

EAST LONDON LINE POST-CLOSURE NOTES – 6

by John Thomason

**With contributions from Google Groups, londonconnections blogspot [RIP]
londonreconnections blogspot and anonymous**

The arrangements for the ELC bus to call near Deptford Bridge DLR (see *Underground News* No.561, page 635) became clear when ELC decals were affixed to the flag of stops N and P, outside Lewisham College in Deptford Church Street. Remarkably the buses continued to call once normal services resumed on the DLR. Passenger loadings had increased between Deptford and Canada Water, especially at peak hours but fell back somewhat once the DLR resumed normal service. The decals were removed and buses ceased to call by mid-September.

TfL Board Papers for 30 July 2008 tell us that another key milestone was reached on the East London Line Project when the first sections of new track were laid in the northern extension on 14 July. Work started at Haggerston station and will move southwards. The East London Line Project team has made significant improvements to the plans for Dalston Lane Bridge by devising a solution to reduce the impact of works on residents and other local stakeholders. As a result of extensive stakeholder consultation and collaborative working between TfL, the contractor and other key parties, a solution has been devised which reduces the overall duration of a traffic diversion at Dalston Lane from 11 months to only two months. TfL continues to develop the proposal for Phase Two of the East London Line extension to ensure that it offers best possible value for money. The scheme has significant social benefits, increasing service frequencies and reducing journey times in a relatively deprived area of south London. The timescale for delivery of the extension is critical, as the service will replace the London Bridge/Victoria service that is expected to be withdrawn by Network Rail in December 2011 as a result of the Thameslink construction works at London Bridge. Delivery to this timescale also means there is synergy with the Phase One infrastructure works. Discussions are ongoing between TfL and DfT as to how the scheme could potentially be funded. It is understood that the shortfall is around £50 million.

On 14 August TfL released a full report on the events leading up to the infamous bridge GE19 incident in May. The incident resulted in debris on National Rail tracks and caused significant problems for services running into (or rather attempting to run into) Liverpool Street. This basic summary of what happened is taken from londonreconnections:

Nearing completion, the bridge was in the process of being adjusted and lowered onto its permanent supports. "Jacking down" (as it is known) is a gradual process and one that takes place over a number of days. The bridge was lowered gradually (about 100mm) at a time by temporarily raising it slightly using hydraulic jacks and then removing temporary spacer plates one at a time. Towards the end of the process, "plan jacking" was undertaken, which is a similar process designed to allow horizontal adjustments, and which was required before the bridge could finally be left resting fully on its permanent supports. In this case, the bridge in question had been designed to sit at an incline of approximately 1 in 30. As a result, as well as the normal flat temporary spacer plates, a tapered spacer plate was located on the top of all four permanent supports.

On 28 May, the process of jacking down the bridge began. In order to facilitate the plan jacking which would need to take place later on Teflon pads were inserted between the sloped spacer plates and the body of the bridge. As an ultra low friction surface, these pads would make any necessary horizontal adjustments easier. By the end of the day, adjustments at the western end of the bridge had been completed, and all temporary plates removed (and replaced with permanent ones where necessary). At the eastern end, some temporary packing remained. The required plan jacking (horizontal adjustment by about 38mm westwards) was completed by about 17.15.

At 18.00, with realignment completed, the subcontractors responsible for the work left site. The Teflon plates were not removed – even though they were no longer necessary for the jacking work that remained to be completed. On the bridge itself, a portion of the eastern half of the deck had been fully concreted over during previous months. This had helped to provide a counterweight during the launching process. On the western side, however, only the formwork was in place. This was formed of pre-cast reinforced concrete planks about 2.5 metres in length, each weighing over 100kg. These were laid between the cross girders and fixed in place, but had yet to be finally concreted over.

At approximately 19.15 that night, the site security guard heard a loud noise. Although he didn't know it at the time, this noise was the sound of the bridge dropping. The change in temperature over the bridge's 80 metre long surface had caused a movement of about 2-3mm. It was a tiny movement, but – thanks to the Teflon pads – it was enough to cause the tapered and temporary plates on the north-eastern support to pop out. As the bridge's weight at its eastern end transferred suddenly onto the south-eastern support, the plates there did the same, taking a supporting hydraulic jack with them. Instantly, the bridge dropped at its eastern end by about 200mm. This sudden, jarring movement was enough to dislodge several of the concrete planks that had yet to be permanently sealed in, as well as a large amount of water that had accumulated on the bridge. The water poured onto some overhead power lines beneath the bridge and some of the concrete and other debris landed on the National Rail track below, where an approaching train hit it. Luckily, the driver had seen it as he approached and braked – the impact was at low speed and caused only minor damage and no direct injuries (one person may have later been slightly injured after falling during the evacuation but this has yet to be confirmed, although widely reported at the time). Services in and out of Liverpool Street were immediately suspended, as the recovery and repair operation sprang into action, with the line finally reopening the next morning after rush hour.

The report concludes that the incident was the result of the incorrect behaviour of the subcontractors with regard to the placement (and non-removal) of the Teflon pads. It was these that allowed the bridge to move and ultimately caused the temporary supports and tapered plates at the eastern end to give. Whilst this would appear to lay the blame squarely at their door, it appears that no procedures for how to use the Teflon pads had actually been established at any project level, as their use in this way had not been predicted. This was partially because it had been expected that the bridge would not need plan jacking – it would be moved into the correct position at launch. This had actually happened, but its dead weight friction had proved insufficient to hold it in place, and the bridge had moved slightly during May. Both the subcontractors (M.J. Hughes) and contractors (Fairfield Mabey) knew that this meant an adjustment would be needed, but had not put a formal procedure in place

to do it nor informed the Principle Contractor (Balfour Beatty-Carillon) that one was required. Not only that, but on the 28th the fateful procedure was carried out whilst Fairfield Mabey's Site Manager was on leave and no Balfour Beatty-Carillon engineer was onsite.

Overall, TfL state that the incident was an exceptional one, but one that bears study to avoid future similar incidents nonetheless. They believe that all parties hold a collective responsibility for this failure, including themselves, for not ensuring that some kind of procedure was in place. Balfour Beatty-Carillon has now upgraded its system of checking sub-contractors and TfL has also stepped up its overall supervisory role. The bridge has now been bolted and welded into its permanent position without further problems. The two other East London Line bridges put in place at around the same time have been checked, and no problems have been found with them. The incident has not delayed work on the East London Line extension project.

The Rotherhithe [Road] Tunnel was closed from 16-18 August to facilitate works at Limehouse DLR station. The Tower Hamlets shopping bus was diverted via Tower Bridge with considerable disruption to timekeeping.

Londonreconnections blogspot for 18 August has some wonderful aerial views of several aspects of the East London Line Extension project. These come courtesy (and copyright) of James Robinson.

Bombardier are reported to have contracted GBRf to provide drivers and engineers for servicing and testing the new Electrostar trains from the new depot at New Cross Gate.

Following the publication of the TfL report on the uncontrolled slippage of GE19, Transport for London's, director of Health, Safety and the Environment for its London Rail operations, Martin Brown, has given an interview for *New Civil Engineer*. This gives the news that Network Rail has now allowed work on the bridge to continue; final concrete pours are scheduled for October 2008. Martin Brown's view is that, "People on-site did not understand the forces involved and the error they were making. The attention to detail we gave to the successful launch was not carried through to the lowering which, with some human error, allowed the slip. This could have been prevented with a bit more work".

On an unknown date in early September signs appeared at the three entrances to Trundleys Road footbridge advising of a 6-month closure from mid-September. No alternative route was suggested. It is known that refurbishment/replacement is planned.

The ELW bus replacement route was disrupted by the strike of bus drivers in East London on 12/13 September. The pressure group www.eastlondonline.org.uk continue to promote their view that Wapping is particularly badly hit by the closure. They are concerned that the bus service planned to replace the East London Line is not good enough, especially as it does not cross the river. They are asking that TfL review the ELW and consider enhancing the 100 route or introduce a 101 route Shadwell, Wapping, Tower Hill, Liverpool Street.

At a London Overground briefing in mid-September we learnt that during a North London Line blockade between Camden Road and Stratford in early 2010, remodelling will take place at Highbury and Islington & Dalston Junction to facilitate ELR access in due course. It was unclear if work at Canonbury is also included.

TfL Board papers released at the end of September report that four key jobs had been completed on schedule – the Dalston over-station podium slab, Haggerston station concourse foundations, the bulk power supply point at Hoxton and the installation of point work connecting New Cross Gate depot with the ELR. Track was now being laid in the former ELL tunnels and on the Kingsland Viaduct.