

EAST LONDON LINE POST-CLOSURE NOTES – 12

by John Thomason

with contributions from London Reconnections, Rail Accident Investigation Branch of Department for Transport, Mike Horne and anonymous

At the TfL Board meeting on 29 July the following items were reported:

Track work between Holywell Lane and Vallance Road in the northern section of the project has now been completed. As a result of the completion of this key milestone, continuous track is now in place from south of Dalston Junction station to Surrey Quays station. Another key milestone has been reached at Hoxton with the successful commissioning of the bulk supply point. The bulk supply point takes 132kV power from the national power network and then transforms it to provide power to operate the railway. Key partner, Bombardier Transportation, has taken occupancy of the new Rolling Stock Maintenance Facility Building at the New Cross Gate Depot, joining Network Rail Operations. Works on the existing Network Rail Infrastructure are progressing following further possessions at New Cross Gate, West Croydon and Crystal Palace.

Some stakeholders are unhappy about the reduction in services to Victoria and London Bridge that will occur when the South London Line is withdrawn by the DfT to make way for the Thameslink project. One of the conditions imposed by the DfT is that TfL must not run its services into Victoria as this would reduce the revenue received by other operators, for which they would have to be compensated. Working with London TravelWatch, TfL is undertaking a study to assess the gaps in service provision. Options to address these gaps will be identified and their operational feasibility, costs and revenue will then be assessed. This will be used to demonstrate to stakeholders what could be done to mitigate the loss of the South London Line, though TfL itself does not have any funding to take these options forward. TfL is working with the London Boroughs of Lewisham and Southwark to evaluate the business case for a new station, associated with new development at Surrey Canal Road. The projected cost of £12m is currently unfunded.

A visit to Dalston Junction on 7 August showed that a large gang of workers was installing conductor rail. Conductor rail installation was in hand elsewhere along the route but the date for completion forecast in the last report, has not been met! Workers indicated that power was expected to be turned on at the end of August.

Structural steel work for the new street-level building at Surrey Quays had been erected by early August. The footprint suggests that cycle parking may no longer be provided here, however facilities are provided at nearby Cope Street and Canada Water station. The nearby Surrey Docks substation has had the traditional London Transport enamel plates replaced with modern plastic signs still entitled Surrey Docks but with no ownership stated.

The new Trundleys Road footbridge is scheduled for completion by the end of August. It has substantial ramps and steps to give access to the over-track bridge; a very substantial structure in truth but at what cost. The original bridge was owned by the London Borough of Lewisham – presumably they own the replacement.

The RAIB Report, *Collision with Debris from Bridge GE19 near London Liverpool Street, 28 May 2008*, was published in August. The following extracts are of interest:

The immediate cause of the accident was concrete planks falling from the partly completed deck of bridge GE19 onto the track below, triggered by a sudden movement of the bridge deck. Train 1K12 then hit the debris.

Causal factors were:

- (a) The inadequate planning and lack of design input to the deck repositioning activity, which resulted in the need to ensure the continued stability of the temporary supports at the east abutment being overlooked.
- (b) The unauthorised modification of the temporary support by introducing an additional sliding surface, which made the east abutment supports vulnerable to instability due to horizontal force or movement.
- (c) The installation of lubricated PTFE-faced slipper pads on a gradient, which introduced a sustained horizontal force into the east abutment temporary supports sufficient to destabilise them.
- (d) The decision to substitute the positive tie between individual pre-cast concrete permanent formwork planks (Omnia planks) with cement mortar, which made it more likely that individual planks, if subjected to a large jolt, would fall onto the track.

Contributory factors were:

- (a) The lack of accurate or sufficient detail in the steelwork method statement or work plan, which allowed the site team to work outside of the approved documents.
- (b) The hazard identification process not identifying some low probability high impact hazards (e.g. failure of the temporary works), which were consequently omitted from the steelwork risk assessment for the post-launch phase.
- (c) The Balfour Beatty-Carillion joint venture's decision to delegate responsibility for temporary works checks to Fairfield Mabey, which meant that they lost visibility of how the structure was performing, or of measures being taken to correct the horizontal movement.
- (d) The downhill movement of the bridge deck resulting from slippage of the parking restraints.
- (e) The lack of a plan to manage thermal movement, which resulted in further displacement of the deck, probably during the transfer of horizontal restraint.
- (f) The lack of relevant experience within the site team which led to the decision to incorporate an additional slip surface on an inclined plane.
- (g) The exposure of the permanent bearings at the east abutment to thermal movement without releasing the transit cleats, thereby weakening the transit cleat bolts.
- (h) The absence of post-work checks, which allowed the unstable condition of the east abutment temporary supports and lack of a secondary means of support to go undetected.
- (i) A lack of ownership of the risks presented by the unsecured deck section to the operational railway during jack down.
- (j) The modification of the deck layout, which allowed sections of the deck greater freedom to move, and off-set the permanent formwork planks against the shear studs thereby reducing their effectiveness in preventing the unsecured planks from falling from the deck.

Recommendations to address causal and contributory factors:

- 1** Network Rail should review its Safety Management System, and procedures, to satisfy itself that the following points are covered before approving construction work, particularly by third-parties, on or over the operational railway:
 - (a) The requirement for an approved design, method statement and risk assessment for any remedial activity involving load-bearing temporary works. This should include consideration of a range of failure modes, and inspection against known parameters after the structure or temporary works have been knowingly disturbed.
 - (b) The means of safely adjusting the horizontal position of a structure should this become necessary.
 - (c) The requirement to specifically consider the risks arising from the use of unrestrained low-friction surfaces, such as PTFE, which may be subjected to unpredicted lateral loads and disturbing forces during construction activity. This should include the reduction in the coefficient of friction which can occur when a sustained horizontal force is applied.
 - (d) The means of securing permanent formwork and other construction materials, to protect against sudden or unplanned structural movement.
 - (e) The need for method statements to contain accurate information on all construction stages, and to consider the effects of thermal movement where structures are supported on bearings.
 - (f) The need for contractor's risk assessments to include consideration of low probability high impact risks associated with temporary works.
 - (g) The need for independence in the routine inspection of complex/temporary works, which should not be delegated to the organisation responsible for providing them.
 - (h) The means to prevent rain-water collecting directly above 25 kV electrification equipment due to the risk of flash-over if the water is released in an uncontrolled manner.
 - (i) The requirement for the intermediate certification of structures, including temporary works, for which the existing Form E process may be inadequate.
 - (j) The benefit to all parties on major projects of adopting a common categorisation for risk assessments, to enable a coherent risk profile to be generated and to avoid the risk of confusion.
- 2** London Underground Limited, Rail for London, the Heritage Rail Association, the Light Rail Engineering Group and Northern Ireland Railways should establish processes so that information is available to any potential suppliers of similar projects or assets regarding the issues raised within this report.
- 3** Network Rail should establish procedures so that information is available to operations staff where construction activities could reasonably affect the safety of the railway. These should include, in particular:
 - (a) The provision of emergency contact details for identified project representatives out-of-hours.
 - (b) Information on the location of each site, and the signal numbers necessary to protect the line.
- 4** Network Rail should expand NR/L2/OCS/250, the National Emergency Plan to:
 - (a) Make provision for maintaining or extending the command structure in place following the exit of the emergency services from the site to ensure that post-incident activities are managed properly.

- (b) Reinforce arrangements for managing non-railway organisations during the incident recovery phase and prevent persons being exposed to risk due to a lack of site coordination.
 - (c) Require route controllers to positively confirm what trains are involved in an incident, establish the location and ensure communication with all trains requiring assistance.
- 5 Network Rail should enhance the incident management training given to operations staff to reflect the requirements of Recommendation 4.
- 6 The Health and Safety Executive should:
- (a) Draw the attention of the Standing Committee on Structural Safety (SCOSS) to the issues identified in this report regarding the safe use of PTFE in construction to ensure a wider promulgation amongst the civil engineering community.
 - (b) Approach companies known to be involved in moving large loads using PTFE to check they have appropriate guidance and internal procedures to address the safe use of PTFE.

The full report can be found at

http://www.raib.gov.uk/cms_resources.cfm?file=/090820_R222009_GE19.pdf

The Transport for London (East London Line) Transfer Confirmation Order, SI 2009 No.2168, which confirms the passing of the ELL to Rail for London (RfL) from London Underground, was made on 5 August and came into force on 15 September. The Statutory Instrument can be found at –

http://www.opsi.gov.uk/si/si2009/uksi_20092168_en_1

Detailed information can be found at –

<http://www.tfl.gov.uk/corporate/projectsandschemes/networkandservices/eastlondonrailway/2111.aspx>

The schedule documents relating to transfers such as this are always an interesting read. This is because when the Order came into force in September, with only a few small exceptions, everything related to the East London Line effectively transfers to RfL. This includes property, contracts, rights, liabilities and statutory functions all of which, therefore, have to be listed and accounted for in these schedule documents.

The schedules, therefore, provide an interesting snapshot of the various deals, whether relating to the provision of radios or track access, currently in force on the ELL. They also serve as a healthy reminder of just how long the ELL (in all its incarnations) has been a feature of the London Railway Scene. The Statutory Functions pursuant to the ELL are currently drawn from the East London Railway Acts of 1865, 1871, 1874, 1875, 1876, 1879, 1882 & 1883. Also, from several Addition Powers Acts passed in 1866, 1868 & 1870. In the modern era, the ELL Extension Acts of 1997 & 2001 both obviously feature as well.

Most interesting of all, the schedules also provide a nice guide to what property (whether owned or optioned) relates to the ELL. The Railways are arguably second only to the Church of England when it comes to their ability to accrue and retain property over many generations, and thus it is always fascinating to see precisely what deals are in place and where.

When it comes to the ELL, obviously much is precisely as would be expected – railway arches and the businesses they contain represent a significant proportion of the line's property commitments. There are, however, a few points of interest that stand out. The presence of the Spread Eagle Pub in Shoreditch on the ELL books is

perhaps unsurprising, given its location, but one wonders how many of the patrons of both its decidedly “Old Shoreditch” past (to put it politely) or its current trendier status are aware that it’s railway land.

In more railway-specific terms, it is also interesting seeing what is owned or can be acquired around Surrey Canal Road. Similarly the tunnel at New Cross, which is listed simply as “New Cross experimental tunnel, Milton Court Road”. The tunnel was built in 1972 by LT to try out a new type of tunnelling shield for use where ground conditions were poor or waterlogged, as was likely to be the case for the Fleet Line stage 3 from Fenchurch Street to Lewisham. This used Bentonite slurry to improve ground conditions at the cutting face. The tunnel is approximately 200 yards long and built along the alignment of the proposed northbound Fleet Line, beneath a disused link to the East London Line. As an engineering experiment it was considered a success.

The Ian Visits website reports on a visit to the ELL travelling exhibition previously mentioned. “Alas, after traipsing over yesterday afternoon, the exhibition, which promised a selection of historic artefacts recovered during the construction and models (note the plural) of the stations, turned out to be one model and one glass cabinet with six items on show. There was, however, the ‘interactive’ display, which was a ‘Dummies Guide’ to the railway, with a perpetually scrolling background behind the text that nearly caused me to have a seizure. The sole model of the stations was of Haggerston, which is also not the most interesting one to look at, being just a raised couple of platforms above a viaduct. Overall, quite a disappointing display with very little to show for itself”.