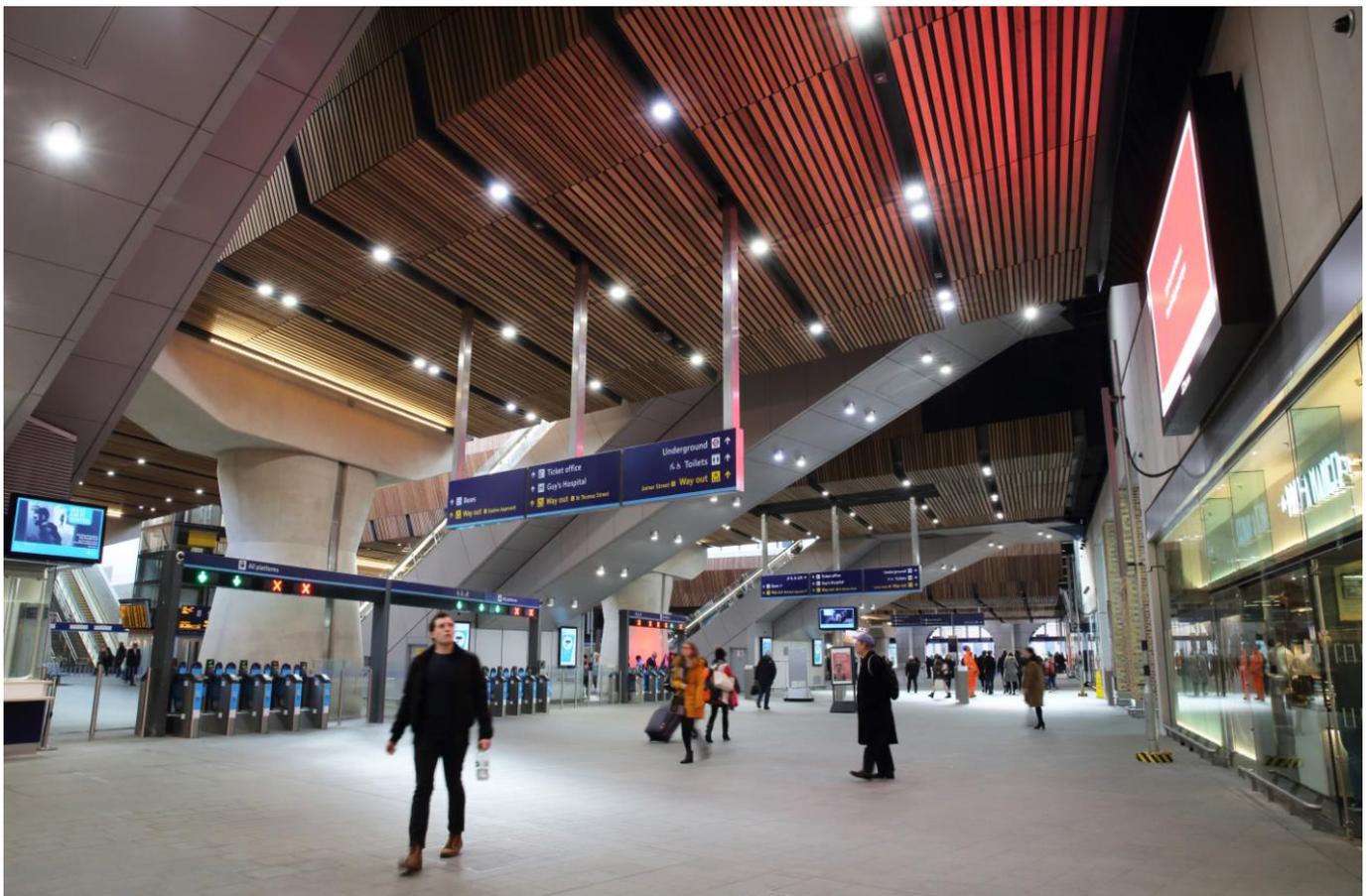


Case Study: Risk Management

London Bridge Station Redevelopment

Managing cost and schedule uncertainty on a major construction project

This case study looks at three key elements of the implementation of cost and schedule risk management as applied on the London Bridge Station Redevelopment (LBSR) project, with a view to capturing lessons and recommendations for future infrastructure projects.



1. Governance and Processes

Underpinning risk management for any project is the risk management framework that defines the process and procedures to be followed. In the case of the LBSR project, that framework was formed from two components; the Network Rail Infrastructure Projects (NR IP) Risk & Value Management framework, and the specific risk management approach as defined for the Thameslink Programme (TLP).

Given the size of TLP, the opportunity was taken at programme inception to create a programme management framework that could be considered as a 'best in class' approach. Part of this framework was the 'Thameslink Programme Risk & Value Management Plan' (R&VMP). This built on the governance as applied for the rest of Network Rail by defining additional processes, types and frequencies of interventions, and roles and responsibilities for the implementation of risk management across TLP. This provided a comprehensive approach to risk management that was considered to meet the stringent level of requirements associated with managing TLP in accordance with DfT requirements.

In addition to a constant level of review and update to support changes in the programme as it transitioned through its various stages, the following documents were created to meet additional requirements for clarity or specification that emerged:

- TLP Cost Risk Management Guidelines
- TLP Schedule Risk Management Guidelines
- TLP Assumptions Management Guidelines.

This governance set the boundaries within which risk management on the LBSR was required to take place. It also established a clear set of requirements to which all parties could work towards in a collaborative manner.

2. Collaborative risk management

A collaborative approach to risk management was implemented on the LBSR project with independent risk managers in place for both the contractor and client. Each were responsible for managing their own set of risks but worked in parallel to a set of shared requirements as laid out in the TLP R&VMP.

Regular meetings were held between all parties to discuss and review the information held in the risk registers. The contractor's risk manager was also provided with access to the NR IP risk management system (Active Risk Manager), giving a live environment in which project risk data could be assured and reported on by both parties.

Three specific benefits were realised from this approach in terms of supporting/enhancing the risk management process.

a) Live visibility of risk data

The combination of regular interaction between the two managers, and shared access to the risk management system, was felt to have significantly increased the quality of communication around risk data. Common themes could be discussed and reviewed in a live environment, with information able to be shared quickly and easily between the two parties. Client assurance of the contractor's risk management data was also readily available. This was critical to the successful management of a risk register the size of which was realised on this project (over 250 risks being individually managed at its largest point).

b) Live reporting of risk data

In addition to the improved visibility that a shared risk management system provided, an additional benefit was the ability of either risk manager to review and report on the agreed Key Risk Management Performance Indicators. This enabled interventions to take place in a pre-emptive manner where negative trends were identified.

c) Joint QRA

Quantitative Risk Analysis (QRA) for both Cost and Schedule is a key part of Project and Programme Risk Management as it provides a clear assessment of the confidence in achieving outcomes at a given point.

As part of the collaborative approach to risk management on the project, these QRA exercises were conducted jointly by the risk managers from both parties.

This provided a built-in an inherent level of challenge and assurance to the QRA process, increasing the robustness of the analysis and providing greater confidence in the outputs that were presented, ultimately enabling buy-in from the client.

3. Risk management requirements as a contractual deliverable

Following the re-authority of TLP in 2015, a Supplemental Agreement to the LBSR contract was implemented in which additional requirements were established as required milestone deliverables from the contractor. Among those deliverables were both Cost and Schedule Quantitative Risk Analysis in accordance with the relevant risk management work instructions.

In addition to the inherent benefit of the QRA itself (visibility of the confidence levels in achieving milestone dates, and the range of AFC outcomes against budget and remaining contingency), the requirement for regular updates to the QRA had the following secondary benefits;

- The contractor was required to maintain a list of assumptions and exclusions related to the estimate and plan, informing potential additional areas of risk to be managed by the client at either a project or programme level.
- The project inputs into the wider TLP Integrated QSRA and QCRA were kept up-to-date, introducing minimal disruption to the semi-annual programme-wide re-baselines that informed both DfT and NR IP reporting requirements.
- Project Management and Commercial teams were actively engaged in the discussions around cost and schedule risk management, providing an additional level of support and scrutiny on the deliverables which resulted in an increased level of engagement from the teams that contributed to the outputs.

4. Summary

In addition to what would be considered as day-to-day risk management, in terms of the identification and mitigation of individual project risks as seen in the project risk registers, the additional factors listed above contributed to a general sense of confidence around the management of risk exposure against the available project contingency and the likelihood of achieving specific schedule milestones - not only at a project level but also as part of the wider TLP environment.

The establishment of clear and comprehensive governance enabled a benchmark by which risk management by both the contractor and the client could be monitored and measured, alongside any need for escalation as required.

The intentional implementation of a collaborative approach to risk management provided a greater sense of clarity and understanding around the various risks facing the project than would likely have been available was the information kept separate by the two parties. Generally it created an environment in which emerging risks could be constructively identified and discussed.

Frequent risk reviews led to regular updates to both the cost and schedule quantitative risk analysis. This, in turn, resulted in a clear and up-to-date picture of the potential overall spend and range of outcomes for target TLP milestones. This provided a sense of confidence in those results to all TLP partners.

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Further information

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