



# DARTFORD TUNNEL - LIGHTING

<b>Customer:</b>	Dartford River Crossing
<b>Site Owner:</b>	Dartford River Crossing
<b>Approx. Value:</b>	£4M+

When its operating contract coming to an end, Dartford River Crossing (DRC) ordered a maintenance survey. Consultant Babtie Group recommended a change of tunnel lighting and electrical distribution for safety and efficiency.

The Dartford Crossing serves hundreds of thousands of vehicles every week. Two dual-lane tunnels and the four-lane Queen Elizabeth II Bridge take traffic north and south respectively, connecting at both sides with the orbital M25. With this in mind, securing an uninterrupted flow of traffic 365 days a year was vital. CCTV cameras along the roads are linked to bands of monitors in a control centre that ensures any problems are quickly resolved. Any tunnel closures would have to be at night and, more importantly, have to be flexible, as during high winds the bridge is closed and the southbound traffic is diverted into the east tunnel. With these restrictions immovable, innovative ideas were needed to tackle the necessary maintenance.

Having won the east tunnel contract, FSD's original plan was to use flatbed lorries to transport scissor lifts and materials to and from the site. The lifts alone would be too slow and physically unable to carry the materials needed within the access time allocated to the contractor - 9pm to 5am.

However, FSD devised an alternative plan - double-decker buses. The idea was to use the top of the buses as a working platform, with HSE-approved safety scaffolding lining the edges. A bus was hired to try for size and, being deemed the perfect height and solution, a fleet of seven was bought. Use of these seven buses gave a 54m working platform. These buses also provided staff shelter and toilets, storage room and transportation for materials - removing the need for other works vehicles. This was ideal considering that in an emergency situation, the teams would have to be able to leave the tunnel at great speed.

The 1.4km long tunnel was to have 525 x 4.8m long lamps installed in 16 weeks, and with on-site time tight, close project management was vital. Work and staff were split into day and night shifts. Day staff worked on a production line basis, prefabricating modules comprising the marine-quality luminaires. The work was done in a logical and repetitive sequence and meant that fittings were being replaced at an average rate of 27 per night.

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