



Crossrail Project Representative

Crossrail Joint Sponsor Team

Sponsor Summary

Project Status Report 141

Period 5 FY2020-21

26 July 2020 – 22 August 2020

Document No. B2387600/141/1.8

17 September 2020



Official ~ Sensitive Commercial

Sponsor Summary PSR 141

Project no: B2387600
 Document title: Sponsor Summary for PSR 141
 Document No.: B2387600/141/1.8
 Date: 17 September 2020
 Client name: Crossrail Joint Sponsor Team
 Client no: RM 3730
 Author: [REDACTED]
 File name: PSR 141 Period 5 FY 2020-21 Sponsor Summary - v1.8

Jacobs U.K. Limited
 2nd Floor Cottons Centre
 Cottons Lane
 London SE1 2QG
 England
 Phone: +44 (0)203 980 2000
www.jacobs.com

© Copyright 2015 Jacobs U.K. Limited. The concepts and information contained in this document are the property of Jacobs. Use or copying of this document in whole or in part without the written permission of Jacobs constitutes an infringement of copyright.

Disclaimer: This report has been prepared by Jacobs UK Ltd (Jacobs) pursuant to its contract (the Contract) entitled "TTWO0033 Crossrail Project: Crossrail Joint Sponsor Project Representative" and dated 30 March 2020 with the Department for Transport (DfT) and Transport for London (TfL), DfT and TfL being the Clients. This report is prepared on behalf of, and for the exclusive use of the Clients and is subject to, and issued in accordance with, the provisions of the Contract. Jacobs neither has nor accepts any liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.

Note: This report relies on the information set out in CRL's Period 5 reports augmented by more current information received by PRep during the course of our routine discussions with CRL since the Period close on 22 August 2020. Note that information emerging after the close of Period 5 is subject to formal confirmation by CRL in its Period 5 reports. This report is supplemented by our weekly reports to JST and regular meetings with JST staff.

Document History and Status

Revision	Date	Description	By	Review	Approved
1	11 September 2020	PSR 141 Period 5 FY 2020-21 Sponsor Summary – v1.5 – Draft	[REDACTED]	[REDACTED]	[REDACTED]
2	17 September 2020	PSR 141 Period 5 FY 2020-21 Sponsor Summary - v1.8 - Final	[REDACTED]	[REDACTED]	[REDACTED]

1 Sponsor Summary

1.1 Health and Safety

In Period 5, there were no Lost Time Cases (LTC) or RIDDOR incidents. Overall, the safety KPIs reported are within those set by the Programme.

The trend of increasing incidents involving working from height across the Programme continued in the Period, even with the issue being raised and actioned at SHELTA. This, and electrical incidents, suggest a need for more senior safety management presence on sites, as opposed to working remotely.

1.2 In Period Progress Overview

Construction Blockade works commenced on 3 August 2020, as planned. At the time of writing, cumulative milestone achievement was 987 against a baseline of 1,286, which exceeds the set target of 90% productivity. Productivity is anticipated to reduce in the second part of the Blockade, with the introduction of a mix of Dynamic Testing and construction, and because critical activities were brought forward to the early part of the Blockade. The site workforce continues to adhere to safe working measures during the Covid-19 pandemic, varying between circa 1,730 and 1,870, supported by circa 1,200 resources working from home.

Recovery Plan

Following approval at the August 2020 CRL Board, the DCS v1.1 Base Case is to be formed for performance management, based upon [REDACTED]. CRL expects confirmation from its Supply Chain on Station scope, by mid-September 2020, from which assurance of the DCS v1.1 can be completed. A baseline schedule will be subject to Sponsors' final decision [REDACTED]; this is expected within the following two periods.

The Critical Path for Trial Running is within the Routeway Recovery Plan, and includes: Signalling Asset Data drop, completion of ACs, clearance of Earthing & Bonding SJ dependencies, the COS SJ approval and the CESAC submission. Following this, RfLI is to transition to the ROGS environment and commission the GWML Signalling interface, in readiness for Trial Running.

The start of Trial Operations is now driven by the Stations Recovery Plan. In September 2020, CRL will establish a Plateau 2 Team, which will include its Supply Chain. This Team will address Station integration, testing and commissioning between the SORs, RCC and C660 Communications and Control systems. We consider this a positive intervention.

Cost

The Period 4 AFCDC is reported at £15,880m; CRL states this continues to be an emerging mid-range point estimate, which is currently under review and subject to further change. We do not expect this position to change at Period 5, as CRL continues to finalise its DCS and corresponding cost forecast.

Delivery and Assurance

Handover delivery has continued. CRL has focussed on the balance of the Shafts and Portals, as well as completing the remaining handover works associated with the Staged Completion for Familiarisation (SCF) and T+8 process. Start of the SCF for Stepney Green Shaft was targeted for

17 August 2020, but is now likely to be 18 September 2020, due to electrical challenges associated with the Single Point of Failure issue.

The Bond Street Station action plan continues to be developed, [REDACTED]. [REDACTED]. Until its supply chain is fully engaged, CRL is unable to establish a schedule for the remaining Bond Street Station works; a schedule is now anticipated in October 2020.

Dynamic Testing and Trial Running

[REDACTED] Trial Running [REDACTED] is locked into the DCS v1.1 performance Base Case as [REDACTED] [REDACTED] and [REDACTED]. We consider there is still much uncertainty with the [REDACTED] for Trial Running.

After pausing to allow a period of uninterrupted construction, Dynamic Testing re-started on 27 August 2020, during the Construction Blockade. Due to delays incurred prior to the Blockade, all outstanding tests must be completed to fully assure P_D+11; these will need to be carried out after the Blockade.

Organisation Transition

First phase of the Organisation Plan is due for implementation by the end of September 2020, with a new Programme Directorate structure. Greater focus will be on roles and responsibilities in a matrix organisation, to drive an integrated approach across delivery, programme integration, transition and assurance, as well as change management and the future end-state of the railway.

CRL's updated Workforce Plan, represents a change in approach, linking resource demobilisation to requirement to particular project phases, as opposed to fixed contract end dates. CRL has commenced the process to re-organise its resources and structure, and to fill any gaps.

1.3 Ongoing Concerns

The Construction Blockade is delivering good productivity rates for the physical works, through a well-managed plan. While these are signs of performance improvement, our ongoing concerns with the delivery of the Elizabeth Line are set out below.

Construction Blockade, Recovery Plan and Schedule

A Blockade key objective is for CRL to confirm EOWL closure, as well as safety critical Acceptance Certificates (ACs) to progress assurance. At the time of writing, 30% of the EOWL documentary outputs have been closed within CRL's management systems, with evidence submitted for a further 42%, that are Blockade dependent¹. For the planned ACs, 16% are approved², and 50% are submitted. Also, of the planned Scenario Tests, 35% are completed, and 23% of the total have passed. It is in these areas that the real success of the Construction Blockade will be evident, to ensure timely close-out of assurance documentation that is required for Trial Running. Given current productivity for these activities, it is expected these will complete sometime after the Blockade.

The lack of robust underpinning assumptions to DCS v1.1 continues to be a cause for concern for PRep, and particularly those associated with productivity. The detailed information we received supporting the DCS is ambiguous and, given that current performance is not better than the past performance, this remains a concern.

¹ DCS1.1/AFDCDC Programme Baseline Review by CRL Executive 10 August 2020.

² Blockade Weekly Progress Report held on 28 August 2020.

PSR 141 Period 5 FY 2020-21 Sponsor Summary - v1.8

The Stations Recovery Plan still has a high level of uncertainty of the potential impact of issues such as: Tunnel Ventilation System, SOR integration and operability and maintainability. Further work is required to underpin and finalise a robust plan for the three critical stations: Farringdon, Tottenham Court Road and Paddington. The maturity of the Stations Recovery Plan is well behind that of the Routeway; this is possibly due to the intense management focus recently exerted on the Shafts, Portals and Routeway. CRL will focus on Farringdon Station to achieve SC3 status first; with no proven timescales yet for commissioning a Station, this remains a concern.

Given that further assurance will need to be undertaken, following receipt of supply chain confirmation on Stations scope, we do not expect CRL to have a fully assured baseline DCS v1.1 until October 2020, with costing thereafter.

Cost and Risk

Following confirmation of an additional [REDACTED] Investment Authority (IA) to CRL, we have assessed that the Investment Authority (IA) required to support construction will be exhausted around [REDACTED], and assumes that the [REDACTED] gap of SDA to current funding, is also released by Sponsors. To provide continued support, CRL anticipates [REDACTED] of IA in excess of current authority will need to be allocated by [REDACTED]. An additional request to Sponsors is anticipated, to mitigate the shortfall and give confidence to CRL to commit to its key resources.

Our assessment indicates that with [REDACTED] headroom between COWD ([REDACTED]) and the funding threshold (£14,942m), CRL's spend will exhaust funding in around [REDACTED].

The [REDACTED] risk value represents a significant percentage ([REDACTED]) of the overall costs to go, which is large for a project at this stage of its life cycle. While this could be seen as an opportunity for CRL to actively manage risks and save on costs, it also represents significant uncertainty in scope to go.

Assurance Process

Electrical issues encountered at Eleanor Street Shaft and Plumstead Portal require completion of re-testing, applying schedule pressure to the completion of LV ACs and associated assurance documentation. Consequently, the AP Transfer date to the IM is at risk of slipping.

Shafts completion progress for outstanding assurance document and the closure of EOWLs in the T+8 window, is at around 50%. With continual slippage in Shafts close-out works, (the T+8 window has extended to up to T+20 weeks, in the case of Custom House Station), there is a risk that Stations will be impacted by resource availability, or that concurrency issues will re-appear.

Slippage to dates in three of four key Chapters supporting the Safety Justifications, while not yet impacting the Critical Path, is eroding schedule float. CRL will need management interventions and focus to ensure completion of all assurance work is maintained as planned, to ensure no impact on [REDACTED] Trial Running [REDACTED]. Productivity metrics assumed in the DCS appear to be overstated and this will put increasing pressure on the AFCDC.

Asset Data delivery is slow-moving, with around 33% accepted. Acceptance by RfLI of Signalling Asset Data requires agreement with CRL on mitigations, for additional information that cannot be made available in time.

Organisation

Since 2018, significant changes have occurred on the Programme that are not reflected in CRL's documented management systems; this potentially adds confusion across the Programme. Many significant activities are currently occurring at pace, and CRL's management systems will need to take account of the ongoing transitional changes, to reflect the latest business organisation

structures and management process. CRL is working to address some of these updates, though there is an urgent need to complete, to avoid further impact on CRL performance.

CRL management is aware of the increasing risk of resources departing the Programme at the end of September 2020. While mitigation measures have been put in place, further short-term resource risks remain. This is due to uncertainty in contract extensions, linked to CRL's constrained ability to fund such extensions, given its limitations in Investment Authority. In the meantime, there is a risk that key resources and critical roles will be lost and difficult to replace.

Stage 3 Trial Running and Reliability Growth

Among several influences on [REDACTED] Trial Running, it will be important for RfLI and CRL to reach agreement on the configuration state of the railway. This must take place before the end of September 2020, [REDACTED] ahead of the [REDACTED] Trial Running of [REDACTED]; the Routeway will then be under the RfLI ROGS Rule Book, and CRL will require possessions for works to be undertaken in the Trial Running phase.

Operator Readiness will require an increased focus on training and familiarisation activities, to build competence and capability; CRL will be required to provide support to RfLI through this transition. While we recognise the purpose of the SIDT period is to build fleet mileage and identify issues early, we remain concerned at the risk of not achieving sufficient Reliability Growth in the Trial Running period. To ensure transition from Trial Running into Trial Operations, factors to closely manage include delay to assurance document production and Rolling Stock / Signalling integration issue resolution.

Stage 2B Operations

Introduction of a Class 345 2 TPH service to Heathrow, followed by the 4 TPH service, is delayed due to train control software issues. To release the current Class 360 fleet from continuing to operate passenger services, MTREL has agreed to implement the Class 345 2 TPH service by mid-September 2020, with operational mitigations to manage risk. However, implementation of the 4 TPH service depends on the software issues resolution, which may not be until mid-November 2020.

1.4 Key Issues for Sponsors

We are concerned at the robustness of the Stations Recovery Plan, and that signs of stress are already appearing in maintaining delivery dates for the Routeway Recovery Plan. While the Critical Path to Trial Running is not yet impacted, this is a concerning indicator, so soon after establishing a new performance schedule.

Based on assessment and concerns in our Period 5 status report, we consider the following points require further action or explanation to Sponsors, by the CRL Leadership Team:

1. How will the transition to a new organisation address behaviours and culture, to ensure adherence to the performance schedule?
2. How will CRL ensure integration of its teams and supply chain, to achieve planned completion dates?
3. Given concerns with funding, resources and past productivity levels, what assurance can CRL provide that the DCS is properly resourced to deliver the key Programme milestones?