

# **REPORTS OF SOCIETY MEETINGS**

## **RAIL REPLACEMENT BUS SERVICES FOR THE UNDERGROUND: THEORY AND PRACTICE**

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Dean Sullivan, Managing Director, Sullivan Buses Ltd.**

**A report of the LURS meeting at All Souls Club House on 8 March 2011**

Underground services come in many shapes and sizes, not least those that are provided by buses to replace trains due to planned engineering work and unforeseen emergencies. 'Bustitution' has been a regular feature of Underground operations for many decades, and has been especially noticeable recently with long-term rebuilding and upgrade work across the TfL rail network.

Phil Thornton has planned rail replacement bus services for London Buses since 2003. He outlined the different situations where buses are required to carry Underground passengers. These range from emergency replacements – where there is no notice, no timetabling and the buses are provided on a first-available basis from up to fifteen potential suppliers for a couple of hours to a couple of days – to long term replacement services such as those created to replace the East London Line during the recent Overground rebuilding project. These services could run for a couple of years and are procured through the regular London Buses tendering process. The majority of rail replacement services are those that operate during planned short term or part-time Underground closures. These included the long programme of Jubilee Line weekend replacements for resignalling and the block closure of the Hammersmith SSL branch for three weeks during summer 2010.

Partial closures of the Underground for engineering needs are usually notified at least 7-8 months in advance. This allows time for LUL and London Buses to consider alternate transport requirements such as whether bus replacement should directly substitute the curtailed service, whether express services are required and the proximity of other TfL bus and rail services during the work at hand. LUL specify the level of required service based on analysis of customer demand three months before the planned work, and the work is tendered to a panel of qualified bus operators with ten weeks to go. Once the contract is awarded, the bus supplier has six weeks to arrange staffing, vehicles, supervision and route familiarisation. Route surveys are conducted in conjunction with London Bus Operations to facilitate routing, stopping points and standing locations for the replacement service, as well as pedestrian safety. Route surveys are conducted prior to going to tender to ensure that the route is fit for purpose. The successful tenderer needs to risk-assess the route themselves. The standard replacement vehicle is the double-decker, but given that rail replacement often traverses roads that are not served by these types, route surveys assess hazards such as height and width restrictions, low bridges, overhanging trees, traffic calming features, tight roundabouts, tunnels and suitable stand lay-over locations. Rail replacement services can operate at higher frequencies than regular services and so consideration must be given to bus stabling and turnaround space at the end of the replacement route. Bus Operations also provides consistent directional signage, and dresses the bus stops to be used by the temporary services. Stops are often in unfamiliar locations to passengers and so clear signage will assist efficient loading and operation on the day as well as make for a better customer experience during what is after all at best an inconvenience. Bus Operations also manage incidents during the operation of the temporary services and in the event of accidents can arrange diversions and emergency service liaison.

Two decades ago, rail replacement services were viewed by some as the 'fag-end of the bus industry' – subcontracting caused many older buses from non-London operators to be used with no consistency to routing display and an engineering inspection of a sample of vehicles revealed some buses often with mechanical issues. London Buses arranged a roadside inspection by FTA. All London Buses' regular contractors are subject to FTA inspections periodically. Compliance issues such as these meant that from 2004 only TfL accredited operators were allowed to supply vehicles for rail replacement work – many older buses were also forced off the road when the London Low Emission Zone began in 2009. In line with the standard bus network, replacement services are now largely supplied by modern low-floor, low-emission double-deckers with full blind displays. Coaches are employed for express services when Piccadilly Line services to Heathrow are disrupted as they

have greater luggage capacity than a standard route bus. Single-deckers are also used where low bridges, tunnels and overhanging foliage demand them. Ticket acceptance is also enhanced only on TfL services to allow the stage bus network to support the rail closure, and in some cases this may form a major part of the alternative transport network. The Cinderella image of rail replacement service buses is now a long way behind us.

Of course, no amount of preparation can help when rail emergencies occur. The provision of vehicles and staff is difficult as these events happen when resources are committed to other activities or at unsociable hours. The mobilization time is also an issue as the time between the event and the arrival of replacement bus services is unpredictable. Emergency rail replacement is generally expensive with overtime and additional expenses being billed by the bus operators back to LUL. Operations can initially be confusing to customers given their impromptu nature and the time taken to organise signage and placement of Customer information staff.

The amount of engineering work on both National Rail and the Underground has meant that rail replacement bus work is a lucrative income stream in its own right. One company that specializes in this work is Sullivan Buses. Managing Director Dean Sullivan combines an understanding of the bus industry with a background in London Underground – before establishing Sullivan Buses in 1998, he had been a manager on the Northern and Central Lines and was involved in arranging replacement bus services for closures including Hampstead lift replacement, M11 Link Road construction and the Central Line upgrades in 1992. His perspective as an Underground manager and bus operator shows us how far things have developed in this operational niche.

Dean joined the Underground just as bus services were being tendered in 1985. As part of the same organisation, replacement Underground services were generally assigned to the nearest bus operating district. There was very little operational coordination between bus and Underground however, and cost and quality of the ‘in-house’ replacement work was variable. Lost drivers, unmarked stops, unmarked buses and invisible signage were typical of the customer experience of rail replacement in the early 1990s. There was also minimal passenger assistance available in making the transfer between rail and road service.

The Central Line in the early 1990s had a number of operational challenges with one of the biggest being widespread power failures in November 1993. The line was closed for five days after 20,000 passengers were evacuated from 29 stalled trains. Dean characterised the initial attempts to find replacement buses as ‘terrible’ with vehicles being pressed into service from all kinds of operators. Bus driver knowledge was limited capability as London Bus (LBL) drivers were familiar with their regular territory and no further – for a wide-area emergency such as this, the willingness of out-county operators to work as directed by LU was invaluable. A robust service was developed over the five day shutdown that did not necessarily directly follow the Central Line but fed traffic to the Victoria and District lines which were of course operating normally.

Central Line signal, rolling stock and track modernisation was also causing disruption at this time, and the flexibility shown by non-LBL companies during the power failures was noted by some in London Underground. Bus tendering for stage services had been in operation for seven years, and faced by the need for large-scale planned replacement bus services, tendering was suggested as a way to ensure better service standards over the planned work period. Capital Citybus was the chosen supplier for the closures, beginning with Epping to Loughton and culminating in eighteen weekends of closures from Leytonstone to Bethnal Green. Underground staff were notified by circular and encouraged to familiarise themselves with the replacement bus operator, as well as to make announcements to inform the travelling public. Route structures included express services to major interchange points as well as all-stop bus services following the line-of-route. Routes provided from Woodford to Blackhorse Road and Redbridge to Barking in order to relieve congestion on the more direct replacements were not as successful as expected – Underground passengers can be creatures of habit even if using a different rail service saves them 45 minutes on a rail replacement bus!

Lessons learned during this time are now standard operating procedure during planned rail closures. Publicity in stations is widespread as is clear signage for bus stops. Unfamiliar route patterns have Underground-style line diagrams produced that can be displayed on buses as well as front window cards and even special blind displays for recurring closures. In addition, Underground and bus operator staff can provide assistance at key stops and way-finding signage for drivers has improved.

Dean Sullivan started operating rail replacement services in 1998 with a single Routemaster covering DLR blockades on the Beckton line. Experience gained in providing substitute services after the Paddington mainline crash in 1999 prompted Dean to leave the Underground and become a provider of replacement bus services through the establishment of Sullivan Buses. Northern Line night closures between Euston and Kennington in 2000 confirmed this was the right move. Sullivan Buses now has 50 vehicles with two-thirds of its income coming from rail replacement work. Dean believes his buses have worked on every line and visited every station at some stage in the last 10 years. There are some challenges to this heavy reliance on replacement bus work with political pressures causing uncertainty on some projects, an inconsistent demand for replacement services, and a finite amount of resources that can be shared between all operators with little support allowed from non-London operators. The trend is moving away from the endless weekend closures that caused the Jubilee Line upgrade to cost £11million in replacement bus services alone toward one-off block possessions such as the Hammersmith line upgrade and the Bayswater blockade we have just seen. The Northern Line upgrades will be the next big test for planning a large-scale bus replacement service.

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