

Overview of Event:

On the 8th April 2015, whilst loading redundant track panels onto an engineering train using two RRV's (Road Rail Vehicles) at Bermondsey Dive Under, one of the RRV's was traversing across Bridge 86A on its road wheels, as the track had been removed, when the deck plate collapsed and its wheel became wedged between the bridge cross and main girders.

Although ballast stone fell through the hole, the area beneath was part of a construction site and there were no personnel or equipment in the vicinity

Underlying Causes:

- **Pre-construction Information:** Although the bridge girders were sufficient to hold the weight of track and a train, the deck plates between the girders were known to be weak and the bridge was under monthly inspection for this reason. This information was not offered or requested by the project teams.
- **Risk Assessment:** Although consideration was given to the weight of Road/Rail vehicles when track mounted, once the track was lifted further assessment was not made. The point loading of Road/Rail vehicles on road wheels operating on ballast when tandem lifting lead to the failure of the deteriorated deck plates.
- **Lifting Plan:** The plan was generic in terms of detailing tandem lifting operations for lifting redundant rail panels using Road/Rail vehicles in rail mode and didn't specifically consider operation in road mode
- **Principal Contractor Coordination:** Further issues were identified whereby when two Principal Contractor worksites are above and below each other risk information of their individual operations should be shared and where necessary exclusion zones created to protect staff

Actions Taken As a Result of Investigation:

- Risk assessments carried out as part of lifting plans consider the integrity of supporting structures and recognise point loading of Road Rail Vehicles in road as well as rail mode
- Specific pre-construction information to be requested once construction methods are determined by using Technical Query (TQ) process
- Introduction of T-8 dilapidation walkouts to understand geography of working areas
- Construction designs and drawings to include relevant health, safety and environmental risk information
- Structural information to recorded on Form B's

General Key Messages:

- Pre construction information should be continually requested and updated as construction methods emerge to inform robust control measures
- Site visits to understand the geography of a site and specific risks are essential when preparing construction documentation such as Lift Plans, WPP's and TBS's
- Point loading detail should always be known and considered when determining lifting methods

Diagram/ Photo of event:

Above and below viaduct after event

