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“The light in the middle of the tunnel”

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The Charles Close Society was founded in 1980 to bring together all those with an interest in the maps and history of the Ordnance Survey of Great Britain and its counterparts in the island of Ireland. The Society takes its name from Colonel Sir Charles Arden-Close, OS Director General from 1911 to 1922, and initiator of many of the maps now sought after by collectors.

The Society publishes a wide range of books and booklets on historic OS map series and its journal, *Sheetlines*, is recognised internationally for its specialist articles on Ordnance Survey-related topics.

The light in the middle of the tunnel: How a misunderstanding of what's shown on OS maps nearly caused a rail disaster

On 8 March 2013, a train driver on the First Capital Connect line into Moorgate, London, reported that flood water was flowing from the roof of a railway tunnel north of Old Street station. The driver of an out-of-service passenger train was asked to examine the tunnel at low speed and check for damage. He discovered that two large drills had penetrated the tunnel roof and were fouling the line ahead of his train. The drills were being used for boring piles from a construction site above the tunnel. The operators of the piling rig were unaware that they were working above an operational railway tunnel, whose position was not shown on the site plan, nor on any map available to either the developer or the local planning authority.

The Rail Accident Investigation Board (RAIB) report on the incident¹ determined that approximately half of the piles required for the new development would have intersected with the tunnel had they had been constructed.

One of the main 'learning points' identified by the report was that those carrying out investigations for proposed developments should be aware that not all railway tunnels are shown on Ordnance Survey mapping.

RAIB examined current and historic Ordnance Survey mapping for the area, (including 1:10,000 scale and OS MasterMap) and found that the route of the Moorgate tunnels is not shown on any Ordnance Survey mapping despite other Network Rail tunnels being shown.

This omission may reflect the line's history as a former part of the London Underground network (the city branch of the Northern line, prior to the Moorgate tragedy of 1975).² Ordnance Survey distinguishes railway lines into two categories for the purposes of its mapping:

- a. Lines generally recognised as 'overground': ie ground surface level routes, typically infrastructure owned by Network Rail but includes lines that are part of an 'underground' network but operate at surface level.
- b. Lines generally recognised as 'underground' networks focused on a particular urban area or conurbation.

In the case of tunnels on lines in category b, Ordnance Survey has stated that its policy is to show the approximate alignment of tunnel walls for the sub-surface Metropolitan and District Lines in London, as these routes are open to the ground surface in a number of places. Its mapping also shows some 'underground' tunnel entrances and interactions with overground lines, but excludes the route of most tunnels used by underground railway systems. Although there is no indication on Ordnance Survey maps that some underground railway system tunnels are omitted, information relating to the mapping specifications is provided within the User Guide Documentation available to users of digital information.

Ordnance Survey has stated that it has no record of being notified of the transfer in ownership of the Moorgate tunnels (in 1975), and therefore did not consider whether these tunnels should be shown on its mapping as part of the 'overground' railway network.

John Davies

¹ Published February 2014 and available for download at:

http://www.raib.gov.uk/publications/investigation_reports/reports_2014/report032014.cfm

² http://news.bbc.co.uk/ontbisday/hi/dates/stories/february/28/newsid_2515000/2515033.stm