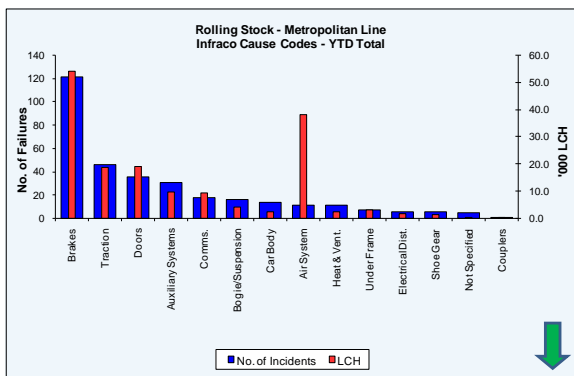
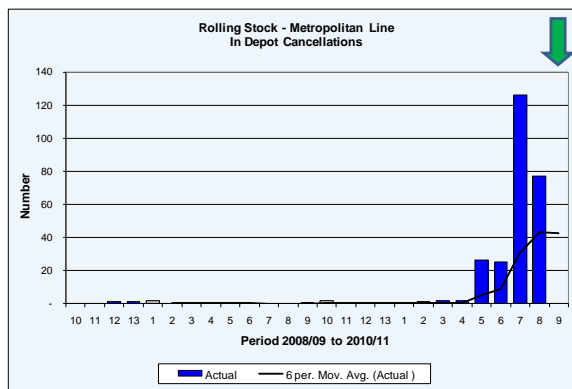
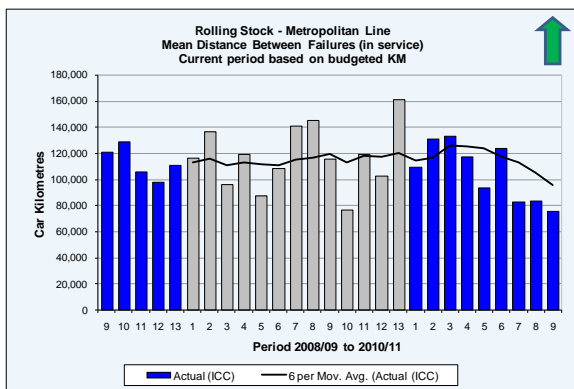
District line



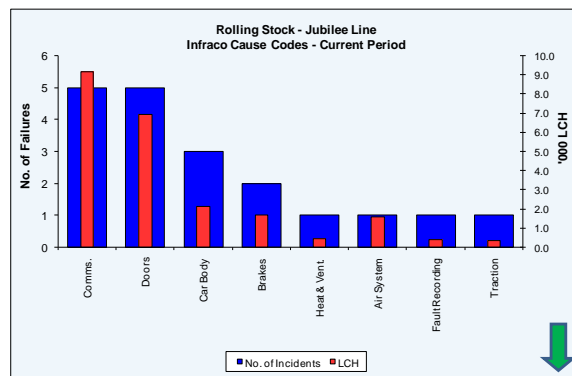
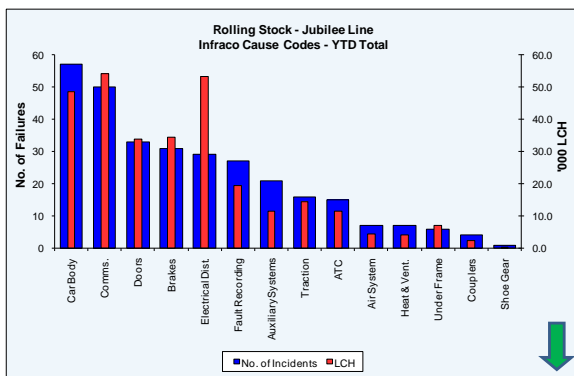
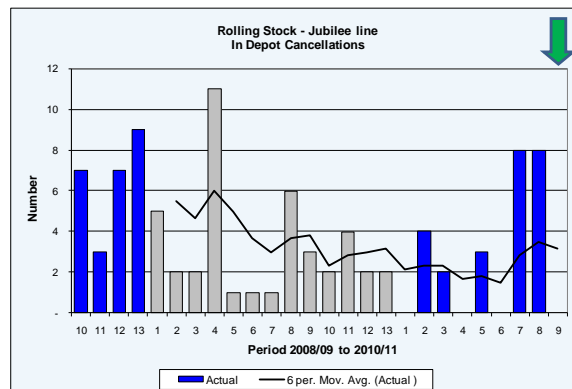
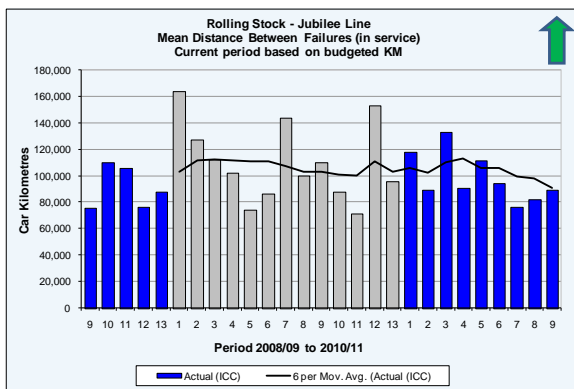
Circle and H&C lines



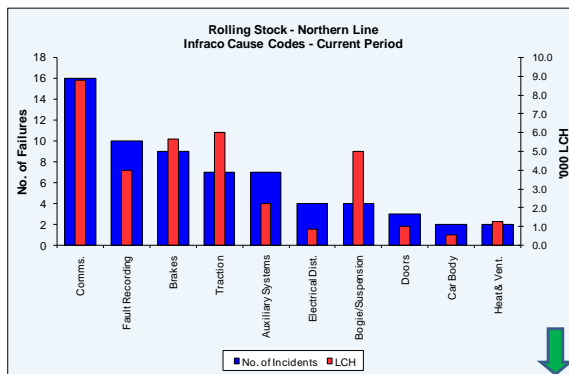
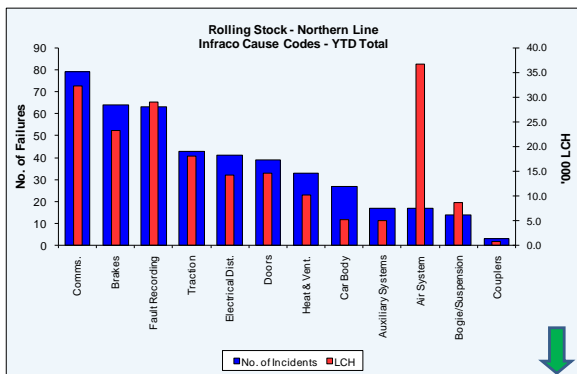
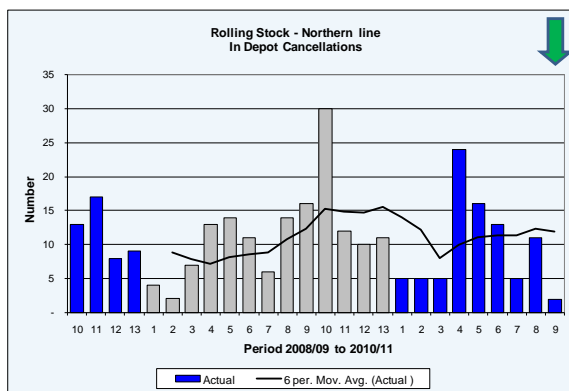
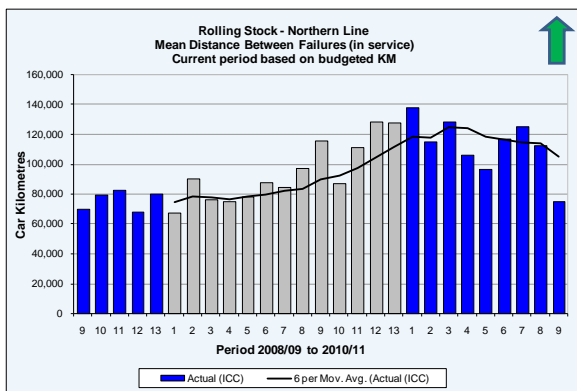
Metropolitan line



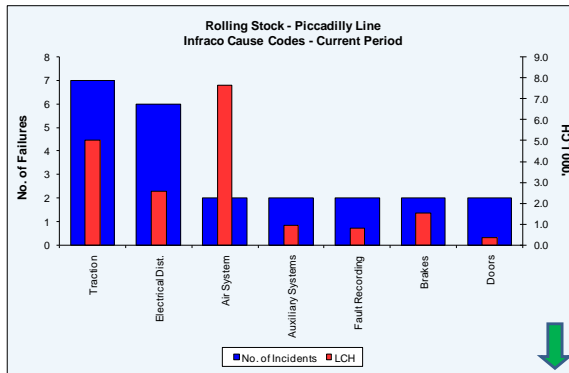
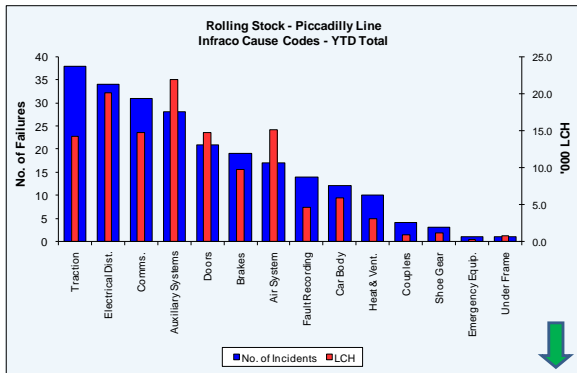
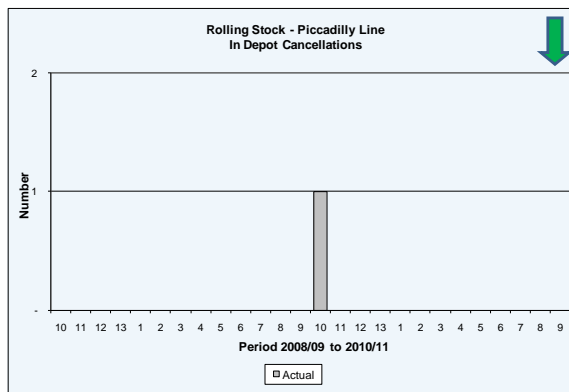
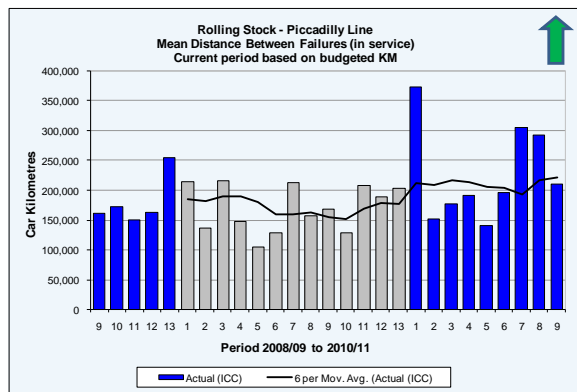
Jubilee line



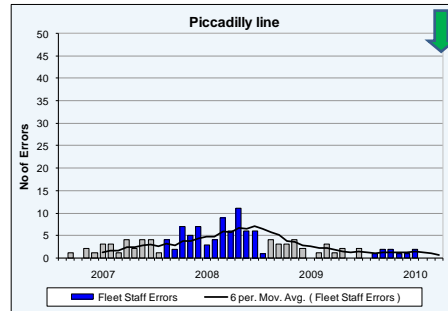
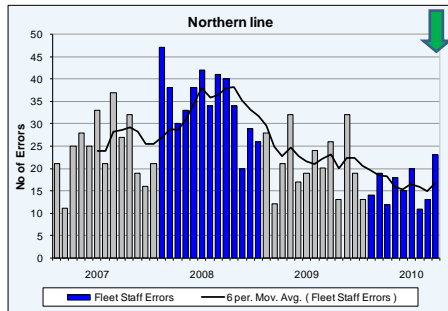
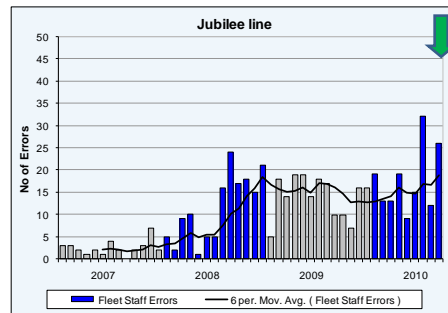
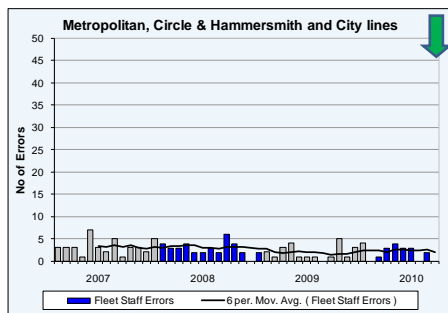
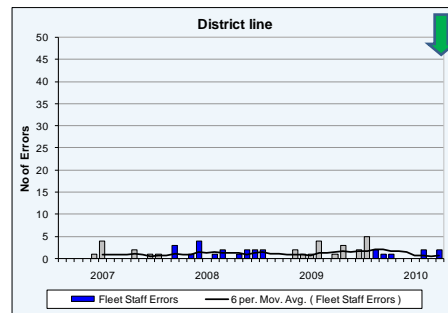
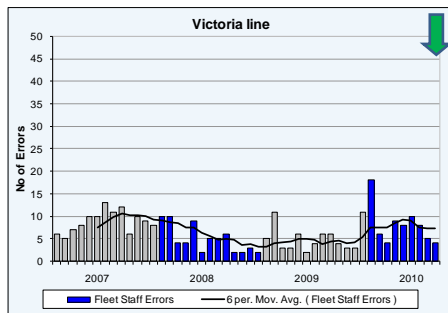
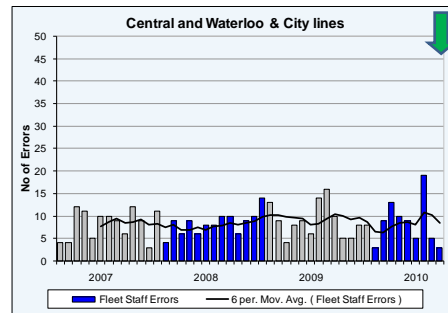
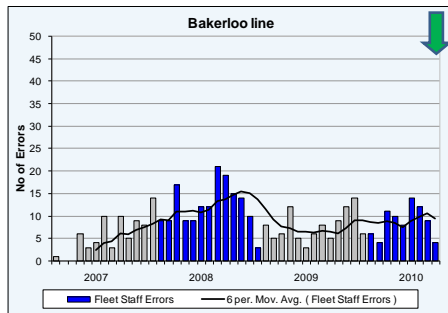
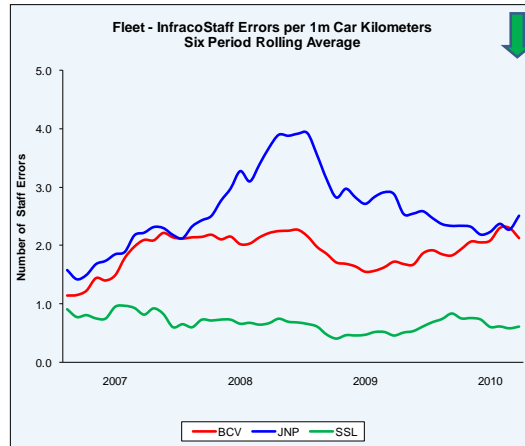
Northern line



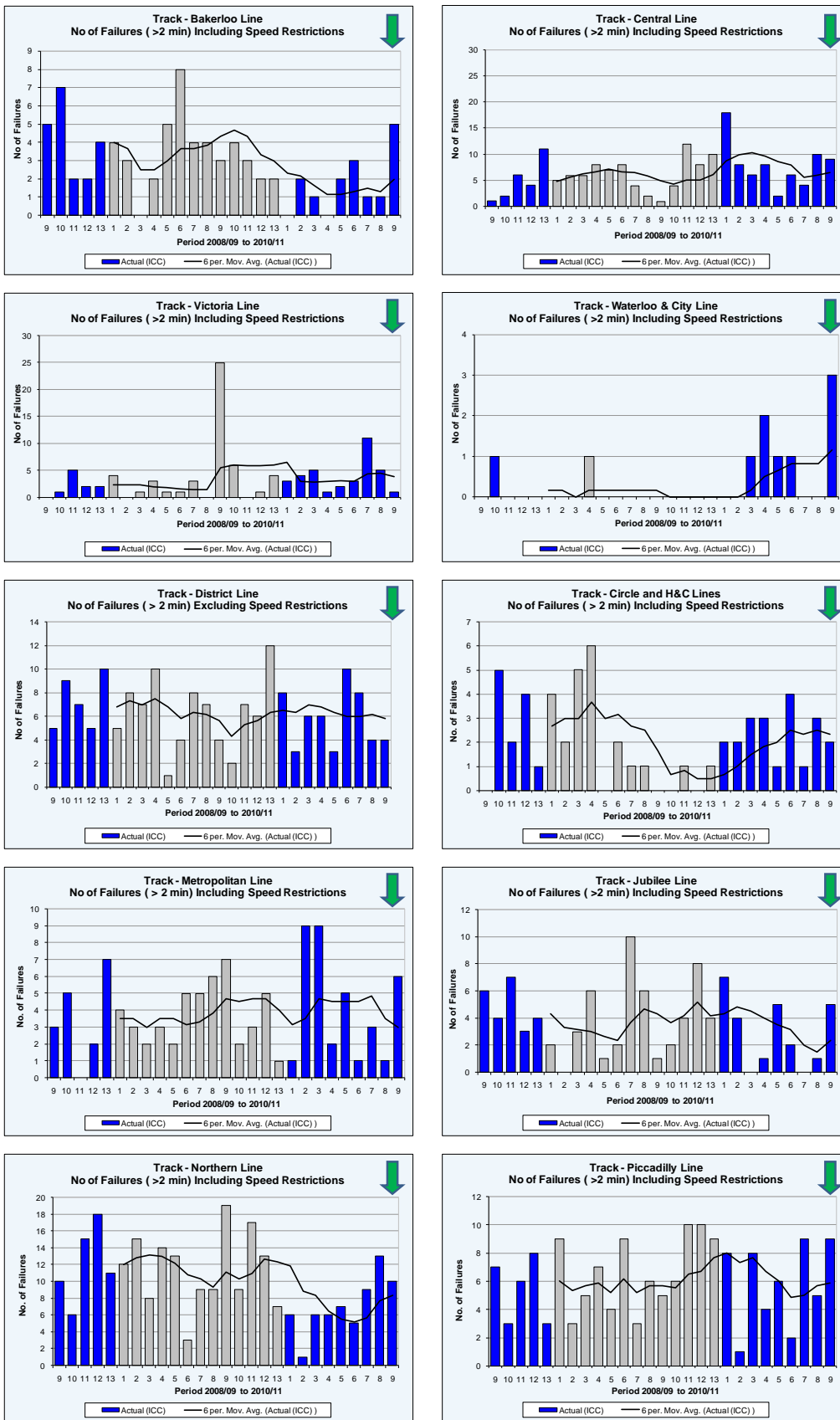
Piccadilly line



Rolling stock - Staff Errors resulting in Service Disruptions

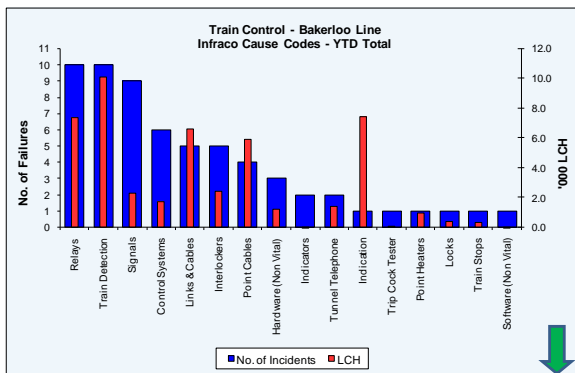
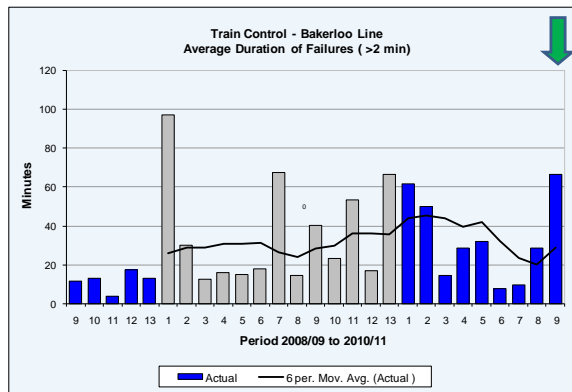
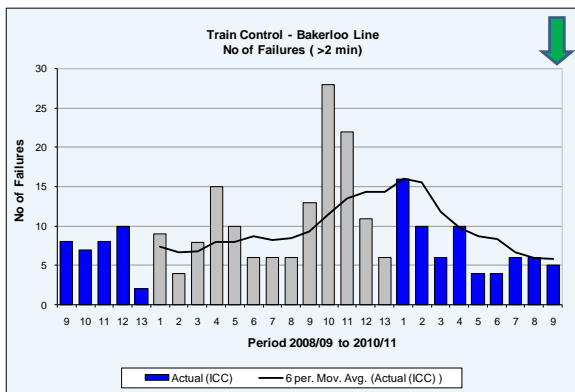


Track reliability performance (by line)

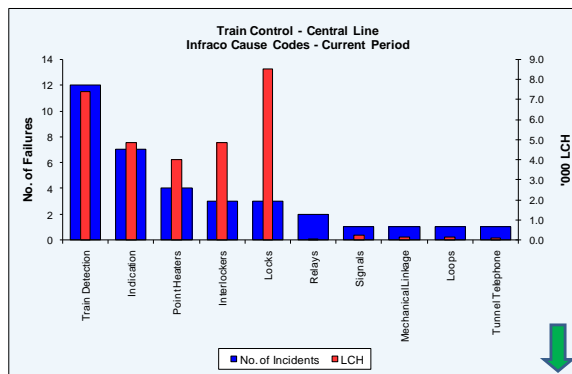
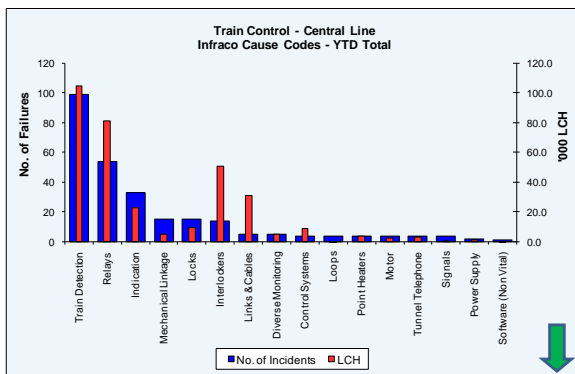
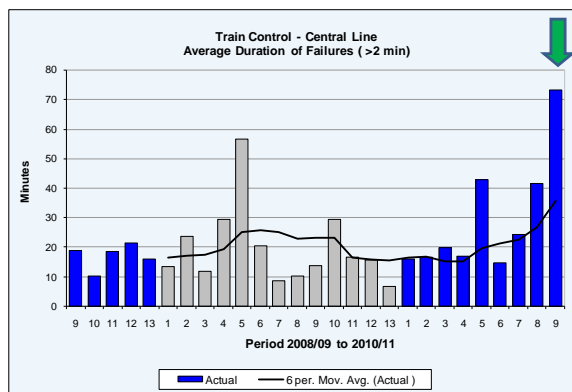
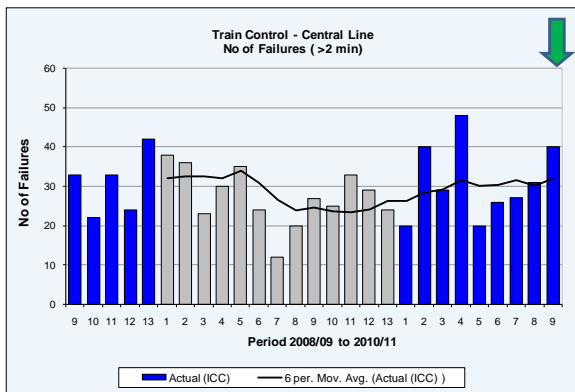


Train control reliability performance (by line)

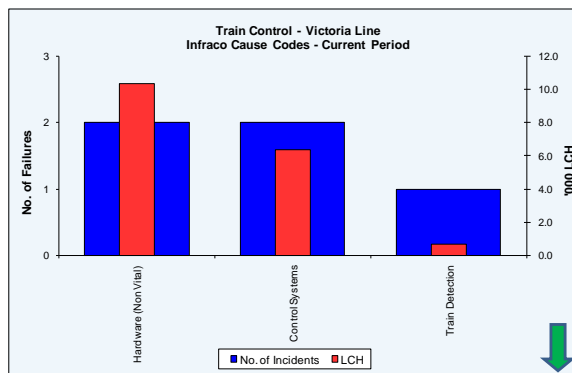
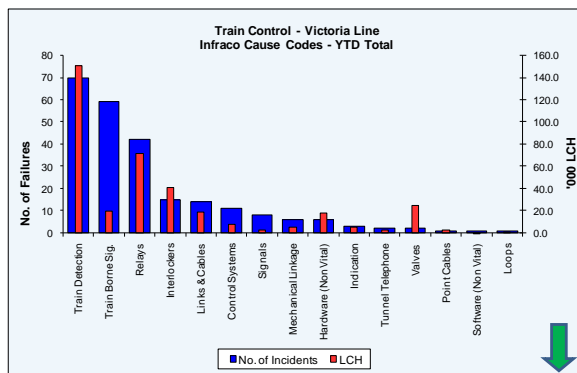
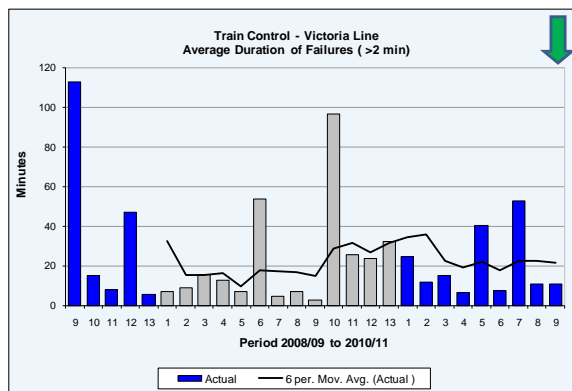
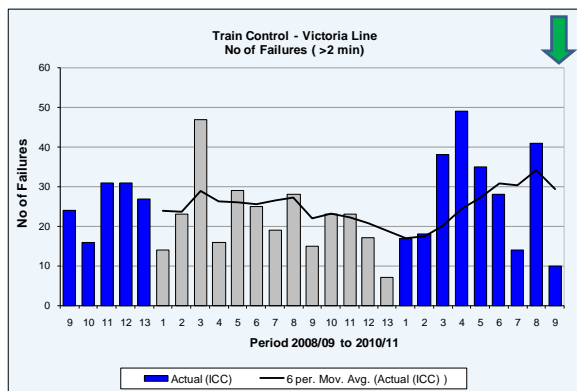
Bakerloo line



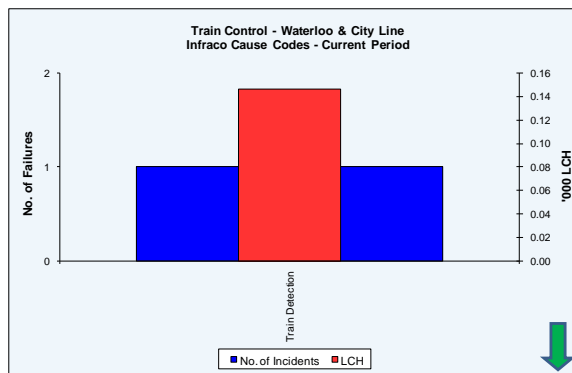
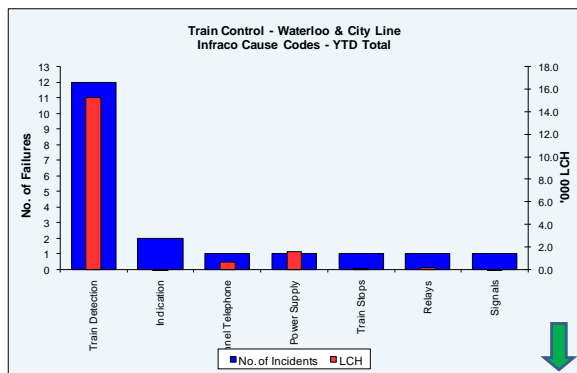
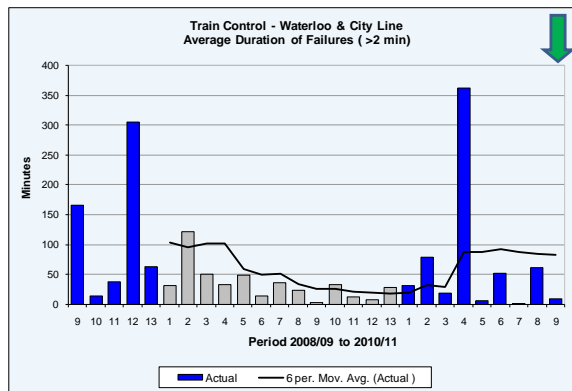
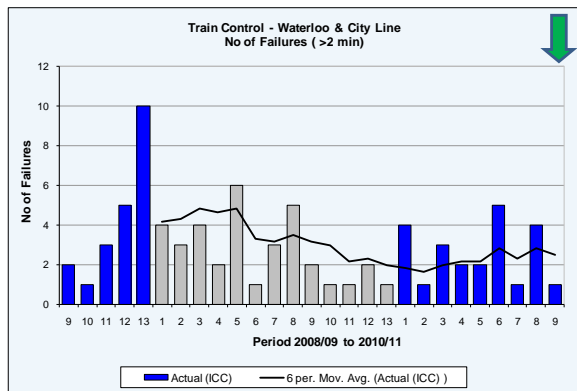
Central line



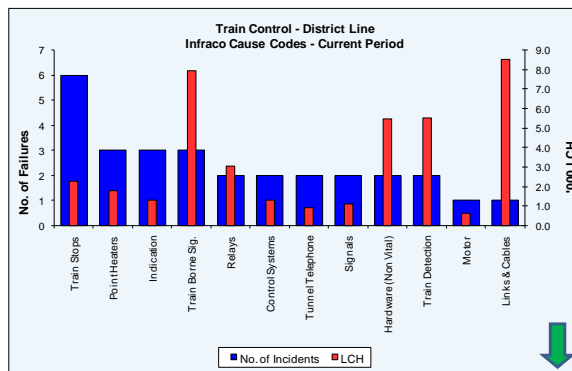
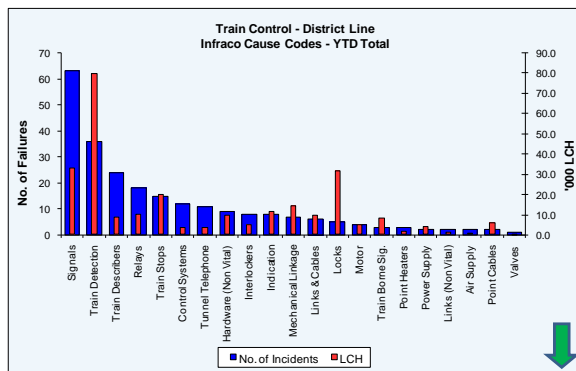
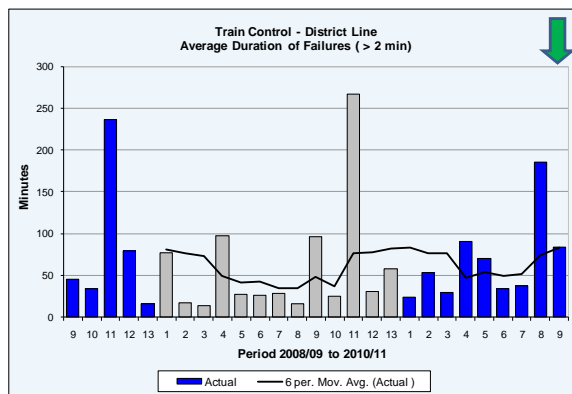
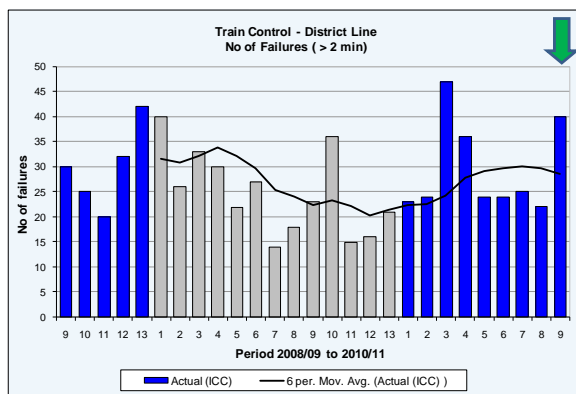
Victoria line



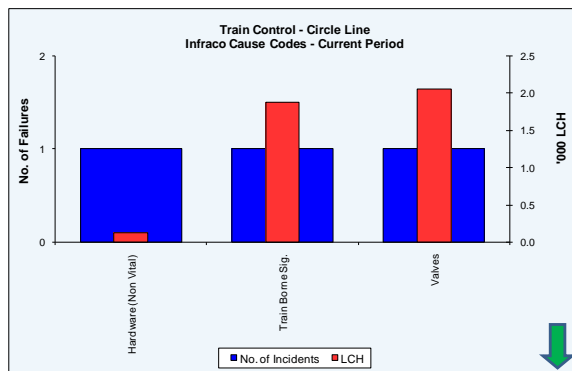
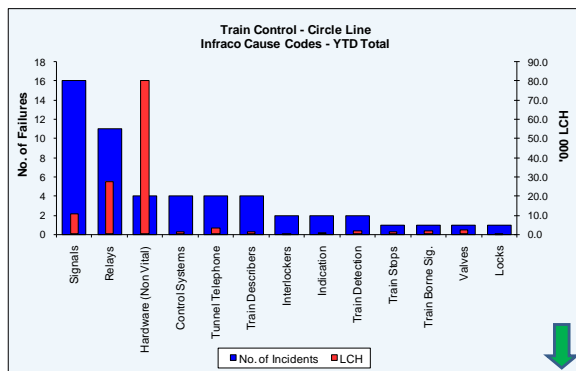
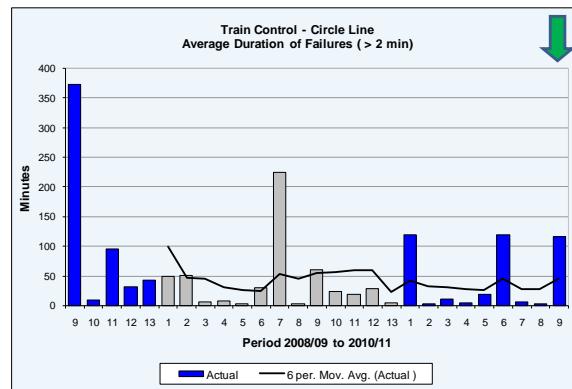
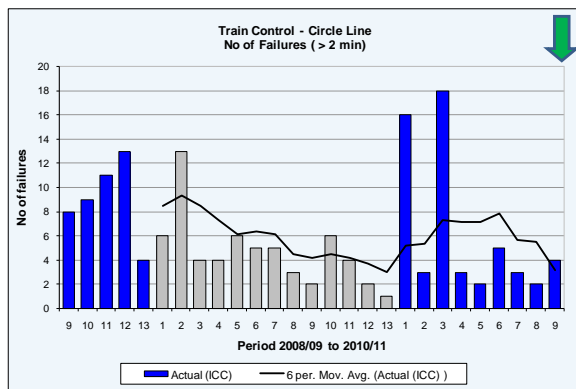
Waterloo & City line



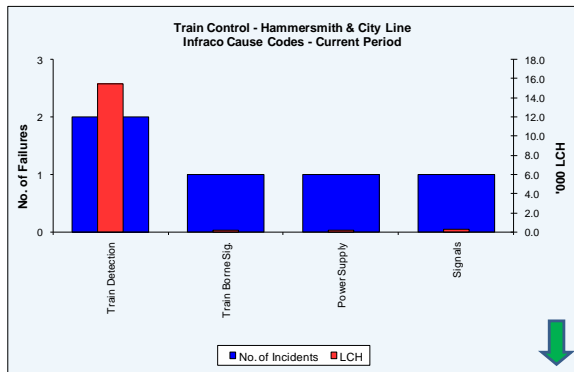
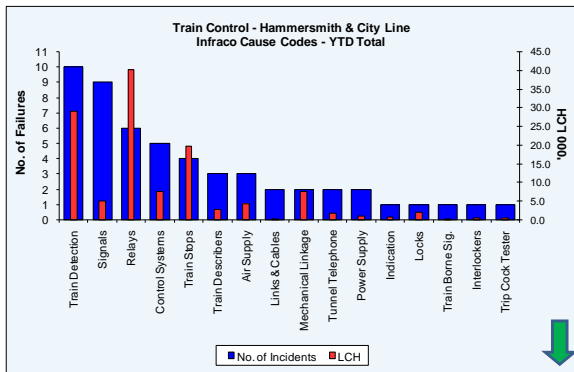
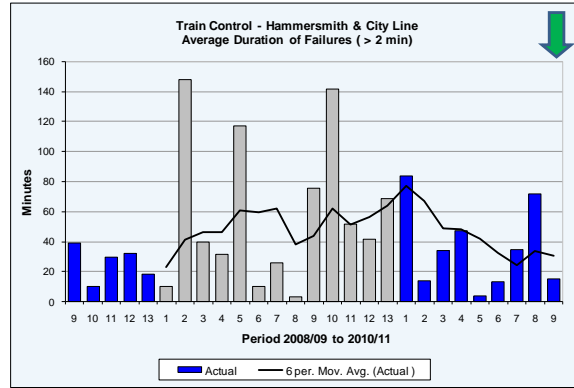
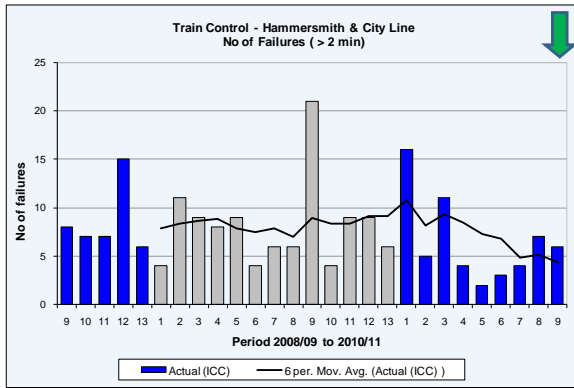
District line



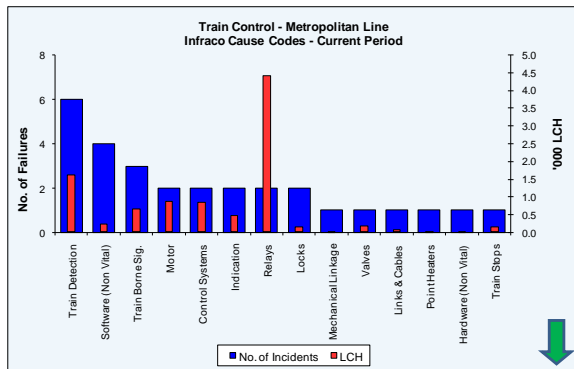
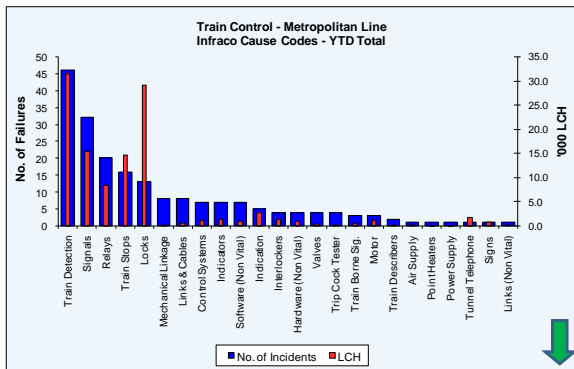
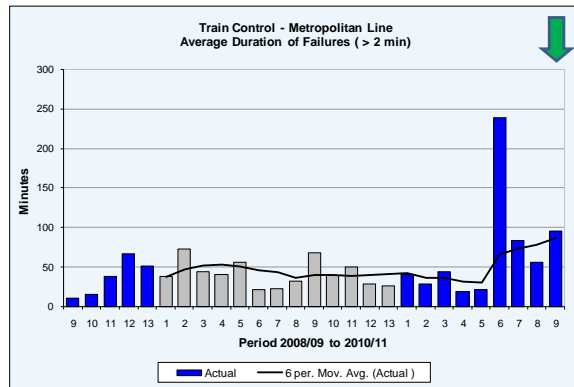
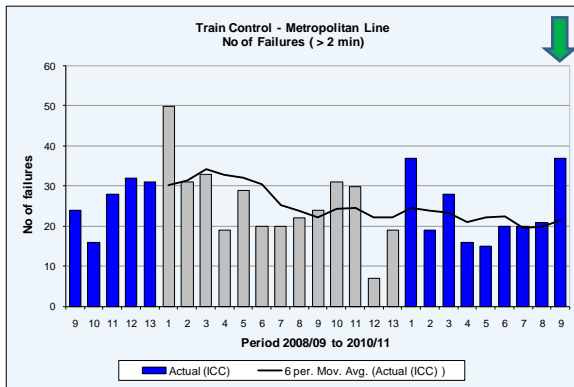
Circle line



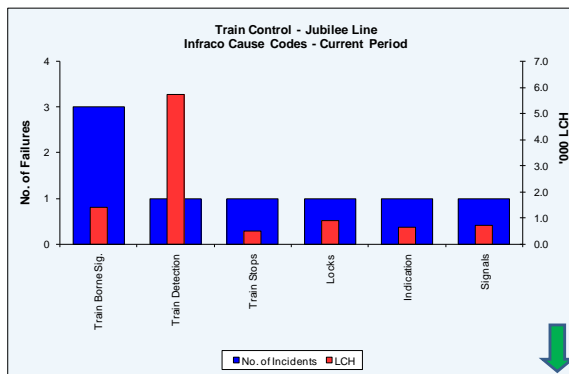
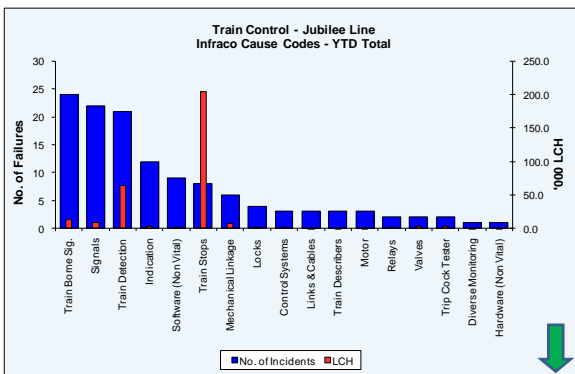
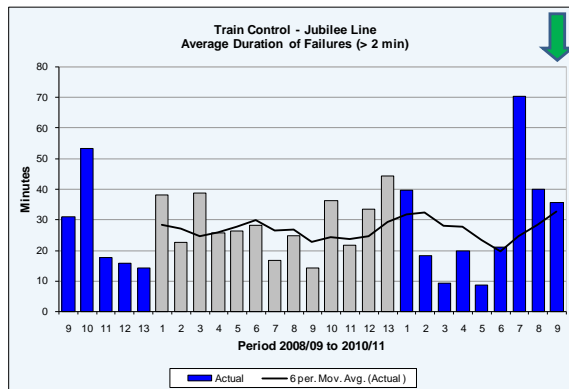
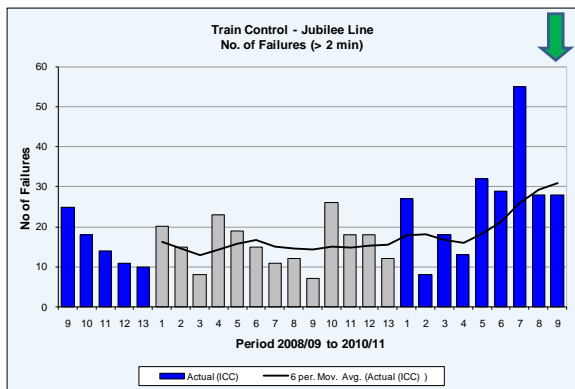
Hammersmith & City line



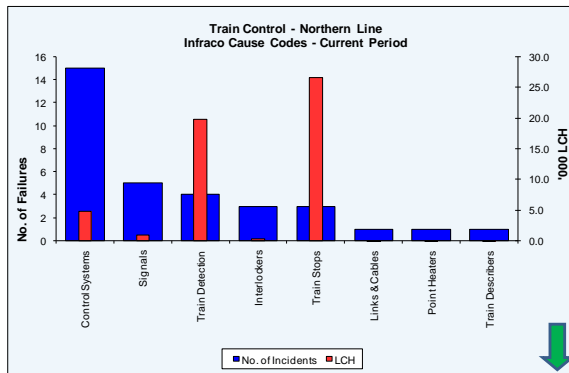
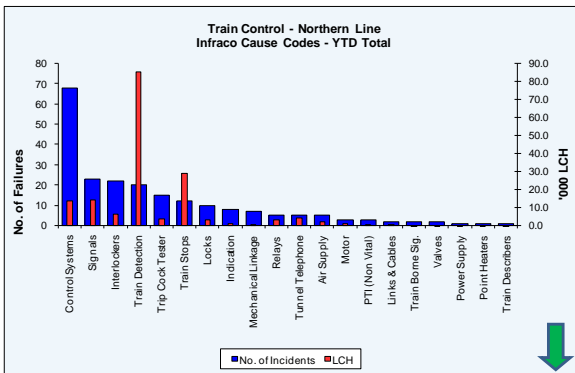
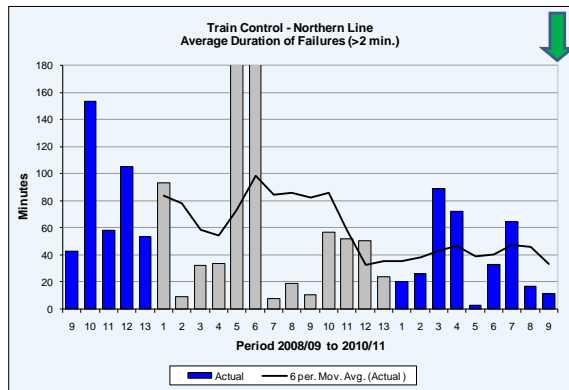
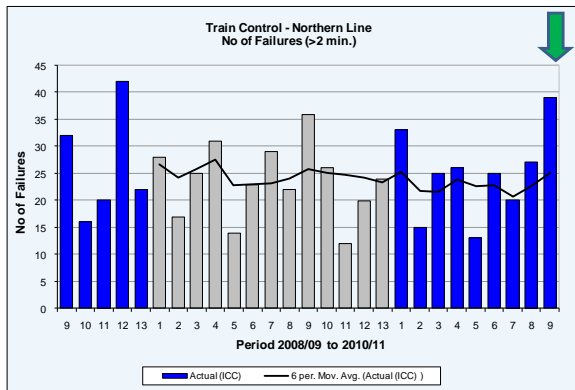
Metropolitan line



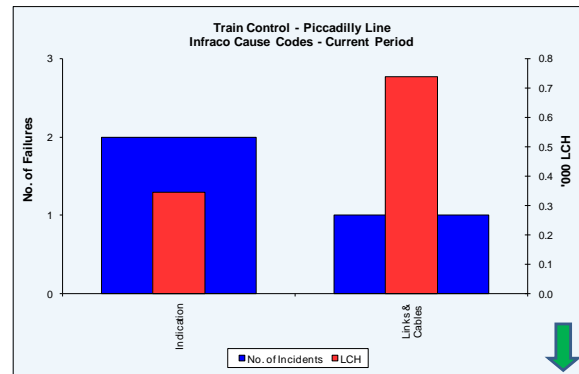
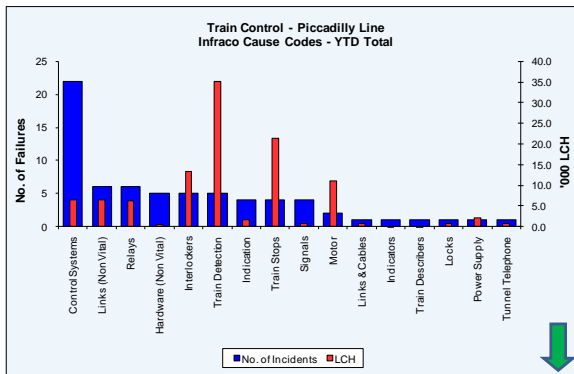
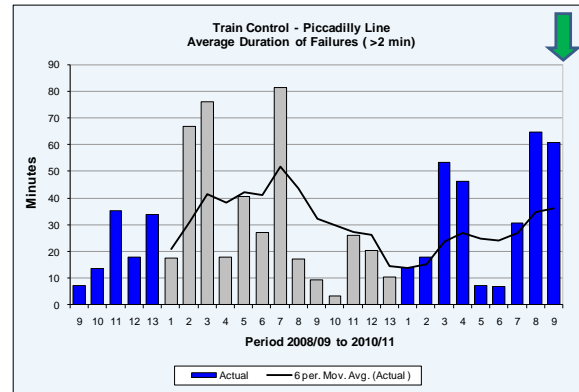
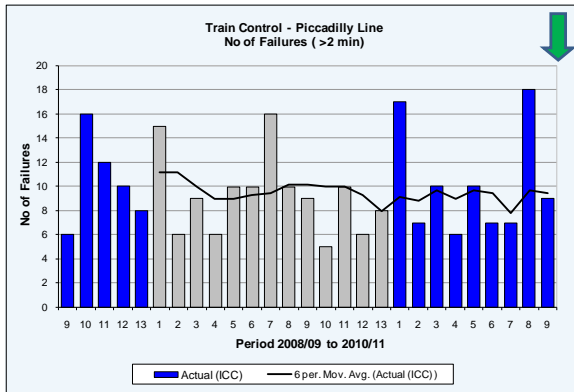
Jubilee line



Northern line

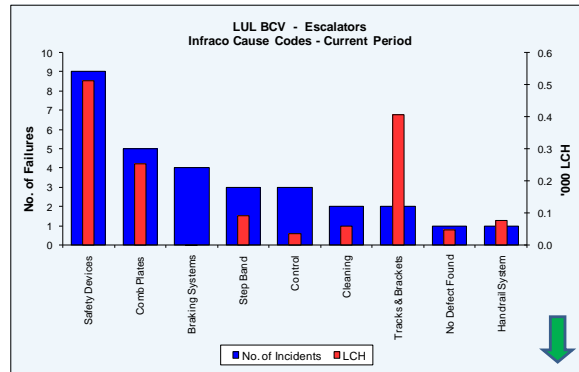
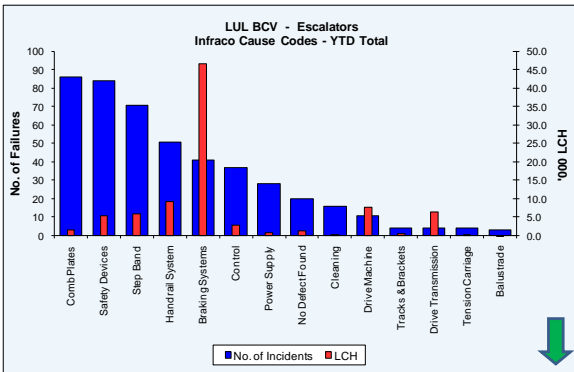
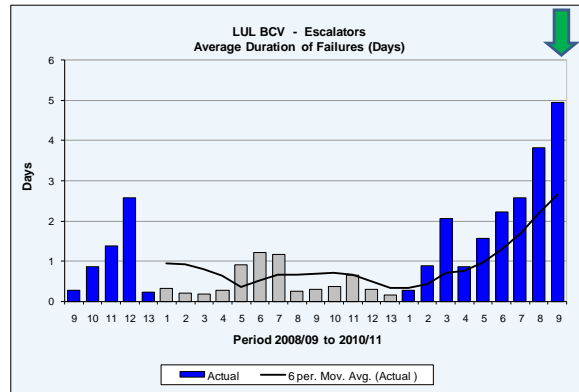
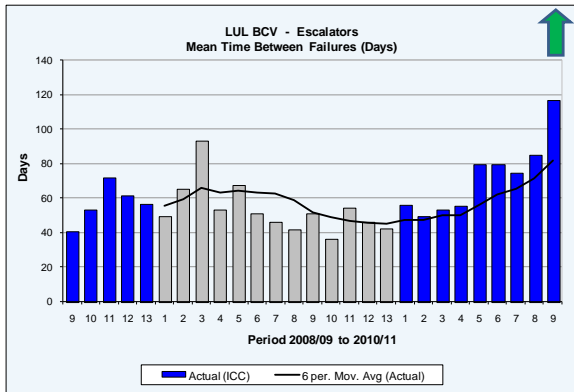


Piccadilly line

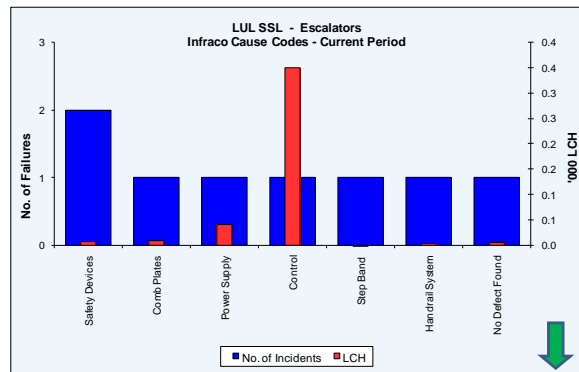
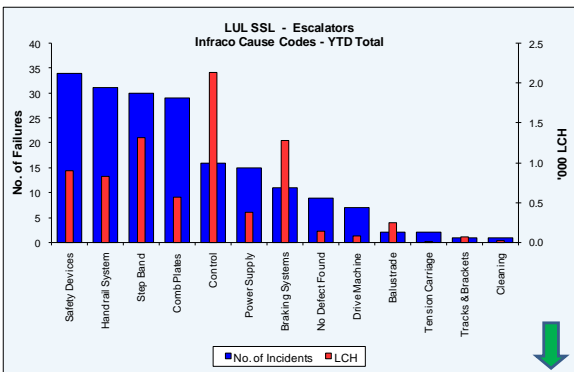
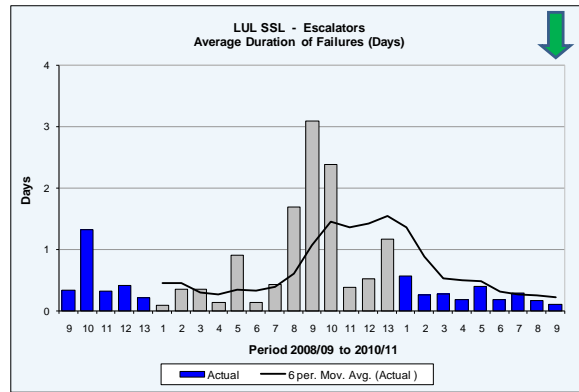
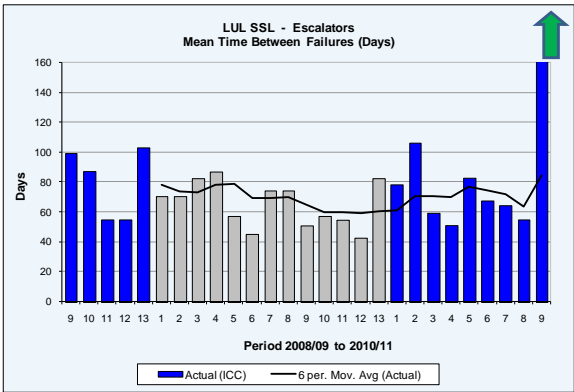


Escalator reliability and fix time performance (by Infraco)

Infraco BCV

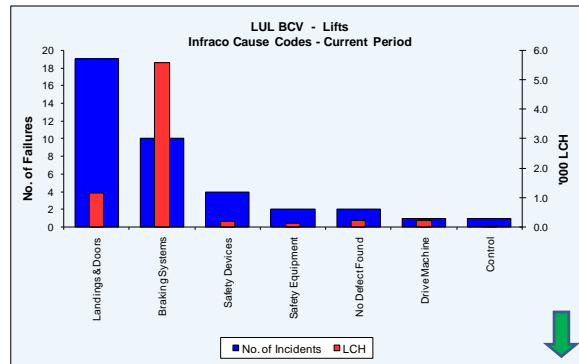
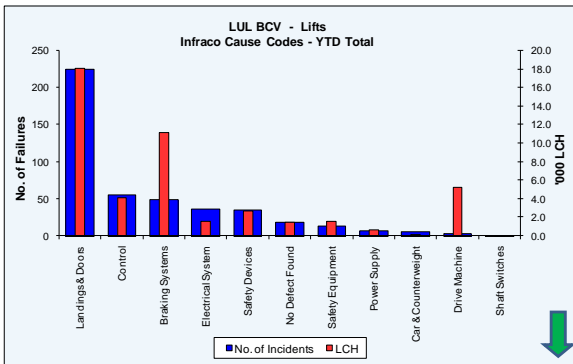
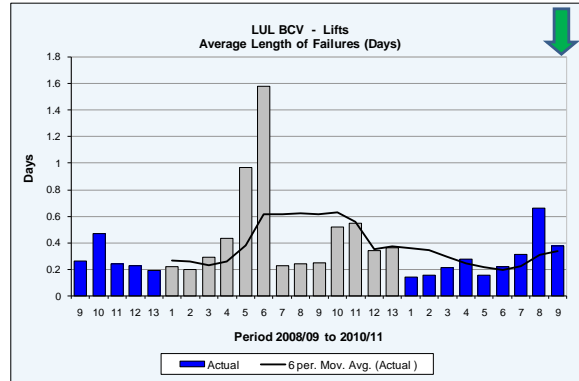
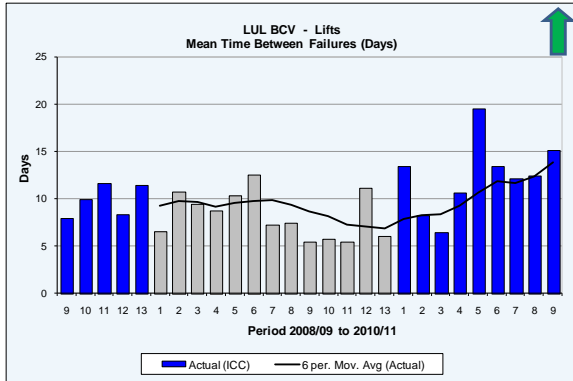


Infraco SSL

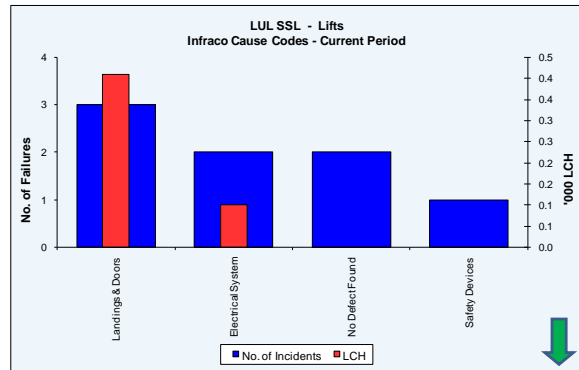
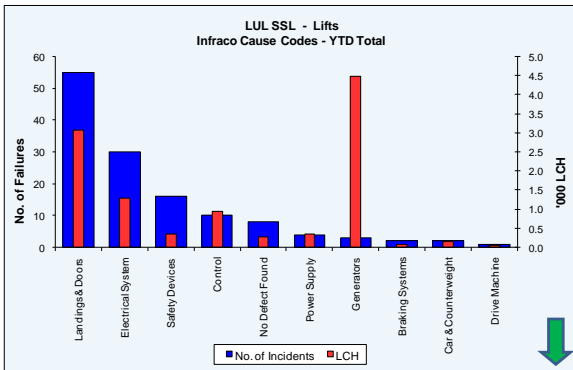
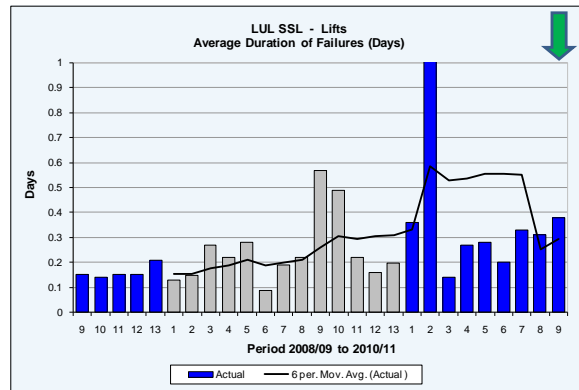
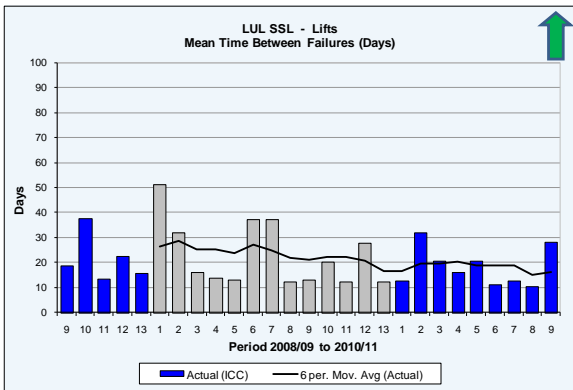


Lift reliability and fix time performance (by Infraco)

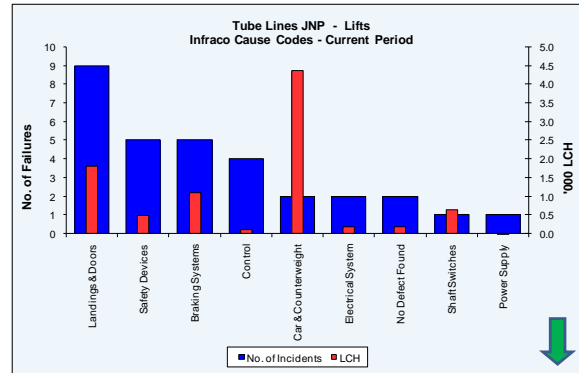
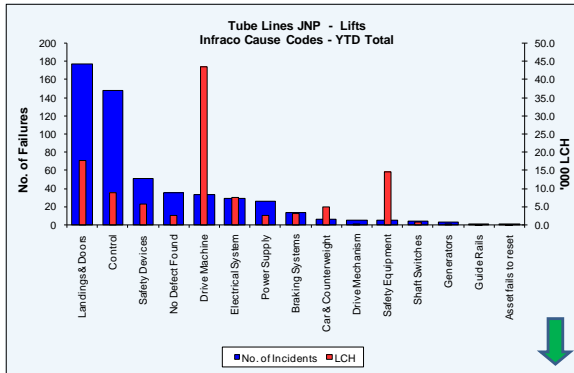
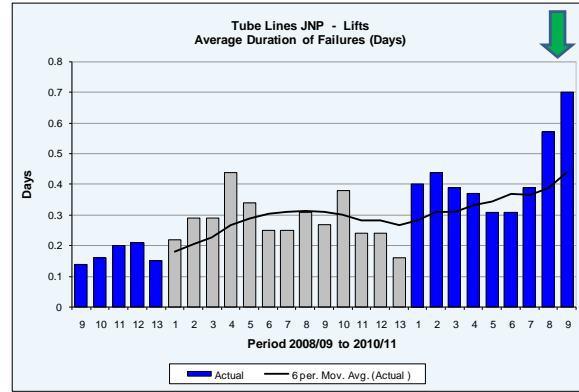
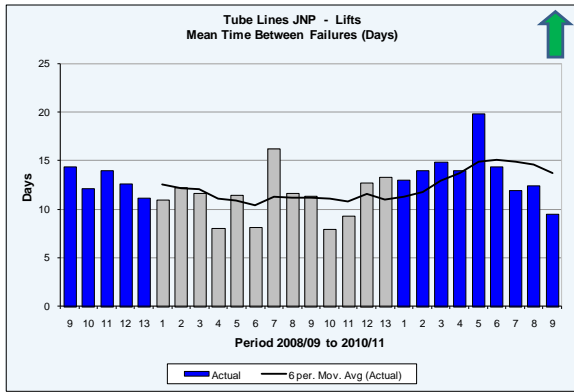
Infraco BCV



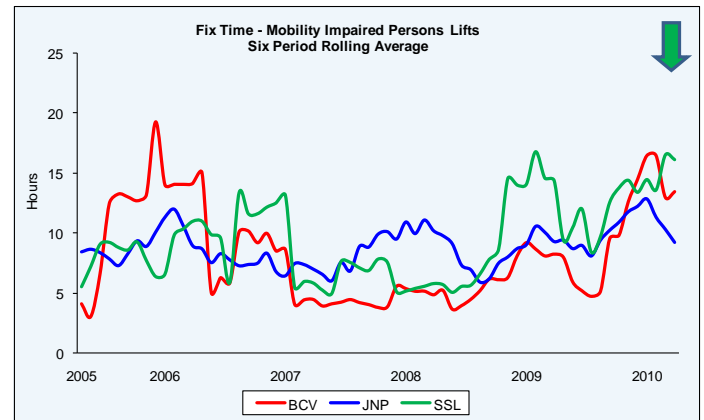
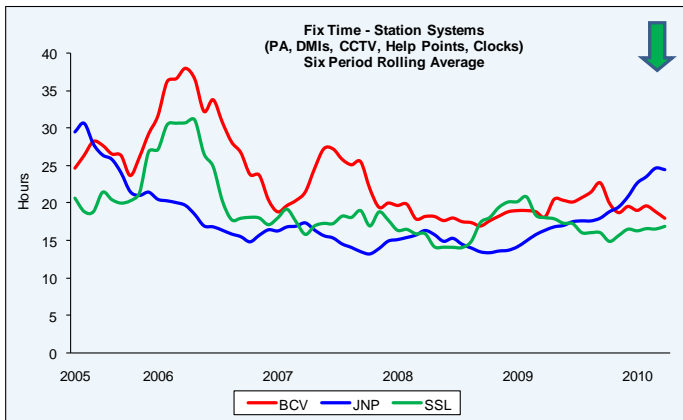
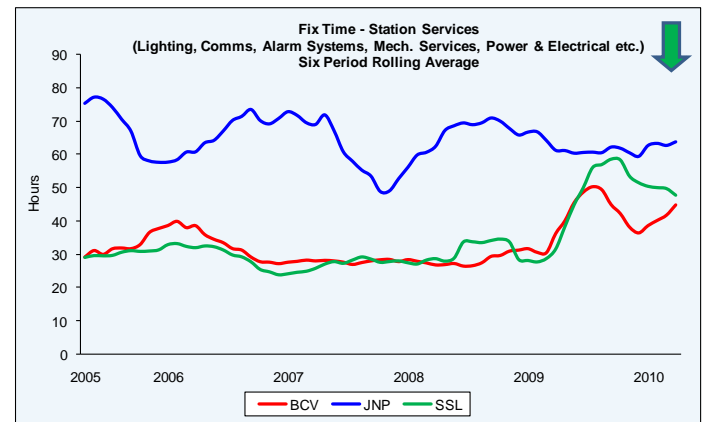
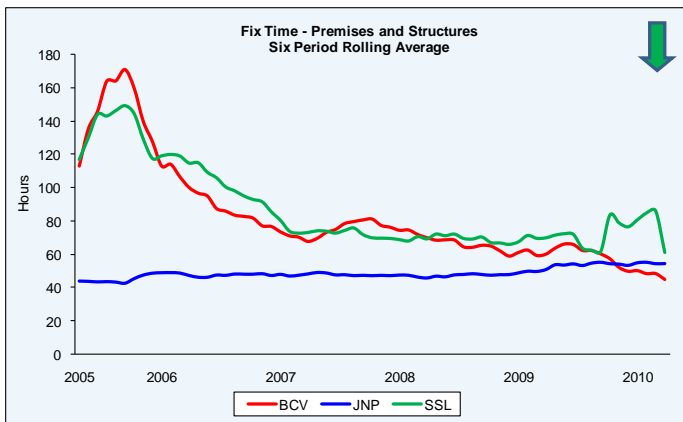
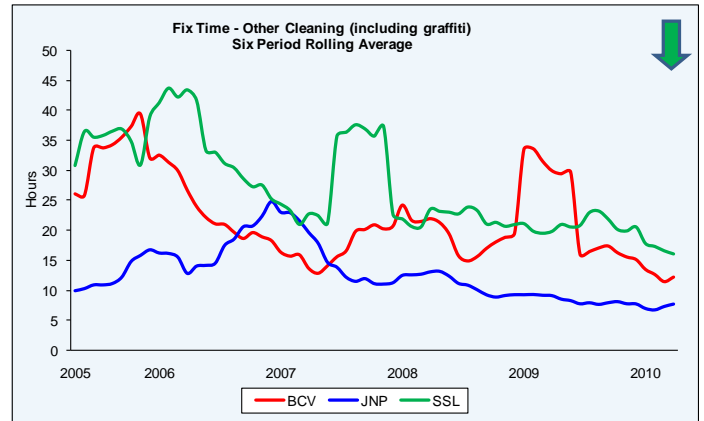
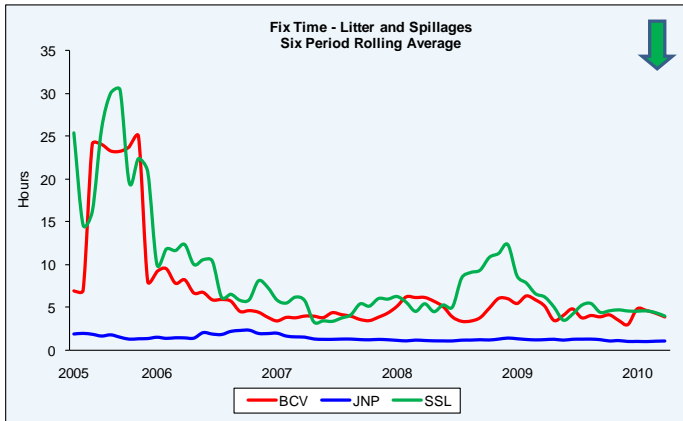
Infraco SSL



Tube Lines JNP



Fault fix time performance (by Infraco)



Glossary of metrics and terms

Glossary of metrics and terms	
Metric / Term	Description
Ambience	The Ambience measure reflects the value that customers place on their travel environment by measuring the quality of the travelling environment on Trains and in Stations. A quarterly Mystery Shopping Survey (MSS) conducted by an independent accredited survey organisation assesses various aspects of the service, including: the condition of train seats, cleanliness of surfaces and train exteriors, levels of litter and graffiti etc.
Availability	Availability is essentially a reliability measure reflecting whether Assets are Available for customer service. The measure counts all Service Disruptions lasting more than two minutes and takes into account the duration, location and time of day of the disruption to estimate the total cost in terms of customer time. This is expressed as 'Lost Customer Hours' (LCHs).
Broken rails	A running rail which is fractured through its full crosssection or has a piece broken out of it which renders it unserviceable.
Capability	Capability is a longer-term measure of the potential capacity of the Assets to reduce the journey time experienced by the customer. Improved Capability can be achieved through having more Trains, faster Trains (through train or signalling systems), and/or Trains with more capacity.
Category B Technical SPADs	A SPAD is any danger signal, as defined within Section F of the Reference Manual, passed without proper authority under the relevant procedure within Section F of the Reference Manual. Category B SPADs are caused by asset failures or defects.
Confirmed fires	Fire and Smoke related incidents on the operational railway which are confirmed as fires following the attendance of the London Fire Brigade (LFB)
Engineering overruns	Engineering Overruns: failure to return the railway for operational use on time following engineering work resulting in Service Disruption.
Escalator reliability (Mean time between failures)	The average number of service hours per Period between escalator Service Disruption incidents that are attributable to the Infraco and at least two minutes or longer, including 'no defect found' incidents.
Facilities faults	Facilities Faults: failure of customer-facing Assets such as CCTV, public address systems, train arrival indicators or help points. Infraco accrues Service Points for each Facilities Fault - based on the fact that it failed and the length of time it takes Infraco to rectify the failure.
Fault Rectification faults	Fault Rectification Faults: failure to fix certain problems such as litter and spillages, cleaning faults, broken tiles, failed light bulbs etc. Infraco accrues Service Points for Fault Rectification failures where they take longer than the contractual standard clearance time to rectify any failure.
Fleet reliability (Mean distance between failures)	The average number of train kilometres per Period between rolling stock related Service Disruption incidents that are attributable to the Infraco and at least two minutes or longer, including 'no defect found' incidents.
In depot cancellations (Rolling stock)	In depot train cancellation means where a Train does not enter scheduled service from a stabling location, resulting in Lost Customer Hours and attributable to the Infraco.
Infraco BCV	The LUL Nominee Company responsible for the infrastructure service provision and upgrade on the Bakerloo, Central, Victoria and Waterloo & City Lines.
Infraco Cause Codes (ICC)	Infraco Cause Codes are codes added by the Infracos that record the root cause of failures that are contractually attributed to the Infraco, and result in service disruptions.
Infraco SSL	The LUL Nominee Company responsible for the infrastructure service provision and upgrade on the District, Metropolitan, Circle as well as the Hammersmith & City Lines.
Lifts reliability (Mean time between failures)	The average number of service hours per Period between lift Service Disruption incidents that are attributable to the Infraco and at least two minutes or longer, including 'no defect found' incidents. (Does not include Mobility Impaired Lifts)
Line Upgrades	Line Upgrades mean upgrade projects resulting in a step change in Journey Time Capability through the introduction of more capacity and faster runtimes. These could be delivered through, for instance, introducing more trains or faster trains, signalling systems delivering shorter headways or a combination of the above. To be delivered by a contractual Latest Implementation Date.

Lost Customer Hours (LCH)	Lost Customer Hours means the total additional journey time, measured in hours, experienced by Customers using the Underground Network as a result of all Service Disruptions longer than two minutes.
Lost Time Injuries	Injuries arising at work, which cause the employee to be, absent for 1 or more shifts, or unable to carry out their normal duties for 1 or more shifts, after the shift in which the incident occurred.
Period	LUL has thirteen 28-day reporting Periods per year, from April to March. (The length of Period 1 and Period 13 may vary to align with the Financial Year End of 31st March).
Rolling stock - Staff error	Incidents, attributable to the Infracos, where an Infraco staff error has been identified as the root cause of a rolling stock incident or failure that subsequently resulted in a Service Disruption
Service Disruption	Disruption means where due to the occurrence of an Incident the Train Service or the Station Service is interrupted including Train Service Disruptions, Speed Restrictions, Platform Closure, Full Station Closure, Partial Station Closure, Full Line Suspension, Lift Downtimes, Escalator Downtimes and Customer Conveyor Downtimes.
Service Points	Service Points are allocated for failures by Infraco to meet certain contractual obligations. In some Service Points performance areas there are Thresholds with Infracos suffering financial abatements for performance worse than the Thresholds.
Speed Restrictions	Speed Restriction means an agreed speed restriction which is in force, resulting in extra running time between two (2) adjacent stations.
Station Ambience Minimum Targets	A contractual minimum Ambience (MSS) Target score for each station whereby, should performance be worse than the Target, an Infraco will accrue Service Points.
Station Upgrades	The refurbishment, enhancement and upgrade of stations to be delivered to a contractual Latest Completion Date.
Track reliability (Number of failures)	The average number of track related Service Disruption incidents per Period that are attributable to the Infraco and at least two minutes or longer, including 'no defect found' incidents.
Train control systems reliability (Number of failures)	The average number of train control related Service Disruption incidents per Period that are attributable to the Infraco and at least two minutes or longer, including 'no defect found' incidents.
Tube Lines (TLL)	The private sector Infraco responsible for the infrastructure service provision and upgrade on the Jubilee, Northern and Piccadilly Lines.