



Crossrail Project Representative

Crossrail Joint Sponsor Team

Sponsor Summary

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Note: This report relies on the information set out in CRL's Period 7 reports augmented by more current information received by PRep during the course of our routine discussions with CRL since the Period close on 16 October 2020. Note that information emerging after the close of Period 7 is subject to formal confirmation by CRL in its Period 7 reports. This report is supplemented by our weekly reports to Sponsors (DfT and TfL) and regular meetings with Sponsors staff.

Document History and Status

Revision	Date	Description	By	Review	Approved
1	9 November 2020	PSR 143 Period 7 FY 2020-21 Sponsor Summary v1.4 - Draft	[REDACTED]	[REDACTED]	[REDACTED]
2	13 November 2020	PSR 143 Period 7 FY 2020-21 Sponsor Summary v1.5 - Final	[REDACTED]	[REDACTED]	[REDACTED]

1 Sponsor Summary

1.1 Health and Safety

In Period 7, there were 3 Lost Time Cases, 3 RIDDOR incidents and no High Potential Near Misses¹. The Safety Performance Indicator increased slightly, but overall indicators remain within those set by the Programme.

The Programme is at a heightened state of awareness due to increasing Covid-19 cases from the 'second wave'. CRL is implementing initiatives to track impacts of both positive infections and self-isolation, as well as to protect key assets and identify critical resource resilience.

1.2 Key Observations in the Period

The continued absence of a fully-assured Delivery Control Schedule (DCS) and aligned cost estimate remains a critical concern. While the Programme is working to a version of the DCS, it has yet to fully reflect known resource constraints and an assured Station commissioning plan. Without an assured baseline, it is not possible to reliably assess the impact of current pressures on the completion dates and cost forecasts, nor if any improvements can be expected.

The start of Trial Running [REDACTED] is heavily reliant on the completion of handover and assurance documents. The recent implementation of a 2-stage assurance process will result in Endorsed documents which are subject to closure of Dependencies. The clearance of almost 500 Dependencies, with more anticipated, presents a significant risk to the project. This risk has the potential to defer issues into Trial Operations, should Trial Running be achieved. The output from the November Blockade will be a factor in determining the magnitude of this risk.

Completion of RfLI assurance documentation is heavily reliant on the maturity of CRL's documentation. Currently, a detailed plan of activity and assumptions is not visible for RfLI documentation, for review by the safety approvals bodies, to demonstrate that Trial Running can be achieved. We have not been able to identify the resource responsible for producing the integrated plan.

The Alternative Delivery Model (ADM) strategy has previously been endorsed by the CRL Board and Sponsors, as a means of driving the demobilisation of the Tier 1 Contractors by completing residual, non-critical works, using more cost-effective delivery teams. The implementation of this strategy appears to have stalled.

Based on our Period 7 status report, we recommend that the following questions are considered by Sponsors and the CRL Leadership Team:

1. When will the assured baseline (cost, schedule and scope) be completed, and the Programme forecasts updated?
2. How is the risk of Dependencies impacting the Programme being mitigated, and how does RfLI's process and schedule reflect this?
3. Is the ADM strategy integrated in the new change management process, and when will material benefits be realised?

¹ Period 7 Executive Programme Performance Review held on 3 November 2020.
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1.3 In Period Progress Overview

Planning commenced for a second Construction Blockade starting on 21 November 2020, to complete all outstanding works for the Routeway. A late request for a smaller 3-day Blockade was planned and executed for 27 October 2020.

Recovery Plan and Schedule

The Period 4 DCS v1.1 [REDACTED] continues to be adopted by CRL to measure performance management across the Programme. We are aware that CRL is progressing with assurance of the baseline schedule, having received supply chain works programmes for the Stations scope.

The Critical Path to Trial Running remains within the Routeway Recovery Plan. CRL's mitigation plans to recover slippage for assurance activities related to COS SJ and CESAC approval appear to be holding, although some pressure is still evident. All the Safety Justifications were completed and issued to stakeholders for review by late October 2020.

With start of Trial Operations driven by the Stations Recovery Plan, CRL management has focussed effort on Farringdon, Paddington and Tottenham Court Road Stations, for achieving the SC3 milestone. Farringdon Station achieved this on 23 October 2020; while this presents an opportunity for a phased demobilisation of the Tier 1 contractor, works are required to complete commissioning and ROGS handover. With the implementation of a 'blockade style' management approach and greater alignment of schedule activities, there are signs of improving productivity across the Stations.

Cost

The Period 7 AFCDC increased to £15,884m; this is a £4m increase on the Period 6 position, which was qualified as an emerging mid-point estimate from the baseline schedule. The COWD for Period 7 was [REDACTED] and [REDACTED] below the Period 6 forecast. With periodic spend under-forecasts for several periods, this will need to increase if CRL is to meet its schedule aspirations. It is encouraging to see evidence² of project teams being held to account and reminded of obligations to deliver within allocated budgets and scope that were reset at Period 5.

Delivery and Assurance

Plumstead Portal completed handover on 16 October 2020. Three Shafts remain in progress for handover completion, from 10 November 2020 to the week before Christmas, with plans agreed with the supply chain on the resolution of electrical issues. While this timescale presents a challenge, handover concurrency with Plumstead Depot will require mutual agreement between CRL and RfLI.

SIDT, Dynamic Testing, Trial Running and Trial Operations

Dynamic Testing continued with TR2 software in the period. With two critical tests scheduled in early November 2020, all TR2 tests for entry into Trial Running will be completed with Operational Restrictions which are agreed in principle. TR3 is intended to rectify the failed tests and will be implemented in Trial Running. Start of SIDT remains on schedule for 3 December 2020.

A significant step forward is agreement in the Period between CRL and RfLI on the Railway Configuration for Trial Running, with the Trial Operations Configuration next for agreement.

CRL reports to maintain the [REDACTED]; however, the resulting volume of Dependencies from the assurance process is increasing pressure [REDACTED].

² CRL Project Budget Review Meetings held on 29 October 2020.
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Organisation Transition

CRL's new Programme Directorate structure was implemented from mid-October 2020. While there are over 150 vacancies across CRL's organisation, a significant number are required for Trial Running as well as to fill immediate roles.³ [REDACTED]

Development of the organisational structure for Trial Running has commenced. While there is significant pressure to develop a robust plan and structure in a short period, this task is overdue.

1.4 Ongoing Concerns

With MTREL submitting its Timetable bid for Stage 4A, we are also encouraged to see positive signs of improvement across the Programme. Woolwich West Portal and Plumstead Depot D25 noise compliance is under review, with all other locations to submit reports to the Local Authorities. However, closure of EOWLs related to the August Blockade has stalled. Our wider concerns with the delivery of the Elizabeth Line are set out below.

Stage 2B Operations

The two software fixes required to remove operational restrictions have been delayed, which means no increase to the 5 FLUs in service on GWML is possible yet. Full deployment of FLU services may not occur now until mid-February 2021. This will delay train reliability growth, which is currently very low, and raises concerns over the Contractor's performance.

Stage 3 – SIDT, Trial Running and Reliability Growth

Two critical TR2 software configuration tests will be undertaken in early November 2020 to complete the suite of TR2 tests; failed tests are being re-planned for windows within SIDT and Trial Running. Future success of these tests will be reliant on full identification and availability of the interfaces. There is a risk that these tests will impact on Reliability Growth.

Performance to complete close-out of handover documentation continues to show a concerning trend, with a risk of incomplete Chapters (ECHR) at the required deadlines. We note RfLI requires additional resource support in the next few periods for document reviews. In particular for technically specialised Asset Data, for which a pragmatic approach may be needed between CRL and RfLI.

While it is encouraging to see a clear path to resolution of Tunnel Ventilation (TVS) issues, there remains an opportunity to resolve issues through a risk-based approach. If successful this would be a significant breakthrough, as all software modifications could be implemented before Trial Running.

While mitigation plans to recover schedule on SJ assurance activities are holding, the timing of Dependency closure and their volume as an output from CRL's assurance process will determine the impact on RfLI's safety assurance documents. CRL is developing detail understanding of the Dependencies, however, the output from November Blockade, will require efficient closure on eB as well as support from the Tier 1s. This, together with some of CRL's key Routeway Chapters challenged to meet T-4 dates with handover documentation, highlights a risk to RfLI's safety assurance process for its own RCAC/EAC documents and acceptance for Trial Running. Equally important, RfLI has two key Cardinal Milestones in December 2020, although a lack of visibility on RfLI's safety case development is a concern.

³ CRL Weekly Dashboard, Period 7 Week 4.
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Stations Assurance and Commissioning for Trial Operations

While productivity has seen an improvement in the period, the adherence to planned schedule activities remains an area for improvement. Paddington Station, in particular, is generally under-achieving against plan and a change in MEP resources will determine whether productivity can be improved. Unknown scope continues to be a challenge; both Paddington and Canary Wharf Stations require cable replacement, which has the potential to impact schedule. RfLI Stations are also a concern, with slippage in close-out on CRL's management systems for scenario tests.

As Farringdon Station progresses to a T-12 countdown to SC3 ROGS starting at end of November 2020, five stations are seeing a change and transition in Project Managers at a critical stage in the delivery lifecycle. While this represents a risk in knowledge and experience, it is anticipated that new resource will bring skills that are relevant to the Stations commissioning stage. A commissioning plan has been identified for Farringdon Station. This will be replicated across all the Stations and integrated into the DCS, from which any implications on the overall opening of the railway will be identified. As Stations give more focus and understanding to commissioning, it will be important that a consistent 'driving force' across the Programme is implemented.

A final schedule remains outstanding for the completion of Bond Street Station. Initial indications are that fire and electrical documents run through the Critical Path, constraining an early finish⁴.

Cost and Risk

We continue to have concerns on the veracity of the supporting data for the DCS, which is still to be assured. We note key elements, such as Station Integration Plans, Resources and Organisational Development for Trial Running, have yet to be included in the assurance process, and that these may introduce further cost pressures. Given that the performance schedule implemented in Period 4 is showing signs of stress, we question how it can be fully-assured in its current state.

As the Workforce Plan continues to be refined and resource requirements re-analysed, [REDACTED], impacting the AFDCD [REDACTED]. In the meantime, the Indirect Cost of the AFDCD represents the largest single component of the Cost-to-Go.

A volume of change continues to be identified, which is surprising at this stage of the Programme. While Executive Management efforts to change the culture are evident, a robust control process that integrates the whole organisation and decision-making still needs to be implemented.

In light of the Covid-19 'second wave', resilience of critical resources associated with engineering, technical and assurance is a key concern that CRL and its supply chain is addressing. Additional measures that CRL may implement to protect its critical assets against the 'second wave' are likely to have additional cost pressures, that may not have been considered previously.

Organisation

Progress with filling resource vacancies is very slow, with only 4 roles filled. As CRL looks to its supply chain for the majority of engineering and technical roles, the likely impact of this will be evident through Indirect Cost increases. This, together with an increase in resource requirements from within its Programme teams, indicates that CRL has more work to establish acceptable resource levels and to do so within acceptable budgets. Resource departure is a risk across the Programme, and the risk is being realised due to a number of factors, including uncertainty in funding beyond December 2020.

⁴ Bond Street Steering Group Meeting held on 21 October 2020.
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