

# Case Study

## Delivering an accessible and inclusive transport hub

### London Bridge Station Redevelopment

London Bridge Station is one of the oldest railway stations in the world having opened in 1836, and is the fourth-busiest station in London, bringing around 56 million passengers into the city each year. The last major station redesign was in 1976 at a time when there was no consideration for accessibility. As at 2009, when the project was at GRIP stage 3, the Disability Discrimination Act (DDA) effectively required the provision toilets for wheelchair users and train ramps to assist them in boarding and alighting.

The new London Bridge station has been designed to be inclusive and accessible for all users, including people with special mobility, visual, cognitive and hearing requirements. This case study showcases our achievements, the importance of engaging with user groups early enough and commitment to challenging every assumption throughout the project.



#### 1. PRM TSI and Design Considerations

By 2011 we had the Approved Code of Practice (ACOP version 3), and in 2013 the TSI (Technical Specification for Interoperability for Persons with Reduced Mobility - PRM) was updated. In 2015 we had version 4 of the ACOP, all of which led to over 150 design considerations.

Margaret Hickish, Access and Inclusion Manager for Network Rail (NR), said: *"The changes will mean people with accessibility needs will find it easier to go to work, to enjoy leisure and to keep contact with their family and friends."*

Under the Railways (Interoperability) Regulations 2011 ([SI 2011 No. 3066](#)), which represent the transposition of the requirements of the European Interoperability Directive [2008/57/EC](#) into UK law, an Authorisation for

Placing into Service (APIS) is required from the Safety Authority - the Office of Road and Rail (ORR) - to place into use a newly constructed, upgraded or renewed subsystem. London Bridge station represented a major upgrade of the infrastructure subsystem and the Department for Transport (DfT) confirmed that the ['Passengers with Reduced Mobility' Technical Specification for Interoperability](#) (PRM TSI) is applicable for the purpose of seeking authorisation.

A verification process was followed to demonstrate compliance with the PRM TSI (independent verification by Notified Body). A 'Technical File' was compiled and submitted to the ORR and authorisation obtained before the station was opened to the public.

To make the station more accessible, the focus was not just on wheelchair users but expanded to take account other disabilities like Cognitive impairment, braille for the blind, quality of recordings for hard of hearing and so on. Some of the other considerations included:

- Reference to cognitive impairments
- Spoken information – change of speed
- Quality of recordings for public announcements
- Wayfinding information
- Stair nosing
- Retail glazing
- Braille
- Frameless door edges
- Alternative transport information
- Provision of alternative assistance
- Substitute travel to be accessible
- No charge for alternative travel
- Assistance Dogs
- Information on NR enquiries
- Car park responsibilities set out.

It is important to note that whilst these were considered, not all were fully implemented, for a variety of reasons, as we explain later in this case study.

## 2. Consultations and testing

### 2.1 Consultations

We had several meetings and consultations with various stakeholders and user groups to engage with them, understand their perspective and get their feedback on some of the temporary installations before the final designs were completed. Some of the key groups involved were:

- BEAP ([Built Environment Accessibility Panel](#))
- DPTAC ([Disabled Persons Transport Advisory Committee](#))
- David Bonnett Associates (Accessibility Consultants for London Bridge Station Redevelopment)
- Margaret Hickish (NR Access and Inclusion Manager)
- Station Management
- Train Operating Companies (GTR & Southeastern teams)

*"The new London Bridge station has been designed to be inclusive and accessible for all users, including people with special mobility, visual, cognitive and hearing requirements."*



## 2.2 Live Test Event

This event gave an opportunity for over 300 user groups including friends and family members of the people working on the project, to see a preview the station and the installed facilities prior to its opening to the public. The London Bridge team used the feedback to better understand how customers will use the new platforms, lifts and escalators leading down to the new concourse, including the visually impaired, wheelchair users and parents with pushchairs who were invited to be part of the event.

Margaret Hickish said: *"Holding test days and involving passengers who will benefit from these changes has helped the project understand the real-life impact on our passengers. They can see how essential a design change is to someone's life."*

<p>Assets tested on the day:</p> <ul style="list-style-type: none"> <li>• Lifts and escalators</li> <li>• Staircases</li> <li>• Wayfinding around the station</li> <li>• Automatic Ticket Gates</li> <li>• Station Information Security Systems (SISS)</li> <li>• Fire Systems – Linked to ATGs &amp; Voice Alarm System</li> <li>• Toilet facilities</li> <li>• Seating</li> </ul>	<p>Operational Processes:</p> <ul style="list-style-type: none"> <li>• Emergency Evacuation</li> <li>• Crowd Control</li> <li>• Escalator failure - Investigation and re-start process</li> <li>• Staff training opportunities</li> </ul>
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Volunteers carried out trials including using the new access and egress routes, which gave the station team an opportunity to see how people will navigate around the new concourse once the station is open to the public. Following feedback from user group on the test day, some of the station signs were adapted and super graphics – with larger lettering – installed to help passengers navigate the station.

## 3. Diversity Impact Assessment (DIA) Action Tracker

To make sure that actions are followed through, decisions made, or issues raised were discussed and feedback given, we set up a DIA Tracker which was managed by the Development and Consent Teams. Circa 41 items were entered in the tracker from various consultation sessions and live test event. Thirty-two of them were closed prior to the formal opening of the station, three are under review as of October 2018 while two are outside of the project scope and would be managed through station operations. The remaining four are included in the outstanding works to be completed later.

## 4. Exclusions – The Requests We Couldn't Accommodate

There are some stakeholder requests that the project was unable to accede to due to the timescale, cost, scope and operational constraints. They included:

- Toilets on the paid side of the concourse – PRM toilets were only provided in the bothy at through platform level.
- Waiting room near station reception – NR ask passengers requiring assistance to check in 30 minutes before but there isn't anywhere to wait. The project considered turning the archaeological display area into a waiting room on the lower concourse, but couldn't get it into the scope due to funding issues.
- Taxi and car drop off - The current provision is not ideal as taxis cannot reach the main entrances at street level or upper concourse. At the taxi rank located near the Shipwright Arms public house, there is currently no way for passengers to call for help. Meanwhile, the taxi rank at the bus station requires reconfiguration of the kerbs and call points to make it work. However, because they are within the TfL and Shard forecourt, both were considered out of scope by the project.
- Multi faith prayer room for commuters – London Bridge has low dwell times and thus it was considered that a commuter multi faith prayer room would have little demand. Additionally, because it was not on the original project requirement its inclusion would have meant giving up a retail unit and associated loss of revenue and considering its low level of anticipated use, it was therefore not pursued.
- Assistance dog spending area – deliberation for inclusion was considered too late in the design process and was thus unable to be accommodated.



## 5. What has been achieved at London Bridge station

### 5.1 Accessibility and Assistance Points

- The entire station entrances are accessible for passengers with reduced mobility, with dropped kerbs and tactile paving at adjoining streets to the station concourses.
- Accessibility Assistance Points are located on both the lower concourse and terminating concourse levels and at all entrances, each with adjacent seating enabling passengers to call the integrated station control room if needed.
- The ticket office counters incorporate a dual height customer-facing counter with accessible transfer tray.
- Several wide aisled Automatic Ticket Gates (ATGs) for wheelchair users, mobility scooters, parents with pushchairs and passengers with luggage.

### 5.2 Platforms and self-boarding hump

- All platforms are accessible by lift for the first time, a remarkable contrast to the very steep ramps on the London end of the through platforms prior to the redevelopment of the station.
- Platforms 4 and 5 are raised in the middle – with level access platform humps that align with accessible carriages on Thameslink Class 700 trains, with boarding ramps available for all other services without level access.
- Tactile paving has been installed to support wayfinding for the visually impaired, with contrasting coper edge and yellow lines.

### 5.3 Toilets and Changing facilities

- Specially designed toilets for PRM users on platforms 1 – 9 and an accessible toilet on the unpaid side of the Western Arcade.
- New fully accessible baby change with toilet on the lower concourse
- Changing Place toilet at the upper concourse. This dedicated changing place has more space and includes accessible toilets, hoists and showers for people with more complex personal needs.
- Braille signage in the toilets.

#### 5.4 Ticket Office and Customer Information Desk

- Automatic doors into the Ticket Office with windows fully accessible.
- 2 x Customer Information Points (one help desk at each level).
- All customer facing windows (at the two help desks and the ticket office) fitted with induction loops as well as the assistance points and under CIS screens.

#### 5.5 More Seating

- Compared to 69 public seats on the station prior to the redevelopment project, over 493 seats were provided within the new station (276 on the platforms and 217 on the concourses), excluding the benches on the Tooley Street and Bermondsey Street forecourts.
- Alternative armrest & perch seating on the platforms and concourse areas with contrasting colours for the visually impaired and priority stickers for the elderly, pregnant and disabled
- Wheelchair positions within seating area
- Transfer seating at end of seat location
- Mobile back rest seats allow the station to be flexible in determining seating location from time to time.

#### 5.6 Lighting, Colour Contrast, Audibility and Legibility

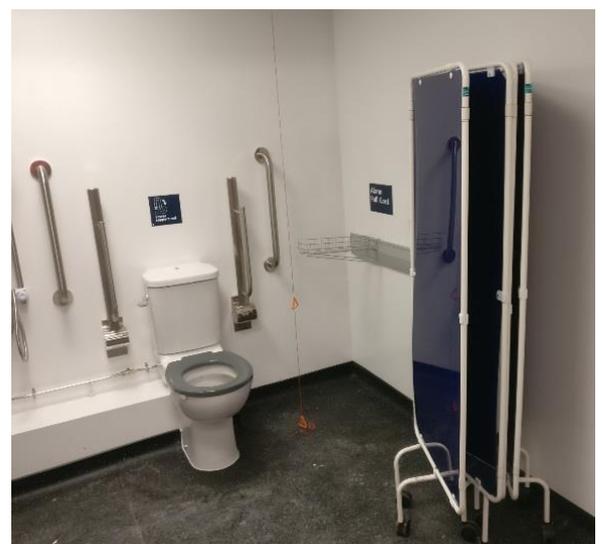
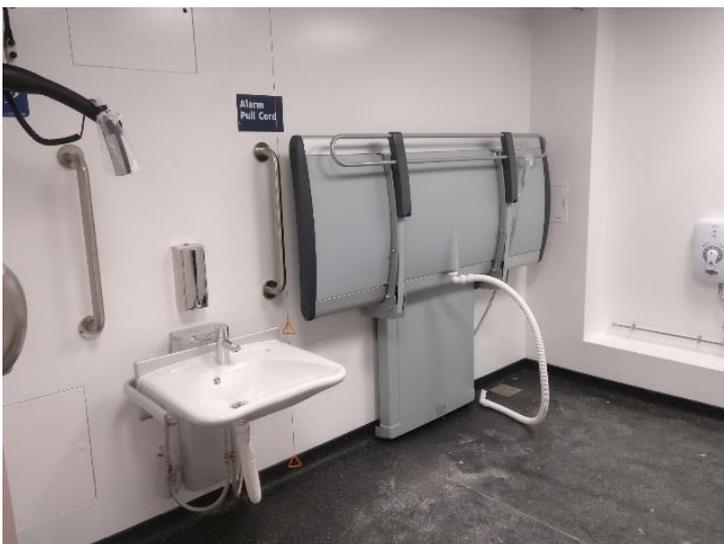
- Lighting has been designed to be consistent throughout the station with a lot of natural lights from the side glass panels and gaps between the platform canopies.
- Colour contrast has been emphasised on all surfaces, to increase legibility - stair nosings, stair landings and handrails, three contrast bands on posts and columns
- Text to speak facility for public announcements
- Pre-recorded announcements offer a clearer service to those with hearing difficulties.
- Escalator handrails with glass panels and emergency stop button
- Large Customer Information (CIS) Screens and operational information (OIS) screens
- Overhead booms with large ticks and crosses indicating direction of gates
- Use of digital screens to enhance wayfinding and ensure flexibility in messaging
- Manifestation on all transparent obstacles and doors
- Free standing items moved to sides or centralised.

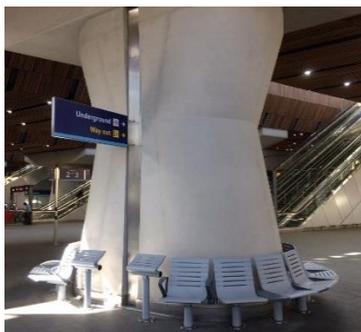
#### 5.7 Other accessibility and inclusion measures at London Bridge station

- New insulated ramps for all platforms and bespoke ramps for platforms 4 and 5
- Improved lift announcements to include platform numbers
- Frosting on lifts to make them more visible
- Multi-faith prayer room for staff
- Footwash and multi-cultural toilets for staff
- Operational measures such as:
  - Training & familiarisation of staff on how to use facilities provided
  - How PRM passengers' complete journeys in case of lift failure.
- Partial evacuation exercises for fire and emergency scenarios.

### Recommendations

- Include DIA to get agreed requirements into the scope early enough for future projects. NR has incorporated DIA into the deliverables for GRIP under the ownership of the sponsor to give it more visibility in the business case and requirement management process.
- Consult with user groups like NR accessibility team, BEAP, DPTAC and relevant charities to evaluate the design options and give their opinions before the start of construction activities.
- Appoint accessibility champions who will maintain liaison with the project and user groups making sure that their voices are heard, actions raised are effectively resolved in timely and sensitive manner.
- Hold test days or training events to give operational staff opportunity to work with user group and grow their confidence in handling day to day issues.
- Don't make assumptions on behalf of user groups; consult them first.





## About the author

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## Further information

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