

Transport for London

Projects and Planning Panel

**Subject: TfL Investment Programme Report – Second Quarter
2013/14**

Date: 13 November 2013

1 Purpose

- 1.1 The Investment Programme report for the second quarter of 2013/14 (23 June – 15 September 2013) is attached to inform the Panel of TfL's Investment Programme performance.

2 Recommendation

- 2.1 The Panel is asked to note this report.

3 Contact

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Investment Programme Report
Second Quarter June – September 2013/14

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Cover picture; *first trial S stock on the District line*

Transport for London

Investment Programme Report

Second Quarter, 2013/14 (23 June 2013 – 15 September 2013)

I. Programme Highlights and Key Concerns

Programme Highlights in the quarter;

- Sub-Surface Railway Upgrade Programme (SUP): The programme achieved a significant milestone on 2 September 2013 when the S Stock passenger service was extended to the whole Circle line on schedule following completion of all the necessary infrastructure modifications. The programme remains on track to complete the roll out of new trains on the Circle and Hammersmith & City lines ahead of the target of the end of 2014.
- SUP: The total number of seven-car S Stock trains (S7) delivered to London is 27, on schedule.
- SUP: All the necessary infrastructure work was completed to allow the first S Stock train to run on the District line for operator training between West Ham and Olympia stations as part of the preparations for the roll-out of S stock trains on the District line.
- SUP: New sidings have been completed at Upminster Depot with all eight roads now in use for S Stock permitting major modification to the existing maintenance sheds at Ealing Common and Upminster Depots so that they can maintain the longer trains and their air-conditioning units.
- SUP: The immunisation work on the Wimbledon Branch of the District line has now been completed.
- Track: Over a weekend closure in August, the Track Partnership celebrated the successful completion of track replacement work on the Metropolitan line while keeping the adjacent Chiltern railway service open. Previous working practice would have required the closure of the adjacent Network Rail tracks. This approach has both cost and passenger benefits.
- Track: The Track Partnership achieved 3.7 kilometres of drainage improvement works (approximately 1.6 kilometres more than originally planned).
- SSR Power: Handover of Griffith House Bulk Supply Point to maintenance.
- SSR Power: The successful integration of the former Power Services Contractor, Powerlink into LU took place on 16 August 2013 with the transfer of approximately 300 staff in total with no adverse impact on service.
- Legacy Train Systems: Installation of the Automatic Track Monitoring System on the '09 tube stock was completed on Train 2 and beneficial use achieved on target on 20 September.
- Bank Station: The formal award of the main design and build contract to Dragados SA took place as planned on 1 August, and the contractor has now mobilised. The innovative procurement route has enabled improved benefits at significantly lower costs.
- Crossrail: The first of the Tunnel Boring Machines has now successfully cleared Tottenham Court Road station. With less than a metre of clearance between the new Crossrail tunnel and the existing Northern line tunnels the recorded deflection was only one millimetre.
- Northern Line Upgrade: Over the weekend of 21/22 September, Trial Operations of the new signalling system in the complex area between Archway/Chalk Farm and Angel/Euston were very successful, enabling operational use by the end of October.

2. Programme Highlights and Key Concerns

- Jubilee and Northern Line Train Mid-life Refurbishment: Successful completion of the refurbishment of Northern line trains three, four and five which have been returned to passenger service.
- Bond Street to Baker Street Tunnel Lining: the complex and innovative works to replace the tunnel rings between Baker Street and Bond Street continues to progress with no safety incidents or service impact. Eight tunnel rings have been successfully installed.
- Overground Capacity Improvement: The Silwood enabling works are largely complete and the site is being handed over to the finishing works contractor on schedule.
- New Investment Split Cycle Offset Optimisation Technique (SCOOT): All 1,000 sites were enabled by 24 July 2013.
- Hammersmith Flyover Phase 2: Following successful completion of the tender process and evaluation results the contractor has been awarded the Framework Agreement for Early Contractor Involvement. The contractor has worked with the designer to progress concept and detailed design phases to allow the possession of site to be taken on 28 October 2013.
- New Bus for London (NBfL) Vehicle Purchase: The first route to be converted was route 24 on 22 June 2013, operated by Metroliner with the second route (11) operated by Go Ahead, converted on 21 September as planned.

Key Concerns and Mitigations

- SUP: The condition of some of the existing depot assets and utility services is adding cost and schedule pressure to these projects and has caused a number of milestones to be forecast as late but this does not impact the DfT milestone dates to complete replacement of C and D stock.
- SUP: The remainder of the immunisation work is now being progressed to an agreed schedule and is forecast to complete in early 2014. This is on the critical path for the roll out of new trains on the District line, but confidence is high that the 2016 DfT date to complete the roll-out is not compromised, and further mitigation actions are planned to minimise the impact of the delay. This does not impact the replacement of C stock which is forecast to be complete by summer 2014, ahead of the DfT target.
- SUP Automatic Train Control (ATC): Discussions with Bombardier, including a director-level review in the USA, are ongoing to reach an agreed position on the work required to deliver the ATC systems and the migration strategy to ensure successful delivery of 32 trains per hour by the required 2018 date.
- Demonstration of the ATC system at the Old Dalby test track was not achieved by the August 2013 “key date” in the Bombardier contract. Following LU review and challenge, Bombardier has acknowledged that this will not be achieved until at least June 2015. LU believes that if their current plan is continued, there will be a similar delay in contract completion taking it beyond the DfT target date of 2018. This would also lead to significant LU exposure in excess of SUP funding. A range of options are being considered to maintain delivery of the upgrade by 2018.
- Procurement of the Tunnel Cleaning Unit is to be formally placed on hold as new enabling work on tunnel infrastructure has been identified which is vital to realise the benefits of the Tunnel Cleaning Train. The work on the Motive Power Units will continue as they can be used as multipurpose vehicles. The project will be re-baselined in summer 2014 once the scope of the enabling work is agreed and authorised.

Projects (over £50m) and Programmes (over £10m per annum)

TfL's Investment Programme contains a range of programmes and projects over £50m, in addition to a multitude of smaller activities. These are delivered by TfL directly, through partners in the London boroughs, or through long-term partnerships with the private sector such as Private Finance Initiatives (PFIs).

This main body of this report covers discrete projects with a total cost greater than £50m and programmes spending over £10m per annum. For each project, key milestones are listed with a forecast date compared against the March 2013 baseline. If appropriate, milestones listed as deliverables for the year in the 2013/14 Budget document are included.

Committed schemes and milestones listed in Annex B of the 2010 Spending Review funding settlement letter are included in this report. The milestones contained in Annex B are identified in the project pages with the note '**(Annex B: date)**' listed after the description.

Key to RAG status:

Status	Discrete Projects	Annualised Programmes
●	On time or early	100 per cent of target achieved
▲	Between 1 and 89 days late	>75 per cent of target achieved
■	Greater than 90 days late	<75 per cent of target achieved

This report focuses on the delivery of investment projects. For discussion on wider financial performance, see the Quarter 1 Operational and Financial Report.

The estimated final cost (EFC) of some of the projects is not included (marked as * or N/A) for reasons of either commercial confidentiality or annualised programmes.

Rail and Underground Capital Programmes

Sub-Surface Railway (SSR) Upgrade

Spend to end Q2 2013/14 £m	EFC £m
2688.5	4249.6

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Hammersmith to Barking (Wembley Park Sidings) approval to operate in passenger service	17-May-13	17-May-13	Complete
Extended Circle approval to operate in passenger service	30-Aug-13	30-Aug-13	Complete
ATC Signalling - Contract Data key date 2 - (Test Track Demonstration Complete)	23-Dec-14	18-Jun-15	■
Roll out of new air-conditioned trains on the Circle, Hammersmith & City Lines complete	31-Dec-14	31-Dec-14	●
Roll out of new air-conditioned trains on the District Line complete	31-Dec-16	31-Dec-16	●
Sub-Surface Upgrade complete delivering 33% capacity increase	31-Dec-18	31-Dec-18	●
Full signalling upgrade across the Sub-Surface network complete (Annex B:2018)	31-Dec-18	31-Dec-18	●
Depots	Current Plan Date	Actual/Forecast Date	RAG
Upminster Depot North Sidings Signalling Brought into Use	22-Jun-13	20-Oct-13	■
Upminster Depot Yard Enabling Brought into Use	01-Sep-13	01-Sep-13	Complete
Neasden Depot Winterisation Works Complete	31-Oct-13	14-Jan-14	▲

Rail and Underground Capital Programmes

Ealing Common Depot Yard Enabling Brought into Use	14-Nov-13	08-Apr-14	■
Neasden Depot Heavy Maintenance Facility Concept Design Complete	04-Jan-14	17-Feb-14	▲
Ruislip Depot made available to BT for train fitment	28-Feb-14	18-Nov-14	■
SUP Depots Sub-programme Completion	31-Mar-15	28-Sep-15	■
ATC	Current Plan Date	Actual/Forecast Date	RAG
DC Traction ETE - Electrical Traction Equipment - Feeder Cable Plaistow - Finish on Site	21-Aug-13	14-Jun-13	Complete
ATC Signalling - Complete retrospective documentation of VATCRATP product software baseline	29-Sep-13	29-Sep-13	●
ATC Signalling - System Design Specification Complete (SDS)	03-Nov-13	05-Feb-14	■
ESTL RUB approval of End State Track Layout Closure Programme	13-Dec-13	31-Oct-13	●
ATC Signalling - Service Control Centre - Concept layout complete	25-Dec-13	13-Nov-13	●
ATC Signalling - Complete Wayside Installation at Old Dalby Test Track	05-Jan-14	05-Jan-14	●
ATC Signalling - Old Dalby Test Track - S Stock S8 Onboard equipment Installed at Test Track location	12-Jan-14	12-Jan-14	●
ATC Signalling - Completion of integration testing at Old Dalby	11-Mar-14	08-May-14	▲

Rail and Underground Capital Programmes

Rolling Stock	Current Plan Date	Actual/Forecast Date	RAG
17th S7-Stock Contractual Acceptance for Service (AFS)	19-Jul-13	26-Apr-13	Complete
Vehicle Maintenance Instructions accepted from BTUK	14-Sep-13	30-Sep-13	▲
22nd S7-Stock Contractual Acceptance for Service (AFS)	27-Sep-13	25-Mar-13	Complete
27th S7-Stock Contractual Acceptance for Service (AFS)	01-Nov-13	04-Jun-13	Complete
Modification Workbank Package Complete	28-Feb-14	01-Apr-14	▲
S7 28 day integrated train reliability achieves 15,000km mean distance between failures	28-Feb-14	28-Feb-14	●
SUP Rolling Stock Sub-programme Completion	31-Mar-19	05-Feb-16	●
Signal Immunisation	Current Plan Date	Actual/Forecast Date	RAG
Wimbledon Branch Immunisation Restriction (R214) lifted.	04-Jan-14	31-Jul-13	Complete
SUP Signalling Immunisation Sub-programme Completion	30-Jun-14	28-Oct-14	■
Infrastructure Other	Current Plan Date	Actual/Forecast Date	RAG
Block 14 Earls Court - Ready For Integration Test	22-Jun-13	14-May-13	Complete
Extended Circle - Completion of Integration & Testing	03-Aug-13	02-Aug-13	Complete
Hammersmith to Barking - Infrastructure Full Completion	14-Sep-13	13-Sep-13	Complete
Baker Street to Wembley Park Sidings - Infrastructure Full Completion	14-Sep-13	13-Sep-13	Complete

Rail and Underground Capital Programmes

Wimbledon to Edgware Road - Completion of Integration Testing	10-Jan-14	10-Jan-14	●
SUP Enabling Other Sub-programme Completion	31-Dec-17	31-Dec-17	●
Croxley	Current Plan Date	Actual/Forecast Date	RAG
Croxley Rail Link – LU formal submission of Development Agreement to HCC for sign off	15-May-13	17-Apr-13	Complete

The first phase of the upgrade (SUP) of Sub-Surface Railway (consisting of the Circle, District, Hammersmith & City and Metropolitan lines) is to replace the rolling stock on all lines, which provides new, longer air-conditioned through-carriage trains (S Stock). This will be completed by 2016. The second phase of the upgrade will increase capacity (32 trains per hour) and reduce journey times through implementation of a new automated train control signalling system (ATC) and associated control centre, revised track layouts at key junctions, and increased electrical power supply. These benefits will be delivered by 2018.

Train roll-out

The Metropolitan line train fleet has already been replaced with 58 new eight-car S Stock trains (S8) and the associated infrastructure works completed, apart from minor snagging and recovery of redundant assets. The S8 trains are undergoing a reliability enhancement programme, of which 12 have been completed, with the remainder forecast to be completed over the next six months.

On 2 September 2013, the S Stock passenger service was extended to the whole Circle line following completion of all the necessary infrastructure modifications. The supply of new rolling stock has continued during the quarter, bringing the total number of seven-car S Stock trains (S7) delivered to London to 27.



Two new S7's at Hammersmith



S Stock on the Circle line

One Person Operation (OPO) faults, account for the highest number of train failures. The OPO improvement programme is now well developed with defined targets for reliability, which are forecast to be met by the end of the year.

Rail and Underground Capital Programmes

The depots works to support train roll-out include enhancement works to Neasden, Ealing Common, Upminster, and Hammersmith depots to enable the stabling and maintenance of the new longer trains.

New sidings have been completed at Upminster Depot with all eight roads now in use for S Stock that permit major modification to the existing maintenance sheds at Ealing Common and Upminster Depots, such that they can maintain the longer trains and their air-conditioning units. The condition of some of the existing assets and utility services is adding cost and schedule pressure to these projects and has caused a number of milestones to be forecast at late but this does not impact the DfT milestone dates to complete replacement of C and D stock.

To enable operation of the new S Stock trains on the Sub-Surface Railway (SSR) network, work is required to immunise LU and Network Rail track circuits and other signalling equipment from electro-magnetic interference from the new trains. Completion of these works has been delayed in three Network Rail inter-running areas (Wimbledon Branch, Richmond Branch and the east end of the District line) due to design issues. The work on the Wimbledon Branch has now been completed. The remainder of the work is on the critical path but confidence is high that the 2016 DfT date to complete replacement D stock is not compromised, and further mitigation actions are planned to minimise the impact of the delay and not impact the replacement of C stock, which remains on forecast to be complete by summer 2014, ahead of the DfT target.

Due to the S Stock being longer than the legacy stock and having different station stopping positions, a large number of station infrastructure and existing signalling modifications are required to roll-out the trains, as well as a number of platforms lengthened (which have now all been completed). All the necessary infrastructure work has been completed to allow the first S Stock train to run on the District line for operator training between West Ham and Olympia stations as part of the preparations for the roll-out of S stock trains on the District line.

Automatic Train Control

Progress to date on the new signalling system shows that there remain significant challenges to deliver the capacity uplift associated with this by 2018 within the overall programme funding. The programme team is engaged in discussion at a senior level with the signalling contractor to review the current status and expedite the technical solution and the delivery strategy in order to maintain the integrity of the required benefits and the overall completion date of 2018.

The Bombardier Automatic Train Control (ATC) schedule forecast for system demonstration at the Old Dalby test track is now June 2015, which is later than planned. Intensive engagement with Bombardier has been held to reach an agreed position on the scope of work required and the schedule for this. An S7 train has been handed over to Bombardier to commence the ATC signal testing at the Old Dalby test track and an S8 train will be provided in November.

Planning is underway to identify the optimum delivery strategy to implement the required track re-modelling works to remove bottlenecks at the major junctions such that this dovetails with the ATC signalling installation and commissioning, and causes the minimum of operational disruption. The timing and sequence of these track re-modelling works is being reviewed to address the uncertainty of the ATC schedule.

Construction work has commenced at Ruislip Depot to create a facility in London for retrofitting ATC equipment to S stock.

Rail and Underground Capital Programmes

Croxley

The Croxley Rail Link is the proposed extension of the London Underground Metropolitan line from Croxley to Watford Junction via Watford High Street. The scheme is being led by Hertfordshire County Council (HCC) with their principal contractor Vinci, and supported by London Underground. In December 2011, the Department for Transport (DfT) announced funding of £76m, towards a total project cost of £117m. LU are currently working with HCC to complete a programme wide review of cost and schedule, the intent of which is to confirm that the scheme remains viable within HCC's existing funding envelope.

Rail and Underground Capital Programmes

Track Renewal (BCV/SSR)

Spend to end Q2 2013/14 £m	EFC £m
55.4	121.2

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Deep Tube Class I Renewal - Achieve 1,670m P7	11-Oct-13	11-Oct-13	●
Points & Crossings - Achieve 8 units P7	11-Oct-13	08-Sep-13	Complete
Ballasted Track Replacement & Re-ballast Metres - Achieve 6,406m P7	11-Oct-13	25-Aug-13	Complete
Track Drainage - Replace 4,558m replaced P7	11-Oct-13	02-Sep-13	Complete
18,018m of Track replaced (total 8% replaced)	31-Mar-14	31-Mar-14	●
Deep Tube Class I Renewal - Achieve 3,510m P13	31-Mar-14	31-Mar-14	●
Points & Crossings - Achieve 14 units P13	31-Mar-14	03-Mar-14	●
Track Drainage - Replace 8,232m replaced P13	31-Mar-14	03-Mar-14	●

Track Programme SSL/BCV

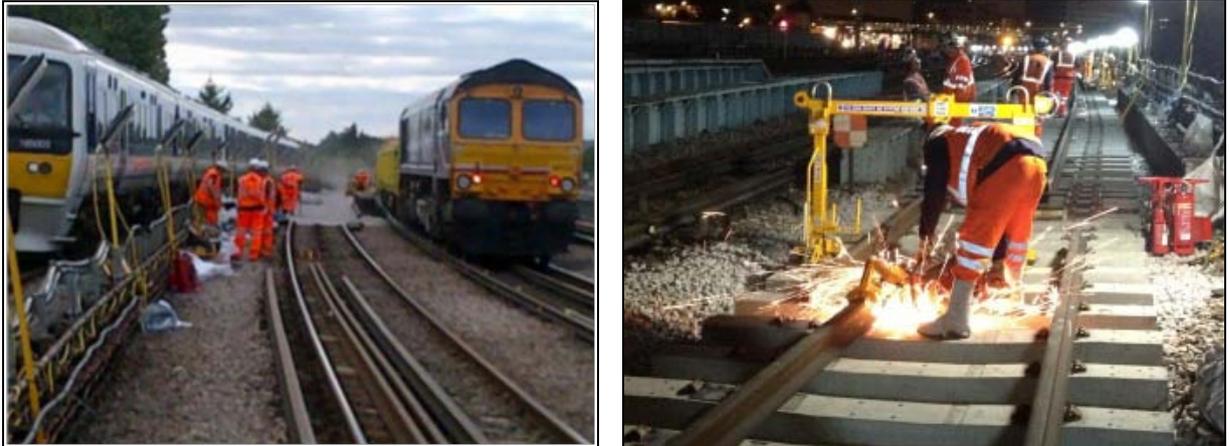
The programme remit is to deliver a five year programme (2010-2015 with an extension option for a further two years) of track, drainage and points and crossings renewals against an established schedule of work. By 2018 the target is that 25 per cent of new infrastructure will have been delivered.

Track Partnership

During quarter two, the Track Partnership delivered 2.7 kilometres of ballasted track renewal. Despite the loss of a weekend closure, due to a Games legacy event at Stratford, this was only 57 metres below the original quarter two plan.

Rail and Underground Capital Programmes

Furthermore, over a weekend closure in August, the Track Partnership celebrated a first - the successful completion of track replacement work on the Metropolitan line while keeping the adjacent Chiltern railway service open.



Track replacement work on the Metropolitan line keeping adjacent Chiltern line open

The Track Partnership also achieved 3.7 kilometres of drainage improvement works (approximately 1.6 kilometres more than originally planned), this was an exceptional delivery amount.

Also in the quarter the Track Partnership completed the planned renewal of four points and crossings units at Northolt on the Central line.

The extensive delivery completed in quarter two saw the Track Partnership achieve three programme milestones for ballasted track and drainage renewals plus Point and Crossing renewals. These milestones were met several weeks before the target dates.

Track Delivery Unit:

The Track Delivery Unit (TDU) achieved 848 metres (36 metres above plan) of Class 1 Deep Tube Renewal in quarter two.

The TDU also maximised opportunity works during a Central line closure to deliver 4.3 kilometres of rail grinding, this brought the quarterly total of rail grinding to an impressive 9 kilometres achieved.

Rail and Underground Capital Programmes

Civils (BCV/SSR)

Spend to end Q2 2013/14 £m	EFC £m
13.7	30.7

Programme level	Current Plan Date	Actual/Forecast Date	RAG
M074 EM1 & EM2 Harrow on the Hill North Harrow (Practical Completion)	27-Apr-13	19-Apr-13	Complete
Start on Site MLNE7,9,10 - (Budgetary PAM)	25-May-13	25-May-13	Complete
M032 CTS8 & CTS13 Chalfont & Latimer to Chesham (Practical Completion)	17-Aug-13	16-Aug-13	Complete
Practical Completion (PCR) (CTS1 & CTS2A & B Barkingside to Newbury Park)	24-Aug-13	23-Aug-13	Complete
MR61 - Detail Design - Parapet and Bridge approaches replacement.	14-Sep-13	16-Aug-13	Complete
M032 EM10 Chalfont & Latimer to Chesham (Project Completion)	07-Dec-13	07-Dec-13	●
Covered Way Strengthening of CW101 (Practical Completion)	01-Mar-14	01-Mar-14	●

The programme involves the strengthening, renewal and refurbishment of the Bridges and Structures and Earth Structures assets. The works are required to reduce asset risk, lower whole life costs and to extend residual asset life.

The quarter two delivery programme is on plan. Civils delivered three milestones which included two budgetary milestones. Also, as planned, three embankments/cuttings stabilisations were completed and bridge painting to 95 per cent achieved. Other activities include scour works on Bridge (MR80) between Moor Park and Rickmansworth and completion of Detail Design of parapet protection between Northwood to Northwood Hills (MR61).

- Achieved practical completion of cuttings stabilisation between Barkingside to Newbury Park to deliver a budgetary milestone.
- Practical completion of cutting stabilisation at Hanger Lane achieved.
- Bridge painting on the assets located between Watford and Croxley currently complete to 95 per cent as scheduled.

Rail and Underground Capital Programmes

- Budgetary milestone achieved with the Practical Completion successfully carried out of cuttings stabilisation between Chalfont and Latimer to Chesham.



Newly painted bridge located between Watford and Croxley

Rail and Underground Capital Programmes

Track (JNP)

Spend to end Q2 2013/14 £m	EFC £m
23.4	52.4

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Complete 1000 Mtrs of Track life extension (half year)	01-Oct-13	26-May-13	Complete
Complete 750 Mtrs of Track reconditioning (half year)	01-Oct-13	08-Aug-13	Complete
Complete 3no Ballast Track Replacement (BTR)	12-Oct-13	26-Aug-13	Complete
Complete 1500 Mtrs of UV Lining (Drainage)	05-Oct-13	19-Sep-13	●
Completion of 4000 Mtrs of UV Lining (Drainage)	30-Mar-14	30-Mar-14	●
Complete 1750 Mtrs of Track reconditioning (full year)	31-Mar-14	20-Jan-14	●
Complete 3600 Mtrs of Track life extension (full year)	31-Mar-14	08-Dec-13	●
Complete 4 no points renewal (full year)	31-Mar-14	31-Mar-14	●

The programme remit is to deliver track and associated drainage renewals and capitalised maintenance in the open, deep tube and depot environments across the JNP lines. The programme of works is prioritised by on-going condition assessments and whole life asset management decisions between Opex and Capex.

Track Partnership / Track Delivery Unit:

The integration of the JNP / BCV and SSR delivery units continues to plan.

The amalgamation of project teams caused no disruption to planned works and enhanced delivery specifically with regard to ballasted track renewals.

Three JNP Track programme milestones were achieved in quarter two, these related to ballasted track and drainage renewals and deep tube track reconditioning.

Rail and Underground Capital Programmes

The Track Partnership delivered 1.5 kilometres of ballasted track renewal and 828 metres of track drainage remediation.

The Track Delivery Unit achieved 782 metres of track reconditioning works (188 metres over plan due to utilising opportunity works) and 956 metres of track life extension works (150 metres above plan). Additionally 5.6 kilometres of scrap rail was removed from the JNP network.

Pit reconditioning works, 178 metres, fell below plan due to Northern line test trains preventing work across several sites although other opportunity works were undertaken and the shortfall is being re-planned.

Rail and Underground Capital Programmes

Cooling the Tube Programme

Spend to end Q2 2013/14 £m	EFC £m
173.1	189.4

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Reinstatement of Out of Service Fans - Issue ITT for final design contract for next phase of fan upgrades	24-Jun-13	12-Apr-13	Complete
Issue ITT (QF - Design & Build)	24-Jun-13	12-Apr-13	Complete
Quick Win Fans Beneficial Use	13-Oct-14	01-Sep-14	●

This is a long term programme to control ambient temperatures on the Underground to stop them increasing as the train service increases. Without intervention, temperatures will rise as more energy is dissipated within the tunnels due to increased train service capability delivered by the deep-tube line upgrades.

Since the start of the programme, the investment in cooling and ventilation infrastructure has acted as an enabler for the upgrade of the Victoria line, allowing for a 30 per cent increase in train services without impacting platform and tunnel temperatures. While the line upgrade is due to implement full train service capacity in 2014, platform temperatures are currently assessed to be around two degrees centigrade below their pre-line upgrade conditions.

The Cooling the Tube Programme, in collaboration with the Railway Systems Group, continues this work developing cost effective, targeted, cooling and ventilation solutions as the enablers to allow other deep tube programmes to increase service levels and implement new rolling stock to meet ever increasing customer expectations.

Works progressed to programme this quarter. Contracts for further out-of-service fans were awarded to the contractor Mansell for Quick Wins design and build and to the contractor FirstCo for the Quick Wins supply contract. Feasibility studies for cooling works required to support the New Tube for London programme have been carried out at ten stations ahead of schedule and a further three have been commissioned. A new Centralised Cooling Control System, enabling computer-based real-time monitoring of fan conditions across the network, in order that remedial works can be carried out quickly when required, is due to become available in October.

Rail and Underground Capital Programmes

SSR Major Power Works (Signalling)

Spend to end Q2 2013/14 £m	EFC £m
7.7	37.7

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Start of Construction - Cable Route and Transformer Rooms	29-Jul-13	10-Jun-13	Complete
Section 1 Substantial Completion (Part 8)	30-May-14	07-Apr-14	●
Section 2 Substantial Completion (Part 8)	28-Jul-14	10-Jun-14	●
Section 3 Practical Completion (Stepney Green Part 8)	28-Oct-14	01-Aug-14	●
Finish on Site - Cable Route & Transformer Rooms - All Sites	20-Nov-14	23-Oct-14	●
Project Financial Close	31-Mar-16	01-Mar-16	●

This project will provide the main power supplies for the SSR signalling (local distribution of signalling power is covered elsewhere) and associated station lighting mains.

Progress this quarter has been to programme, with the project moving from detailed design to delivery stage in September 2013. Civils works have been completed ahead of plan at Amersham, Watford, Rickmansworth, North Harrow and Moor Park; civils works have commenced ahead of plan at Stepney Green and Wembley Park. In addition, resilient supplies to Hammersmith Service Control Centre have been completed.

The programme is on track to deliver all the Sub-Surface Upgrade Programme requirements on time.

Rail and Underground Capital Programmes

SSR Major Power Works (Traction)

Spend to end Q2 2013/14 £m	EFC £m
350.0	504.5

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Issue ITT for 132kV Cable Route to Neasden Bulk Supply Point	02-Apr-13	02-Apr-13	Complete
West Ham (New) - Building Brickwork Complete	08-Jul-13	17-May-13	Complete
Power Capacity to support Full S7 Fleet (pre-ATC) on Circle + Paddington - Hammersmith	30-Jul-13	19-Jun-13	Complete
Power Available for ATC mode north of Baker Street	20-Nov-13	20-Nov-13	●
Provision of (Firm) Power capacity to support 57S7D to Upminster	06-Dec-13	06-Dec-13	●
New Bulk Supply Point at Edgware Road	01-Mar-14	28-Feb-14	●
Power available to support full S7 stabling of trains (Ealing Common Depot).	05-Mar-14	13-Jan-14	●
Programme Stage Gate 6 Review (SSR PU Programme Close)	15-Jun-18	01-Jun-18	●

This programme will deliver the upgraded power supply capacity to support the entire SSR line upgrade. Capacity is in place to support the entire S8 fleet in pre-ATC mode. Work is now underway to support the introduction of the S7 fleet and the move to full performance under ATC.

The key achievement in the quarter was the handover of Griffith House Bulk Supply Point to maintenance. The first transformer rectifier has been delivered to Ealing Common High Voltage (HV) traction substation and key changeovers between Victoria and St James's Park stations have been completed. Civils works have been completed at West Ham and continue to make good progress at Upminster Bridge. Civils enabling works have commenced at Farringdon and Ravenscourt Park Depot HV traction substation.

This quarter also saw the successful integration of the former Power Services Contractor, Powerlink, into LU on 16 August 2013.

The programme is on track to deliver all SUP requirements on time.

Rail and Underground Capital Programmes

World Class Capacity

Spend to end Q2 2013/14 £m	EFC £m
0.5	*

Victoria

A feasibility study to define the scope, cost and business case for delivering world class levels of capacity on the Victoria Line.

- Power modelling – an analysis of disrupted service patterns was completed.
- Cooling modelling - further modelling with 36 trains per hour from Seven Sisters to Walthamstow Central, revised passenger flows and coasting profiles was completed.
- A scoping document for signalling changes to initiate recovery margins for all station to station links is complete with a follow up workshop on 30 September to conclude.
- An analysis of service ramp up requirements has been completed

Jubilee

Full funding for the feasibility stage on the Jubilee line is now in place with External Expert and Independent Investment Programme Advisory Group (IIPAG) Initiation Gate reviews complete. These were generally positive with management actions underway to address the issues raised.

The stage one feasibility study report, outlining options for increasing the Jubilee line service to 36 trains per hour and the requirement for additional rolling stock is now being produced along with a paper for decisions required from the World Class Capacity programme board.

Rail and Underground Capital Programmes

Legacy Train Systems

Spend to end Q2 2013/14 £m	EFC £m
110.6	N/A

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Inner Inter Car Barriers - Bring In To Beneficial Use (Central & W&C Line)	09-May-13	09-May-13	Complete
Battery Loco Refurbishment - 7th Loco Complete	09-Aug-13	24-Jun-13	Complete
ATMS - In Service Audio Visual & Noise & Vibration	20-Sep-13	20-Sep-13	Complete
TCT - Motive Power Unit Ready for Railway Trials (Consent to Test in Acton Works)	15-Nov-13	01-Nov-13	●
ATMS - Acceptance of Automatic Track Monitoring System on Bakerloo Line	07-Feb-14	07-Feb-14	●
Battery Loco Refurbishment - Loco 9 Complete	10-Mar-14	09-Jan-14	●
92 Tube Stock Refresh - Finish on Site 218 CarBody Ends	31-Mar-14	31-Mar-14	●

This is a portfolio of projects to upgrade and improve rolling stock, signalling systems and other train system assets that are not covered by the line upgrades.

'92 Tube Stock Refresh

630 body ends complete against a period target of 620 and a total quantity of 795 body ends.

Automatic Track Monitoring System – ATMS

'09 tube stock train 2 installation and beneficial use achieved on target 20 September.

New Tunnel Cleaning Train (TCT)

Procurement of the Tunnel Cleaning Unit is to be formally placed on hold as new enabling work on tunnel infrastructure has been identified which is vital to realise the benefits of the Tunnel Cleaning Train. The work on the Motive Power Units will continue as they can be used as multipurpose vehicles. The project will be re-baselined in summer 2014 once the scope of the enabling work is agreed and authorised.

Rail and Underground Capital Programmes

Battery Loco Life Extension

Locomotives 8 and 9 are in work at Acton and are on target.



Battery loco undergoing works



Completed battery loco

Central Line Bogie Modifications

Gearbox overhauls and associated bearing replacement progressing to programme at eight per week with completion of 1943 gearboxes by January 2016.

Rail and Underground Capital Programmes

New Tube for London

Spend to end Q2 2013/14 £m	EFC £m
14.7	*

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Proof of Concept Study for Saloon Air-Cooling in a Deep Tube Train Application - Complete	26-Jul-13	28-May-13	Complete
Commencement of the First Obstacle Detection Trial	19-Aug-13	18-Apr-13	Complete
Programme Feasibility Complete (Programme Gate B)	22-Oct-13	25-Sep-13	Complete
TfL to issue ITT for the first phase of a new generation of low-energy, high-capacity deep tube rolling stock which would ultimately be applicable to the Bakerloo, Piccadilly and Central lines	29-Dec-15	09-Dec-15	●

New Tube for London (NTfL) is expected to deliver new trains and railway control systems to the Bakerloo, Piccadilly, Waterloo & City and Central lines to replace life-expired assets to realise capacity and journey time benefits, using increased levels of automation, at the lowest possible whole-life cost. This will be achieved through the introduction of more efficient train system solutions which will allow line capacity enhancements to be delivered without a major increase in energy consumption and tunnel temperatures, thereby reducing the need for capital intensive tunnel and station cooling infrastructure.

The NTfL will incorporate lessons learnt from Jubilee and Victoria line upgrades, specifically that many of the final cost and performance characteristics of an upgrade and subsequent operation and maintenance are determined by decisions / constraints made early in the programme lifecycle. Furthermore, understanding the interaction between different parts of the overall operation of the system is critical to achieving the high levels of performance and business case benefits.

The programme received a 'Pathway' Stage Gate B conditional pass on 18 September, pending the completion of four outstanding products (Programme Execution Plan; Operational and Maintenance Concept; Programme Requirements Specification; Benefits & Value Plan) by 9 October.

Feasibility (beyond Gate B) work stream activities being progressed include the inverting substation trial design, obstacle detection trials, hybrid air cooling design and ongoing supplier engagement.

Rail and Underground Capital Programmes

Crossrail and London Underground Works

Spend to end Q2 2013/14 £m	EFC £m
192.7	273.3

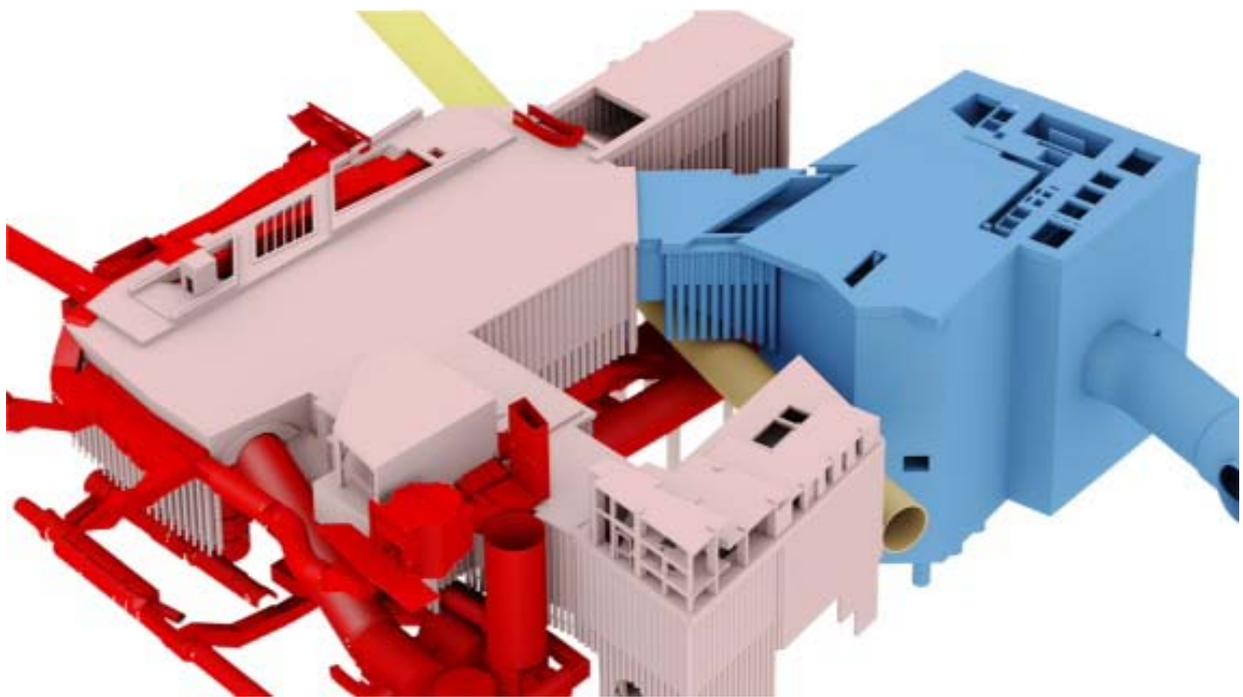
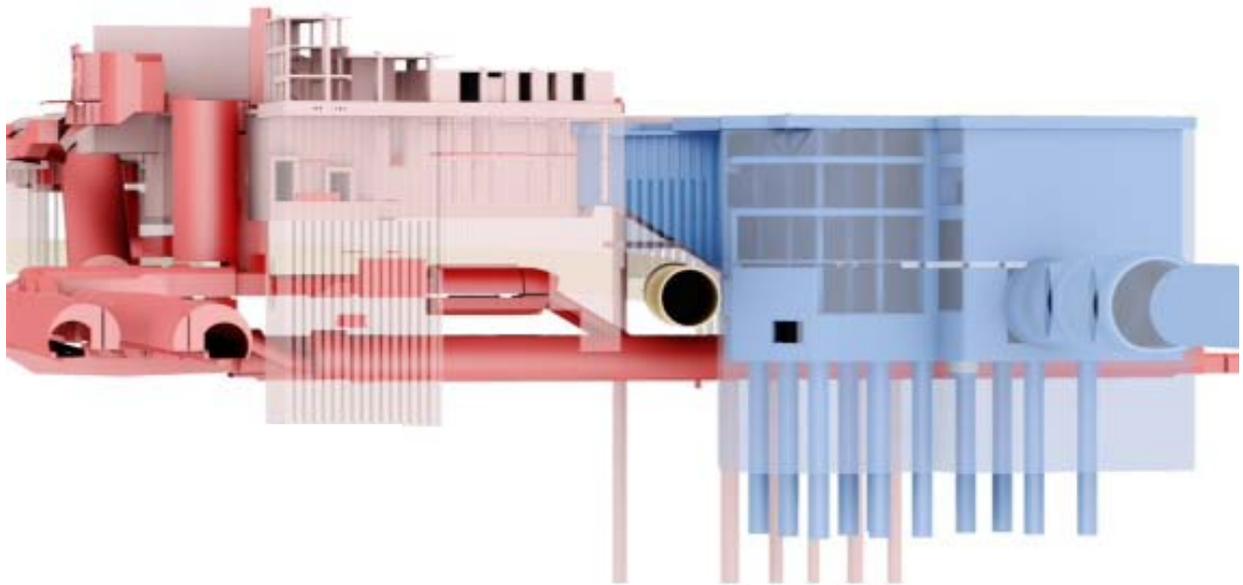
Programme level	Current Plan Date	Actual/Forecast Date	RAG
LU Support Complete for Crossrail Trial Running Stations (Central Section)	28-Feb-19	31-Dec-18	●

This project provides LU delivery capability and support, as well as infrastructure protection to the Crossrail Programme delivered by Crossrail Limited (CRL). The vast majority of the expenditure is reimbursed by CRL.

LU issued no objection for Tunnel Boring Machine (TBM) 1 to enter the zone of influence at Farringdon, where the TBM will end its journey. LU issued no objection for TBM 2 to enter the zone of influence at Tottenham Court Road station above the Northern line and it has now successfully cleared the station on its journey eastwards. With less than a metre of clearance between the new Crossrail tunnel and the existing Northern line tunnels the recorded deflection (one millimetre) was a fraction of that predicted. Please see axonometric on next page.

The LU Concept Design Statement for the Stations Operation Room Integration project has been approved by CRL. The Works Package Plan for Detailed Design phase has been agreed by CRL.

Funding for an additional lift at Whitechapel station has been agreed by LU.



	London Underground Existing Construction
	London Underground New Construction
	Crossrail New Construction
	TBM Progress to Date
	TBM Planned Progress

Tottenham Court Road Crossrail tunnel drive

Rail and Underground Capital Programmes

Station Developments

Spend to end Q2 2013/14 £m	EFC £m
1219.7	1329.6

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Bromley-by-Bow Step Free Access (SFA) - Commence Detailed Design	27-Jan-14	04-Jun-14	■
Gunnarsbury Station Refurbishment - Bring into Beneficial Use	08-Nov-13	08-Nov-13	●

Optimising opportunities to work with third parties (property developers, business interest groups and local authorities) to identify opportunities for investment in station access and capacity. The aim is to be pro-active in seeking collaborative partnerships which both unlock investment and ensure operational objectives are effectively considered.

55 Broadway: of the 19 architectural Pre-qualification Questionnaire's evaluated, five have been shortlisted to tender.

Elephant and Castle: the strategy group have agreed to look at over-site development (OSD) proposals to help strengthen the business case.

Finsbury Park spiral staircases: a month of Travel Ambassador shifts have been successfully completed. Travel ambassadors assisted with passenger way finding following the closure of the spiral staircases.

Bromley-by-Bow: the architect has not delivered the design as per the brief and the contract has been terminated. Design to be re-tendered (subject to programme board approval).

Rail and Underground Capital Programmes

Vauxhall Station Upgrade

Spend to end Q2 2013/14 £m	EFC £m
1.8	35.1

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Vauxhall Station Capacity & SFA - Bring Into Use (SFA Lift and Stairs)	23-Oct-15	01-Sep-15	●

The aim of the project is to reduce congestion and queuing at Vauxhall station through increased station capacity and reduce the risk of unplanned station closures. The project delivers additional gate line and ticket hall capacity and step-free access from ticket hall to platform level.

Vauxhall is designated as one of London's Opportunity Areas, and is set to benefit from significant investment over the coming years. These works, along with other TfL investment in improving the local transport network, will help support the regeneration of the area

Concept design statements for Communications, Electrical, Mechanical, Lift, Fire and Architectural designs have been issued and a third party wall surveyor has been appointed.

Closure requests to support Bechtel's construction phasing have been submitted.

Rail and Underground Capital Programmes

Stations Stabilisation Programme

Spend to end Q2 2013/14 £m	EFC £m
21.2	459.0

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Earls Court Station Commence Detailed Design	12-Jun-13	16-Apr-13	Complete
South Kensington Station Start On Site	28-Oct-13	28-Oct-13	●
Paddington Station Start On Site	15-Nov-13	21-Sep-13	Complete
Earls Court Station Start On Site	23-Dec-13	25-Nov-13	●

LU's station Stabilisation programme will undertake station-wide asset stabilisation for 74 LU stations across BCV/SSR, providing interventions to; ensure station assets are brought up to a "fair for ten years" condition; prevent degradation of the assets; and ensure safety critical systems are in full working/compliant order.

The population of the work bank ahead of final scoping has been completed at Chiswick Park, Parsons Green, High St. Kensington, Sloan Square and Greenford.

Embankment roof works have now been completed, six weeks ahead of programme.

The Jubilee line wall tiling has commenced at Baker Street, on programme which means that eight work packages are currently on site managed under 'STAKE' construction management. ('STAKE' engages directly at trade contractor level avoiding the need for tier 1 and 2 contractors).



Embankment roof: before



Embankment roof: after

Rail and Underground Capital Programmes

LU Lifts & Escalators

Spend to end Q2 2013/14 £m	EFC £m
22.3	*

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Bank Start On Site – (Closure)	28-May-13	18-Apr-13	Complete
Bring Into Use (BIU) Canary Wharf escalator 13	06-Sep-13	23-Aug-13	Complete
Bring Into Use Westminster escalator 4	28-Sep-13	30-Aug-13	Complete
Greenford PAM Phase 1 – Escalator Start on Site	02-Oct-13	04-Sep-13	Complete
Bring Into Use Waterloo escalator 10	28-Oct-13	14-Oct-13	●
Highbury & Islington escalator 3 Return To Service (RTS)	02-Nov-13	29-Sep-13	●
Edgware Road Station Lift No. 1 & 2 Refurbishment - Bring into Beneficial Use (Return to Service (RTS))	18-Jan-14	21-Dec-13	●
Bring Into Use (BIU) Old Street escalator E3	21-Mar-14	25-Jun-14	■

The lift and escalator portfolio delivers the cyclical renewal of lifts and escalators to:

- Ensure safety critical systems are functional and compliant with standards and legislation; and
- Prevent the degradation of assets through whole life asset management decisions and modelling.

Lift and escalator refurbishment projects continue to be brought into use either on or ahead of programme. The Tube lines and London Underground Lift and Escalator delivery teams have merged to create a combined delivery team. This is expected to deliver additional efficiencies.

The reprioritisation of the Kone escalator programme across Old Street, Waterloo, Angel, and Tottenham Court Road stations has resulted in a minor delay to the completion of Old Street escalator no. 3. No operational impacts are foreseen.

Rail and Underground Capital Programmes

Tottenham Court Road Station Upgrade

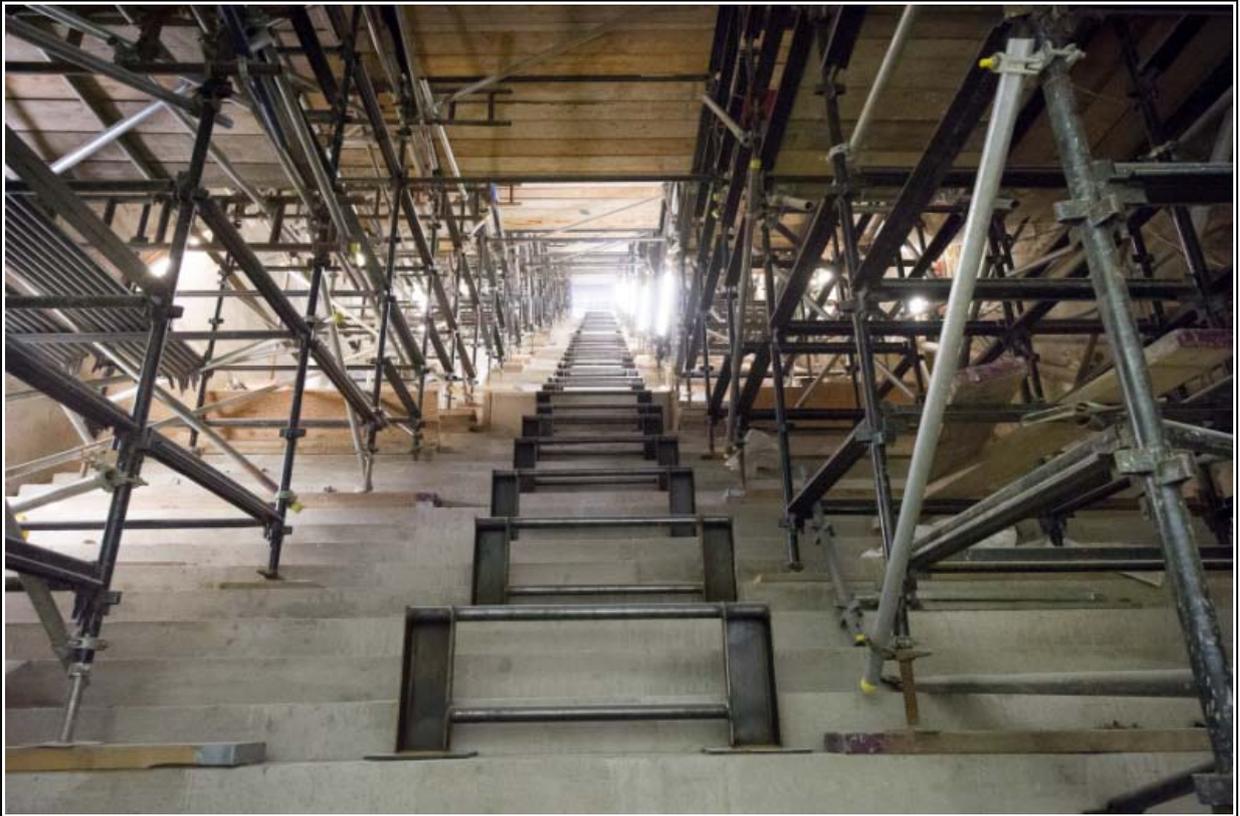
Spend to end Q2 2013/14 £m	EFC £m
317.2	485.9

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Section 1 Completion (Handover part Astoria site)	09-Oct-13	03-Jun-13	Complete
Start NL Concourse Fit Out	25-Nov-13	30-Oct-13	●
Completion of Goslett Yard Box	13-Feb-14	17-Dec-13	●
Section 3 Completion (Consolidated Piling)	19-Sep-14	30-May-14	●
Completion of Phase 1 (Partial Opening of the New Plaza Ticket Hall)	31-Mar-15	05-Jan-15	●
TCR - New Passenger Facilities Open - (Annex B: 2016)	20-Nov-16	06-Sep-16	●

The project will provide:

- a new ticket hall (six times larger than the existing);
- three new escalators serving the Northern line;
- improved access from street to ticket hall and from ticket hall to platform level (five new lifts);
- provision for a new public square at St. Giles Circus; and
- a significant portion of the structural works for the new Crossrail station (by LU).

The scaffold for the Northern line escalator box fit-out has been erected and fit-out works have commenced. Fixing of conduits for communication equipment to the Northern line platforms has commenced and the installation of PA systems in the back-of-house areas of the existing station has been completed.



Northern line east bound escalator to ticket hall

Actions to consolidate safety and quality strategies and improve safety performance with an eight point plan are being implemented. The project has now delivered almost 700,000 man hours without a RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995).

The original date for LU to handover the Goslett Yard Box (GYB) to Crossrail (a reinforced concrete shell that Crossrail will fit out to create one of their two Tottenham Court Road ticket halls) was August 2013. Due to the incorporation of necessary design changes instigated by Crossrail, the contractor will be able to justify an extension of time.

The respective teams have been working together closely to mitigate the effects of the delay and to date Crossrail has not suffered any negative impact to their interfacing works or on the project's critical path.

To maintain their progress Crossrail require access to the site on 26 November. LU and Crossrail have developed several options that meet Crossrail's requirements. Their preferred solution, which entails shared possession of the site at ground level and free access to -4 and -5 levels, has now been instructed and the works are progressing in line with the plan to achieve this. At all times the LU contractor has been held strictly to the terms of the contract and all delays have been mitigated to their fullest possible extent.

Rail and Underground Capital Programmes

Paddington Station Upgrade

Spend to end Q2 2013/14 £m	EFC £m
48.4	56.0

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Lifts 3 & 4 Installed	02-Aug-13	19-Jun-13	Complete
Acceptance of Mandatory Asset Information Deliverables (MAID) by LU	08-Oct-14	01-May-14	●
LU Fit Out Work Complete (Annex B:2014)	01-Nov-14	11-Mar-14	●
Paddington (H&C) Congestion Relief - Final Fit Out BIU (Practical Completion)	28-Jul-14	25-Feb-14	●

Paddington (Hammersmith & City line) station is one of LU's top priorities for congestion relief due to demand growth associated with local area redevelopment and the Sub-Surface Railway upgrade. The project will provide:

- a new ticket hall;
- significantly enlarged passenger concourse with three staircases to platform level;
- provision of new step-free access from street to platform level (H&C platforms); and
- the East and West Plazas have now been brought into use.

Fit-out works are continuing to progress well, ahead of the anticipated project completion in early spring of 2014.

Rail and Underground Capital Programmes

Bond Street Station Upgrade

Spend to end Q2 2013/14 £m	EFC £m
163.8	292.0

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Demolition of sub-structure Complete	02-Feb-13	03-May-13	Complete
Start of main tunnelling operations (Annex B:2013)	14-Oct-13	05-Jul-13	Complete
Close escalators 1 & 2 for tunnelling	28-Apr-14	09-Mar-14	●
Early hand back Jubilee Line Platforms, Escs 6,7,&8, 3,4,&5, 4/092 into public use	02-May-15	02-Mar-15	●
Tunnelling Set Up Decommissioned	28-Sep-15	22-Jan-16	■
SC03 OSD Frame to be handover to Developer - Planned Date	06-May-16	13-May-16	▲
Bond St Station Upgrade - Practical completion (Annex B:2017)	28-Apr-17	20-Mar-17	●

Bond Street station is a key interchange between the Jubilee and Central lines. Long term demand and congestion are forecast to increase further as a result of growth in employment and leisure travel and the completion of Crossrail in 2018. The scheme provides:

- two additional escalators from the interchange level to the Jubilee line;
- a low-level interchange route between the Central and Jubilee lines;
- a new step-free entrance and ticket hall on Marylebone Lane;
- four new lifts, allowing step-free access to platforms on both the Central and Jubilee lines; and
- a step-free route to Crossrail.

Twenty (of almost 100) ground stabilisation “tube-a-manchette” (TaM) grouting tubes have been successfully installed. The first stage of the excavation of shaft 1 (main shaft), the thrust block for the pipe arch installation and the mid level sewer lining works are complete.

Rail and Underground Capital Programmes

The tunnelling schedule has been re-sequenced. Tunnelling decommissioning is not expected to impact the project end date.

The over-site development (re-build of 354-358 Oxford Street) has re-commenced.



Bond Street shaft 5 with "tube-a-manchette" (TaM) drilling rig



Bond Street concrete lining spray of shaft 1

Rail and Underground Capital Programmes

Bank Waterloo & City

Spend to end Q2 2013/14 £m	EFC £m
16.6	*

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Contract Award for Implementation Works	03-Feb-14	03-Feb-14	●
Bank Stn (W&C) - Bring Into Use (Stage 5) (Annex B:2015)	31-Dec-15	23-Dec-15	●

The Bank (Bloomberg Place) project will provide easier access to streets south and south-west of the station, reduce congestion on the Waterloo & City line platforms, and provide step-free access to the Waterloo & City line. LU is making a fixed contribution to the funding of the construction of the station box shell, which will be delivered by the developer (Bloomberg). LU will fit out the station box to complete the new entrance. The project schedule is highly dependent on the developer.

The London Underground Design Governance Board has agreed to omit all perimeter wall cladding to the public areas within the station saving the project £400k. Invitation to tender for the station fit-out works has been issued and is due for return on 30 October. Mid-tender clarification meetings have taken place. The project is currently discussing the option of including "John Hutton" glazed panels within the station design.

Bloomberg have advised that they are currently behind programme due to extended archaeology works. This could delay the delivery of the station box to LU and may impact the forecast date for delivery into service at the end of 2015. Further details of Bloomberg's revised construction programme are awaited.

Rail and Underground Capital Programmes

Victoria Station Upgrade

Spend to end Q2 2013/14 £m	EFC £m
277.6	589.9

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Complete PAL 1618 Squarework Tunnelling	12-Jul-13	28-Jun-13	Complete
Commence South Ticket Hall Demolition	07-Aug-13	08-Jul-13	Complete
Complete North Ticket Hall Piling	06-Dec-13	27-Nov-13	●
Shaft 29 (Allington Street) complete	13-May-14	07-Nov-13	●
Ground Treatment Complete	11-Nov-14	13-Jun-14	●
North Ticket Hall Civils Complete (inc removal of Traffic Management)	13-Mar-15	15-Dec-14	●
North Ticket Hall, access to Vic Line, LFEPA Shaft (Sectional Completion S1) - DIS (Annex B:2016)	23-Oct-16	04-Dec-16	▲
VSU - South Ticket Hall and remainder of VSU works (Sectional completion S2) - DIS (Annex B:2018)	04-Jun-18	06-Oct-17	●

The Victoria Station Upgrade project will deliver:

- a new underground north ticket hall at the junction of Bressenden Place and Victoria Street, with an entrance at street level;
- a capacity increase in the existing Victoria line ticket hall (south ticket hall);
- nine new escalators;
- a new interchange tunnel connecting the two ticket halls;
- new lifts providing step-free access between street, ticket hall and Victoria line platform levels;
- new lifts providing interchange between the Victoria line and District and Circle lines platforms; and
- improved access and new lifts between the National Rail and Underground stations.

The Rail and Underground Managing Director visited the site to review the considerable progress the project has made. Demolition of the old ticket hall roof continues to plan and the

Rail and Underground Capital Programmes

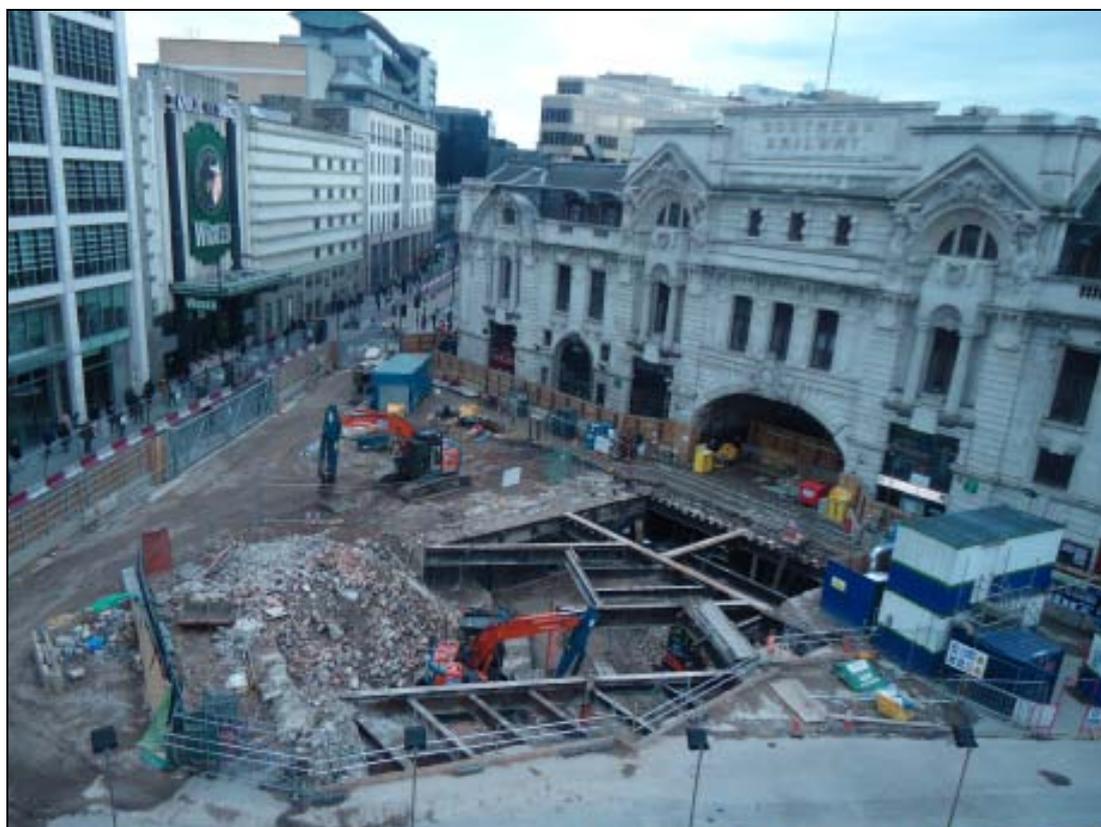
south ticket hall enabling works have been completed. The north 'paid area link' tunnel has been constructed in open-cut across the whole site (93 metres) and the base slab poured.

The complex task of threading the jet-grout columns around the District and Circle running tunnels continues, with 77 per cent of 2,200 columns having been completed.

Additional funding authority to allow for the upgrade of the District and Circle line platforms has been requested. These works were not originally included within the scope or funding for the main station scheme.



Overview of north area of site



Overview of south area of site

Rail and Underground Capital Programmes

Bank Station Capacity

Spend to end Q2 2013/14 £m	EFC £m
71.3	563.8

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Submit for Transport & Works Act Order (TWAO)	27-Aug-14	16-Jul-14	●
TWAO Grant of Powers	15-Jun-16	21-Apr-16	●
Completion of all designs to Compliance to S1538	23-Feb-16	23-Feb-16	●
Start on Site	16-Jun-16	21-Apr-16	●
New Ticket Hall Open to Public	14-Sep-21	25-Aug-21	●
Works to relieve station congestion on the Northern Line at Bank Complete (Annex B:2021)	31-Dec-21	31-Dec-21	●

The Bank Northern line congestion relief project will relieve current and expected congestion in Bank station, by having a new southbound running tunnel and platform with the existing platform utilised as a concourse area. By mitigating increasingly frequent congestion of the Northern line/DLR area, station closures will be reduced.

The formal award of the main design and build contract to Dragados SA, took place as planned on 1 August, and the contractor has now mobilised. The first programme for acceptance has been submitted by Dragados and accepted by London Underground.

Confirmation has been received that the proposed Docklands Light Railway (DLR) headshunt (reversing road) will be excluded from the scheme, and that DLR staff will relocate from the traffic room to the new station operations room when complete. Very positive articles on Bank and the success of the Innovative Contractor Engagement (ICE) process have recently been published in "New Civil Engineer".

Rail and Underground Capital Programmes

Jubilee Line Upgrade (JNP)

Spend to end Q2 2013/14 £m	EFC £m
52.3	72.8

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Complete Axle Counter Block modification	30-Nov-13	30-Nov-13	●
Decommissioning and removal of old assets	30-Jun-14	30-Jun-14	●

To upgrade the Jubilee line with new signalling systems and other asset improvements to provide faster journey times for customers, enabling a 30 trains per hour peak service.

Within the quarter performance of the new signalling system remained strong. On-going enhancements and roll-out of the signalling software will support the improvement in reliability and see a positive trend in reducing service disruption from its current position of five minutes per day, down to the achievable target of two minutes per day, monitored over a 28 day period.

Rail and Underground Capital Programmes

Northern Line Upgrade (JNP)

Spend to end Q2 2013/14 £m	EFC £m
210.3	394.2

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Commence ML3 System Testing NMA4 (Old Street/Euston to Oval)	12-Jul-13	12-Jul-13	Complete
Commence ML3 System Testing NMA5 (Stockwell to Morden)	19-Jul-13	18-Jul-13	Complete
Ready for Operational Proving NMA2 (Mill Hill East to Highgate)	27-Jul-13	12-May-13	Complete
Commence ML3 System Testing NMA6 (Edgware to Belsize Park)	02-Oct-13	02-Oct-13	Complete
In Revenue Service NMA2 (Mill Hill East to Highgate)	25-Nov-13	23-Jun-13	Complete
Ready for Operational Proving NMA3 (Archway/Chalk Farm to Angel/Euston)	30-Nov-13	20-Sep-13	Complete
Ready for Operational Proving NMA4 (Old Street/Euston to Oval)	08-March-14	22-Nov-13	●
Northern line upgrade complete, delivering 20% increase in capacity (Annex B: 2014)	31-Dec-14	31-Dec-14	●

The Northern line Upgrade 1 (NLU1) involves the replacement of life-expired signalling assets that date back to the 1960s. As well as re-signalling the line with a moving-block Automatic Train Control (ATC) signalling system, the programme also includes the replacement of some conductor rail and track.

Reliability in the combined High Barnet to West Finchley (Northern Migration Area [NMA] 1) and Highgate to Finchley (NMA2) area improved to a moving average of six minutes per day with plans in place to reduce service disruption further to the steady state target of two minutes.

Over the weekend 21/22 September, revised plans for Trial Operations between Archway/Chalk Farm and Angel/Euston (NMA3) area were delivered. The Trial Operations were very successful, with only a few minor issues on Saturday and an unprecedented zero Transmission Based Train Control (TBTC) delay minutes on Sunday. There is high confidence to move to revenue service on 26 October following the resolution of the late assurance paperwork issues. This remains a significant achievement with NMA3 being the most complex area as it contains the Camden Town junction.

Rail and Underground Capital Programmes

Jubilee & Northern Line Mid Life Refurbishment (JNP)

Spend to end Q2 2013/14 £m	EFC £m
3.8	56.7

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Northern Line Mid-life refurbishments complete	31-Dec-14	31-Dec-14	●
Jubilee Line Mid-life refurbishments complete	05-Feb-17	05-Feb-17	●

This Project will deliver the Mid Life Refurbishment of the 63 Trains on the Jubilee line and 106 Trains on the Northern line. The Mid-life refurbishment is required to preserve fleet saloon condition and to meet residual life, performance (ambience) and Rail Vehicle Access Regulations (RVAR) 2010 requirements.

The quarter has seen the successful completion of the refurbishment of Northern line trains three, four and five which have been returned to passenger service.



Before refurbishment



After refurbishment

Rail and Underground Capital Programmes

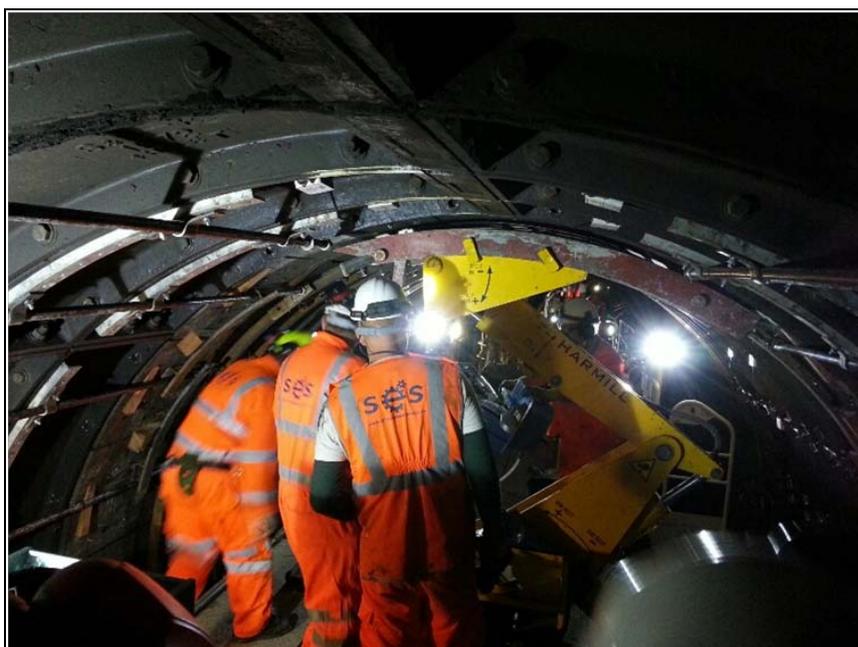
Bond Street to Baker Street Tunnel Lining (JNP)

Spend to end Q2 2013/14 £m	EFC £m
13.7	35.9

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Start on Site (SOS) Specialised Segment Removal Plant - Baker Street to Bond Street Tunnel Relining	16-Jun-13	16-Jun-13	Complete
Replace 25 No of Baker Street to Bond Street Tunnel rings (mid year)	15-Nov-13	15-Nov-13	●
Replace 50 No of Baker Street to Bond Street Tunnel rings (full year)	30-Mar-14	30-Mar-14	●

To remediate 215 metre length of concrete tunnel lining rings that are showing signs of deterioration on the Jubilee line between Bond Street and Baker Street.

The complex and innovative works to replace the tunnel rings between Baker Street and Bond Street continues to progress with no safety incidents or service impact. Eight tunnel rings have been successfully installed, which is less than planned as a result of earlier challenges with engineering vehicles not communicating reliably with the Transmission Based Train Control (TBTC) system. These problems have been resolved and other improvements have been made which will provide a longer working window within engineering hours. In addition two closures have been secured which will assist in recovering some of the early delays. Mitigation is in place, recovery in the new year is expected and schedule completion is still forecast for January 2016.



Cutting head being readied to begin removal of crown section of expanded concrete ring.

Rail and Underground Capital Programmes

Northern Line Extension (JNP)

Spend to end Q2 2013/14 £m	EFC £m
12.8	964.6*

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Define Programme Management methodology	30-Apr-13	30-Apr-13	Complete
Issue Invitation to Tender (ITT) for Innovation Contractor Engagement contract	30-Sep-13	30-Sep-13	●
Define Delivery Model for non-civils works	20-Dec-13	20-Dec-13	●

The Northern Line Extension (NLE) will extend the Northern line Charing Cross branch from Kennington to a new southern terminus within the Battersea Power Station site with an intermediate station within south Lambeth.

During the quarter the Technical Dialogue phase for the Main Design and Build Contract has continued, with the four shortlisted bidders attending the methodology and programme sessions. The four bidders have provided detailed submissions, demonstrating a high level of engagement from the market. From the information gathered so far there are many opportunities to de-constrain the Invitation to Tender.

The consultation period has ended and there were 235 objections, 22 letters of representation and 38 letters of support received. The planning team are now actively reviewing the objections and will respond prior to the commencement of the Public Inquiry which will commence in November 2013, with a decision expected in autumn 2014.

*Post quarter update: additional funding for land purchases has been approved, the above figure is net of property purchase and sale.

Rail and Underground Capital Programmes

Infrastructure and Special Projects (JNP)

Spend to end Q2 2013/14 £m	EFC £m
61.2	493.9

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Complete painting works on 20 no bridges	30-Apr-13	30-Apr-13	Complete
Bring into use (BIU) Northfields Train Crew Accommodation	10-May-13	10-May-13	Complete
Complete painting works on 26 no bridges	31-Jul-13	31-Jul-13	Complete
Complete painting works on 29 no bridges	14-Sep-13	31-May-14	■
Start On Site (SOS) Structural Bolting to Vent Shaft openings (JNP)	30-Sep-13	02-Sep-13	Complete
Finish On Site(FOS) at Canons Park Northbound Embankment	14-Jan-14	17-Dec-13	●
Start On Site (SOS) Queensbury embankments - earth structure refurbishment (EM2 and EM3) works	06-Feb-14	09-Jan-14	●
Bring into Use (BIU) 23 no Depot Track Isolation Switches	31-Mar-14	31-Mar-14	●

Programme works to remediate the JNP Civils assets, principally earth structures, track drainage, deep tube tunnels and bridges and structures, prioritised by detailed condition assessments.

Canon's Park northbound embankment works progressed to programme with a total of 282 strengthening piles successfully installed in the quarter. Access arrangements for the southbound embankment have been finalised which will now allow the residual works to be completed.

Whilst the quarter saw the achievement on the milestone for painting works on 26 bridges a quality investigation has highlighted some concerns of the paint system which will result in re-work being undertaken by the contractor. This has impacted the achievement of the milestone for 29 bridges which has now been re-forecast.

Rail and Underground Capital Programmes

Wimbledon Line Enhancements

Spend to end Q2 2013/14 £m	EFC £m
2.1	30.0

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Issue Invitation to Tender for twin tracking	10-Dec-13	10-Dec-13	●
Place order for additional trams complete	31-Mar-14	02-Aug-13	Complete

The Wimbledon Line Enhancement Programme is a programme of works to address congestion on services between Therapia Lane and Wimbledon. To provide these improvements, the programme comprises three work streams:

- twin tracking of existing single track sections of the Tramlink network between Beddington Lane and Mitcham Junction and associated infrastructure enhancements;
- delivery of an additional platform and new tram infrastructure at Wimbledon Station, including extension of running rights at the station; and
- procurement of four additional trams to facilitate the increased services into Wimbledon Station.

The Invitation to Tender (ITT) for the infrastructure works is progressing well and undergoing final review prior to issue.

The Network Change application to facilitate the removal of the existing Network Rail infrastructure at Wimbledon Station has completed the required notice period and approval is awaited. This enables signature of the Implementation Agreement with Network Rail and is the more critical process.

The Station Change application was submitted on 5 September 2013 and further engagement is progressing with Stakeholders to support the application approval.

Tramlink placed the order for the four new trams on 2 August 2013 with Stadler. A delivery programme has been issued in line with the agreed programme dates.

Rail and Underground Capital Programmes

Overground Capacity Improvement

Spend to end Q2 2013/14 £m	EFC £m
21.3	182.5

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Award ELL Stabling infrastructure contract	01-Oct-13	28-Jun-13	Complete
Completion of ELL Stabling enabling works	01-Nov-13	01-Nov-13	●
Completion of ELL Depot enabling works	01-Mar-14	01-Mar-14	●

The London Overground Capacity Improvement Programme is a programme of works addressing the increasing demand on the London Overground network. It includes conversion of the existing fleet of 57 London Overground Class 378 four car trains to five car trains on all routes. To achieve this increase in capacity, a series of infrastructure enhancements are required including:

- additional stabling at Silwood Triangle and Willesden and the associated connections to the network;
- reconfiguration of New Cross Gate Depot and Willesden Train Maintenance Depot to enable maintenance of the five car fleet;
- platform extensions, signalling and associated systems works;
- infrastructure changes to support additional capacity (including enhancement of existing turn-back sidings); and
- procurement of 57 new Class 378 rolling stock cars to extend the existing four-car units to five-car units plus potentially two additional five-car units to increase peak service frequency.

All East London line delivery contracts have now been awarded and the detailed design stage has commenced. The Silwood Enabling works are largely complete and the site is being handed over to the Finishing works contractor. Mobilisation to the site at the New Cross Gate Depot has commenced.

North London line tenders have been issued for signalling and platform extension works. The tender for the Depot and Stabling works will be issued in the next period.

Corporate

Integrated Transport Smartcard Organisation

Spend to end Q2 2013/14 £m	EFC £m
60.0	65.9

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Head Office Processing System (HOPS) Operational	06-Sep-12	11-Mar-13	Complete
Reader hardware rollout complete	30-Apr-13	18-Oct-13	■
ITSO on Prestige (loP+) Stage 2 certification	18-Dec-12	7-May-13	Complete
ITSO on Prestige (loP+) Stage 3 certification	30-Sep-13	29-Nov-13	▲
ITSO on Prestige Project Complete	24-Dec-13	24-Dec-13	●

ITSO (Integrated Transport Smartcard Organisation) is the smartcard specification mandated by the DfT for rail franchises and for the national bus concessionary scheme. Enabling the acceptance of ITSO specified tickets requires changes to TfL's ticketing systems, including a card reader capable of processing both Oyster and ITSO tickets, establishment of a Head Office Processing System (HOPS), new and upgraded communications links and other system changes. The project is responsible for the technical changes required to support ITSO acceptance on the TfL controlled reader estate but a live operational system is dependent on Train Operating Companies (TOCs) being capable of integrating with the system and appropriate commercial agreements. The project is being funded by the DfT under an agreement with TfL dated 28 May 2009.

The TfL HOPS is working in the live environment and is successfully communicating with the Southern HOPS. Live testing of Stage 2 software has been undertaken at 64 stations. Journeys by the test team are being successfully completed from outside to inside London and vice versa. A customer launch is planned for mid October.

Stage 3 formal certification is two months later than originally planned, this activity is now underway and proceeding without issues and the delay in this area has not impacted the completion date.

Rights functionality has been agreed as removed from scope of the project.

The project has engaged with other parties and the DfT to discuss deployment options across the rail industry once the project is complete. Central to delivery of live operational schemes is agreement of the Commercial Agreements that are being progressed by Association of Train Operating Companies (ATOC) outside the scope of this project.

Corporate

Future Ticketing Project

Spend to end Q2 2013/14 £m	EFC £m
51.8	68.5

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Phase 1 – initial bus launch to be implemented, payment of the bus single fare by contactless bank card	31-May-12	13-Dec-12	Complete
Phase 2 - start of integration of TfL and 3rd party back office systems	14-Jun-13	14-Jun-13	Complete
Phase 2 - introduction of contactless bank card acceptance for multi-modal daily travel, with daily and 7 day capping (Annex B: 2014)	31-Jan-14	15-Dec-13	●

The Future Ticketing Programme introduces the acceptance of contactless bank cards and compatible devices as payment for travel, improving customer convenience and enabling cost savings for TfL through reduced card issuance and commission costs.

Phase 1, acceptance of contactless payment cards for single journeys on TfL bus services, was successfully launched on 13 December 2012.

Phase 2 – the system is in the final stages of formal assurance and accreditation by the payment card industry. Issues found in the certification process for the new payment model are expected to result in a two week delay to the technical completion of the project. A pilot for 5,000 staff, key stakeholders and members of the public will now run from early December 2013, followed by a full roll out in early 2014.

Surface

Barclays Cycle Hire Scheme

Spend to end Q2 2013/14 £m	EFC £m
115.1	144.2

Programme level	Current Plan Date	Actual/Forecast Date	RAG
CHEI: Contract variation signed	15-May-13	09-May-13	Complete
CHEI: Start of construction programme	03-Jun-13	04-Apr-13	Complete
CHEI: Start of installation programme	30-Aug-13	19-Aug-13	Complete
CHEI: Operational commencement	13-Dec-13	13-Dec-13	●
Phase 2: Start of Phase 2 Close (Gate 2)	20-Jan-14	30-Jun-14	■
CHEI: All sites complete	31-Mar-14	31-Mar-14	●
Phase 2: End of Phase 2 Close (Gate E)	30-Apr-14	30-Sep-14	■
CHEI: Project closure approved	31-Jul-14	31-Jul-14	●

The Barclays Cycle Hire scheme launched successfully to registered members on 30 July 2010 and was opened up to all users on 3 December 2010. The scheme costs annual members less than 25 pence per day, as the vast majority of their trips are less than 30 minutes. This is a low-cost and convenient alternative for many travellers.

Phase 1 – launched in July 2010 and the project formally concluded on 4 July 2012.

Phase 2 – Geographic expansion launched on time in March 2012, increasing the number of bicycles to 8,333. Major system improvements are being delivered in stages; the final stage went live in September 2013, improving customer usability and billing. The two project closure milestones have been reforecast to mid 2014 to align with the contractual milestones agreed with Serco.

Cycle Hire Expansion and Intensification (CHEI) – takes Cycle Hire west and south-west into areas of anticipated high demand including parts of Wandsworth, Hammersmith and Fulham, and the additional areas of Lambeth, and Kensington and Chelsea. This will increase the number of bicycles to around 11,000 across the whole scheme, supported by approximately 5,000 docking points. The scheme is due to launch in December 2013 with full completion by spring 2014. Planning consent issues with a cluster of sites are being resolved. Priority sites are being appealed and additional sites identified, to improve the network for delivery in early 2014.

Surface

New Investment SCOOT

Spend to end Q2 2013/14 £m	EFC £m
17.0	17.2

Programme level	Current Plan Date	Actual/Forecast Date	RAG
240 Sites commissioned onto UTC (FY 11/12) 413 Cumulative	30-May-12	30-May-12	Complete
115 UTC Design Briefs complete (FY 12/13)	08-Dec-12	08-Dec-12	Complete
115 Sites civil engineering complete (FY 12/13)	01-Mar-13	01-Mar-13	Complete
115 Sites SCOOT Loops installed (FY 12/13)	18-Mar-13	18-Mar-13	Complete
115 sites commissioned onto UTC (FY 12/13) 528 cumulative	31-Mar-13	31-Mar-13	Complete
115 Sites infrastructure installed (FY 12/13)	31-Mar-13	31-Mar-13	Complete
Final signal technology enabling completed (Annex B: 2015)	31-Jul-13	24-Jul-13	Complete
Project closure approved	31-Dec-13	31-Dec-13	●

The Split Cycle Offset Optimisation Technique (SCOOT) programme will upgrade traffic signal technology to help meet the Mayoral objective of smoothing traffic flow. Costs shown are for the New SCOOT Investment project, which has delivered 528 sites of the planned 1,000 sites. The remaining sites are funded and delivered by business-as-usual activities across Surface Transport.

Under the New SCOOT Investment project, 240 sites were planned to be installed in the 2011/12 financial year, bringing the total to 413 sites of the 528 the project has contributed towards the planned 1,000 total. These sites were delivered by the end of May 2012.

The remaining 115 sites have been installed in the 2012/13 financial year, taking the total to the full 1,000 sites. At the end of the fourth quarter, 115 design briefs had been completed, 115 detailed designs completed, 115 civil engineering sites completed, 115 SCOOT loops installed and 115 sites commissioned. All 1,000 sites were enabled by 24 July 2013.

Surface

Road Space Management SCOOT

Spend to end Q2 2013/14 £m	EFC £m
0.1	57.1

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Feasibility approved	30-Jul-13	18-Jul-13	Complete
200 sites commissioned	31-Mar-14	31-Mar-14	●

The Road Space Management SCOOT delivery portfolio will upgrade the traffic signal technology at a further 1,500 sites. This will allow TfL to manage traffic in a more policy responsive manner.

The delivery portfolio has progressed through the approvals process. Approval to deliver the first two years (600 sites) was granted in mid July 2013. At the completion of this rollout, 75 per cent (a total of approximately 4,500 out of 6,000 locations) of London's traffic signals will be operating SCOOT.

Surface

Cycle Superhighways

Spend to end Q2 2013/14 £m	EFC £m
29.5	113.6

Programme level	Current Plan Date	Actual/Forecast Date	RAG
CS Route 2 Extension – preliminary design complete	31-Jan-13	07-Jan-13	Complete
CS Route 2 Extension – detailed design complete	30-Apr-13	13-Sep-13	Complete
CS Route 2 Extension – route open	31-Aug-13	31-Oct-13	▲
CS Route 5 – construction started *	31-May-13	01-July-13	Complete
CS Route 5 – construction complete *	31-Oct-13	09-Dec-13	▲

The Cycle Superhighways project is delivering radial cycle commuter routes from outer to central London. The first four routes (CS2, CS3, CS7, and CS8) were opened in 2010 and 2011. The next stage of delivery is now underway with an extension of CS2 from Bow to Stratford, and the first phase of CS5 from New Cross to Oval, both due to be completed by the autumn.

The remainder of the forward programme is being reviewed following the publication of the Mayor's Cycling Vision in March 2013. The revised programme will be confirmed during the next quarter and will include upgrades to the existing routes and a number of new routes delivered during the current mayoral term, sitting alongside the east-west and north-south Cycle Superhighways through central London.

**The first phase of CS5 will be delivered in 2013.*

Surface

Hammersmith Flyover Phase 2

Spend to end Q2 2013/14 £m	EFC £m
4.1	77.7

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Designer appointed	25-Oct-12	25-Oct-12	Complete
Award of framework agreement or contract	31-Mar-13	28-Mar-13	Complete
Approval of concept design (design stage 2)	28-Jun-13	28-Jun-13	Complete
Approval of detailed design (design stage 3)	03-Sep-13	18-Oct-13	▲
Approval to Award Design and Build Work Package	17-Oct-13	17-Oct-13	●
Possession of site	04-Nov-13	28-Oct-13	●
Construction complete	21-Apr-15	21-Apr-15	●
Project close	09-Oct-15	09-Oct-15	●

The Hammersmith Flyover project is part of a portfolio investment in eight specific road tunnels and structures on the Transport for London Road Network (TLRN) that have been identified as requiring capital investment in order to improve road network safety, network resilience and stability, and reduce the whole-life costs.

The first phase of works, addressing immediate risks to the safety of the structure, was completed in May 2012. The second and final phase of works, developing and implementing a long-term strengthening solution, commenced shortly thereafter and design activities have been progressed following the appointment of the designer, Ramboll, in October 2012.

Following successful completion of the tender process and evaluation results in March 2013 the contractor has been awarded the Framework Agreement for Early Contractor Involvement. The contractor is engaged through a call-off contract and has worked with the designer to progress concept and detailed design phases to allow the possession of site to be taken on 28 October 2013.

Surface

London Road User Charging and Traffic Enforcement Notice Processing Contract re-let Project

Spend to end Q2 2013/14 £m	EFC £m
2.4	99.4

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Invitation to Participate issued	18-Feb-13	18-Feb-13	Complete
Invitation to Submit issued	20-Aug-13	20-Aug-13	Complete
Evaluation of ITS bids complete	23-Oct-13	23-Oct-13	●
Approval to award contract	19-Nov-13	19-Nov-13	●
Contract signed	13-Jan-14	13-Jan-14	●
Traffic Enforcement Notice Processing go-live	21-Jun-15	21-Jun-15	●
Business Operations service go-live	01-Nov-15	01-Nov-15	●
Enforcement Operations service go-live	01-Nov-15	01-Nov-15	●

The upcoming expiry of both the London Road User Charging (LRUC) and Traffic Enforcement Notice Processing (TENP) contracts provides TfL with an opportunity to maximise efficiency by grouping common activities while enhancing customer satisfaction. These contracts contribute to smoothing traffic flows and improving bus journey time reliability on the Transport for London Road Network (TLRN). LRUC includes the central London Congestion Charging and Greater London Low Emission Zone and TENP provides the notice processing services for decriminalised traffic offences on the TLRN.

In order to align the LRUC and TENP contracts, the current LRUC contract with IBM has been extended by 12 months to October 2015. A procurement process is underway with the objective of the new services having a staggered go-live in 2015, with the new TENP service coming on line in June 2015 and the LRUC service in November 2015.

All milestones remain on target. The Invitation to Participate (ITP) stage concluded on 9 August and two of three bidders progressed to Invitation to Submit (ITS) stage. Final bids for evaluation were received on 11 September; the preferred bidder(s) will be agreed at Decision Panel on 15 October. A Gate 5 (Contract Award) Integrated Assurance Review (IAR) is underway. TfL Board approval for contract award and additional project authority to deliver the project to completion is scheduled for 11 December.

Surface

Transport for London Road Network Capital Renewal Programme

Spend to end Q2 2013/14 £m	EFC £m
16.5	56.5

The annual budget for the Transport for London Road Network (TLRN) Capital Renewals Programme is based on long-term asset investment modelling and an objective risk-based assessment of the renewals required to deliver a safe and reliable network.

Capital Renewals is a rolling programme of schemes that maintain the physical infrastructure of the TLRN, including carriageways, footways, structures, tunnels, lighting, drainage, green estate and street furniture. The programme consists of schemes that lengthen the useful life of an asset, either by replacing it with a new one, reconstruction or refurbishment.

Schemes are identified, prioritised and programmed using a risk-based approach. An additional ten per cent of schemes was identified from the forward programme to act as reserves. The reserves create flexibility that caters for unplanned scheme deferrals, caused by factors such as severe winter weather, refusal of permits on congestion grounds, and utility works.

Programme outputs

Output	Unit	Annual target	YTD actual	YTD forecast *	Commentary
Carriageway resurfacing	m ²	650,000	169,370	274,459	26 per cent of annual target achieved - on course to achieve full year target.
Footway resurfacing	m ²	58,000	2,240	3,633	4 per cent of annual target achieved - on course to achieve full year target.
Lighting columns	Nr.	900	2	166	0 per cent of annual target achieved - the delivery of Q1 schemes was deferred so they could be designed to the new British Standard which allows lower lighting levels for the TLRN. Designs are progressing and delivery will start in Q3. On course to achieve full year targets.
Vehicle restraint barriers	m	5,000	0	0	0 per cent of annual target achieved - sites identified and investigations and designs progressing; delivery programmed for Q3 and Q4. On course to achieve full year targets.
Pumping station upgrades	Nr.	7	0	0	0 per cent of annual target achieved - sites identified and investigations progressing; designs started in Q2 with delivery planned to start in Q3. On course to achieve full year targets.
Expansion joints replaced	Nr.	6	0	0	0 per cent of annual target achieved - sites identified and designs progressing; delivery planned to start in Q3. On course to achieve full year targets.

**The forecasts were set prior to the appointment of the delivery contractors.*

Although a number of the deliverables are behind the original forecasts, they remain on plan to achieve the full year targets. Upon review, the forecasts were optimistic and reflected the delivery profile of a mature contract rather than the first year of a major new contract, the London Highways Alliance Contract (LoHAC) that introduced new ways of working.

Surface

Better Junctions

Spend to end Q2 2013/14 £m	EFC £m
8.9	17.7

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Top 100 reviews completed	31-Dec-13	Under review	n/a
First 50 schemes delivered	31-Dec-13	Under review	n/a

The programme comprises a set of high-profile junctions which are recognised barriers to cycling, and where substantial changes could be made to improve vulnerable road user safety and utility. The junctions are typically complex with either high cyclist/pedestrian flows or recognised as having negative effects on cycling, and walking. In line with TfL's target to increase cycling 400 per cent by 2026, the programme is currently being reviewed to focus resources on tackling priority, key junctions.

Surface

New Bus for London (NBfL) Vehicle Purchase

Spend to end Q2 2013/14 £m	EFC £m
25.3	220.0

Programme level	Current Plan Date	Actual/Forecast Date	RAG
Conversion of first route completed	30-Jun-13	22-Jun-13	Complete
Conversion of second route completed	31-Oct-13	21-Sep-13	●
Delivery of 600 buses into service	30-Apr-16	30-Apr-16	●

This programme will deliver 600 NBfL buses into London by the end of April 2016. The buses are being built by Wrightbus in Ballymena, Northern Ireland, to the same generic design as the prototypes that were introduced onto route 38 in February 2012.

The fixed price contract with Wrightbus is for £212.7m equating to an average price per vehicle throughout the contract of £354,500. This price includes upgrade requirements to Euro VI engines during 2014.

The first route to be converted was route 24 on 22 June 2013, operated by Metroline with the second route, route 11 operated by Go Ahead, converted on 21 September as planned. Planning is underway to convert route 9 operated by London United on 26 October and route 390 operated by Metroline before the end of the year. Other routes are being evaluated and negotiations are taking place with a number of operators. Further routes for conversion will be announced in due course.