

RESPONSE TO THE CROSSRAIL SPONSORS ON THE PROJECT REPRESENTATIVE SPONSOR SUMMARY REPORT – PERIOD 12 REPORT

Date of Issue (this paper): 30 April 2020

Issued to: Simon Adams, Head of Crossrail Joint Sponsor Team - Transport for London

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Approved by: Mark Wild, Chief Executive Officer – Crossrail

1. Purpose

- 1.1. The purpose of this paper is to provide the Crossrail Sponsors with Crossrail's response to the Project Representative's ("PRep") Sponsor Summary report. It has been produced in consultation with Crossrail subject matter experts. A list of consultees is attached as Appendix 1.
- 1.2. The report responded to in this paper is the Period 12 FY2019-20 (02 February 2020 – 29 February 2020) report, issued and received on 31 March 2020.
- 1.3. To ensure Crossrail's comments can be mapped accurately to the PRep's comments, each header (typed in **bold**) has the relevant PRep paragraph reference number in brackets. For this Period, Crossrail has annotated the PRep's report to include paragraph references. This annotated report is attached as Appendix 2.

2. Opening Statement from the Chief Executive Officer of Crossrail Ltd

- 2.1. As we all come to accept the impacts of COVID-19 as a constant, unpredictable and unprecedented aspect of our everyday lives, it is more important than ever that we remain resolutely focused on other's, and our own, mental and physical safety and health.
- 2.2. It is a complex context for programme delivery. We are seeing an unequalled impact on, and interrelationship between, our personal and professional lives, our supply chains, our ability to carry out physical activities, and our societal duty. We must ensure there is no additional risk to the public imported by delivering the Elizabeth line. We must also ensure that the health of our industry is protected as much as possible through being a considerate client.
- 2.3. This complexity is why I am so proud of all those involved in Crossrail's response to the pandemic; the engagement of our suppliers, the agility of our delivery teams and the dedication of my senior leadership team has been fundamental to Crossrail's industry leading response.
- 2.4. While our focus remains on the continued protection of our people and the programme, we have pivoted organisational attention to the completion of assurance works capable of being undertaken in a remote working environment. We are also scenario testing the eventual restart of full delivery. It is fantastic that in a virtual world we have achieved the handover of Custom House station, and we attained the independent endorsement of the Trial Running configuration – known as Staged Completion 1 – at five of our stations.

2.5. As recognised by the Project Representative, challenges outside of COVID-19 remain and we have elaborated on these within this report; we continue to appreciate and welcome the valued contributions and observations of the Project Representative.

3. PRep Key Areas of Concern in the Period (Reference: 17.0)

3.1. The PRep has highlighted an overarching concern regarding the achievement of [REDACTED] [REDACTED] for Trial Running that aggregates the individual observations throughout. In doing so, the PRep states that this [REDACTED] is not achievable.

3.2. It is important to highlight that the [REDACTED] for Trial Running was set to drive performance and that it is considered the setting of this [REDACTED] and pivoting of reporting and organisational language to this, has had a positive impact on delivery performance. It should also be noted that Crossrail's reporting to its stakeholders has aligned to the [REDACTED] for Trial Running, facilitating the level of transparency that allows the type of independent assessment and challenge that the PRep provides. Specifically, in the periodic Board Reports, Crossrail highlights its [REDACTED] [REDACTED] [REDACTED] forecast positions for the commencement of Trial Running with a high-level assessment of the achievability of the [REDACTED] and its impact on the commencement of revenue service. In doing so, Crossrail continues to be transparent with its Sponsors as they are recipients of this information.

3.3. The contents of this response cover the disaggregated PRep's comments and are not summarised in this section to avoid dilution and duplication.

4. Matters necessitating Crossrail comment

4.1. Crossrail has the following comments on the PRep report, in a repeated order to the PRep's Sponsor Summary report.

CORONAVIRUS (COVID-19) (Reference: 1.0)

4.2. Crossrail has, like all organisations, had to adapt to an unprecedented and uncertain operating environment. The unpredictability of impacts has necessitated a leadership driven and agile organisational response, and it is appreciated that the PRep highlights the initial response of Crossrail as commendable.

4.3. The Gold Response Team structure developed within Crossrail for managing the initial response to the pandemic has evolved to a pragmatic structure of a lean Gold Response Team supported by four Silver Response Teams. The latter is responsible for implementing the organisation's COVID-19 strategy across Health & Safety and People, the initial response, programme recovery, and ensuring holistic integration of all functions. The Gold and Silvers are now operating under the presumption that COVID-19 delivery context is 'business-as-usual'.

4.4. As a point to note for reading this report, the organisation has approached its commentary in broad cognisance of where expected impacts of COVID-19 are likely to manifest or where they already have. This is in aid of ensuring a contemporaneous update is provided and is by virtue of the timeline of COVID-19 impacts supported by post Period 12 development in understanding. Notwithstanding the commentary in this report, the Period 12 and Period 13 forecast positions as put forward in the Board Reporting only consider actualised impacts of COVID-19 with the conscious intention of utilising as a pre-COVID-19 benchmark.

HEALTH AND SAFETY (H&S) PERFORMANCE *(Reference: 2.0)*

4.5. In Period 12 there were five Lost Time Cases (LTC) of which three were reportable (RIDDORs); including a broken arm and two 7 day+ slips. There was one RIDDOR dangerous occurrence, with a UKPN Cable Joint failure, and three High Potential Near Misses (HPNMs). The Accident Frequency Rate increased to 0.10, the Lost Time Index increased to 0.17 and the HPNM rate remained stable at 0.32.

TRANSITION TO ROGS *(Reference: 3.0)*

4.6. The Trial Running Mobilisation Board (TRMB) has been set up and running in a revised format for four to six weeks. This brings together key people from delivery, assurance and the Infrastructure Managers (IMs) to address key risks and issues around entry to Trial Running.

4.7. TRMB oversees work activities in relation to Element Completion Handover Report (ECHR) triage to calculate the benefits (if any) of a reduced handover document workload for Shafts, Portals and Routeway; similar to Stage Completion 1/2/3 for the stations.

4.8. Several Shafts and Portals have been handed over. Lessons learned from the handovers will be beneficial for subsequent complex sites. Benefits will be assessed during the next period (Period 13) and if necessary, an agreement sought from the Crossrail Executive Group.

4.9. Additionally, TRMB carries out a series of deep dive workshops with all parties in relation to Operation & Maintenance manuals, asset data and Health & Safety files. This is carried out to seek ways to improve quality, reduce review cycles and implement smarter ways of working across the various parties.

INTEGRATED DELIVERY TEAMS (IDTs) *(Reference: 4.0)*

4.10. The IDTs have maintained a good level of productivity over the period. However, the IDT model is being challenged due to the Phase 1 'Safe Stop' remote working regime implemented in response to COVID 19 that has seen all but essential care and maintenance activities cease. Custom House station handover has been achieved virtually, representing a valuable opportunity to feed lessons through the programme. However, there has been a week slippage on shafts due to site works impacted by COVID 19. Phase 2 'Safe Stop' is underway to define business and programme continuity, especially regarding any 'niche works' that can be undertaken in line with Public Health England guidance.

4.11. There are some concerns regarding consistency and clear delegation within the IDTs. However, the overriding feedback from Project Managers is that the IDTs are facilitating faster and more localised decision-making.

4.12. To improve team effectiveness, Crossrail has acted to increase communications and direction through daily calls with the Project Managers, weekly calls with the IDT community and delivery executives. Further reviews are taking place of project level visualisation effectiveness, alongside exercises to reaffirm the rules of delegation.

ELEMENT OUTSTANDING WORKS LISTs (EOWLs) PRODUCTION *(Reference: 5.0)*

4.13. A series of deep dive reviews were conducted in January to determine the level of outstanding scope (which is distinct from the EOWLs, but that informs those EOWLs required

to be closed in relation to that scope) required at each phase of the programme. Following the reviews, the EOWs have been configured to establish the essential requirements. The outstanding work and EOWs was then allocated into three categories: Trial Running, Revenue Service and Post-Revenue Service.

- 4.14. Crossrail signed the triaged EOWL Master List on 11 March 2020 and was formally issued to the programme as a baseline position. Crossrail recognises that 'triaging' of the EOWs must be driven by the IDTs and can confirm that all IDTs have signed off and endorsed the baseline EOWs position as at 08 April 2020. As a result of this exercise, a robust schedule of outstanding works will be produced.

ALTERNATIVE DELIVERY MODEL (ADM) (Reference: 6.0)

- 4.15. The ADM was issued to IDT Leads on 01 April 2020 covering the outcome of discussions at the Crossrail Executive Group. Suggested scope being brought to Scope Allocation Surgery has been impacted by new guidance along with COVID-19 priorities. The process is in progress and discussions are taking place with IDTs to enable further scope to be brought forward.

HIGH LEVEL SCHEDULE SUMMARY (Reference: 7.0)

- 4.16. The observations made in relation to the timing of the Period cut-off are noted. This is widely recognised and understood across the Programme's Management Team, Executive and Sponsors. Crossrail has chosen to report the unmitigated forecast and the post-mitigated forecast dates. This will ensure Crossrail is transparent and aid stakeholders to best understand the true position.
- 4.17. To recover the slippage relating to Earthing and Bonding (E&B), the Technical Director is conducting a critical review of on-going E&B and Electromagnetic Compatibility (EMC) issues. The review will include Crossrail's approach to Safety Justifications. A deep dive review was conducted on 17 April 2020 with agreements and follow on actions being documented and agreed. In summary, there are 94 hazards relating to E&B, and 52 relating to EMC. A comprehensive exercise is underway to review each hazard, assess the work required to close the hazards, and arbitrage which hazards must be closed for Trial Running. Imminent weekly reporting will take place to better understand this issue considering it is on the Critical Path and dedicated resources have been provided. Moving forward, in-depth reporting will be available in relation to this issue.
- 4.18. Quantified Schedule Risk Analysis (QSRA) is currently underway. The outputs and working methodology can be shared with PRep if requested. In prior Periods, likelihoods (probabilities) of the success (or otherwise) of proposed mitigations as an input to the QSRA analysis have been taken into account.

CRL 3 LINES OF DEFENCE (Reference: 8.0)

- 4.19. Crossrail notes the Project Representative's comments.

COST, COMMERCIAL AND RISK (Reference: 9.0)

- 4.20. The timeline for production of the Period 12 QSRA meant that risks were included for which mitigations were already in hand (namely ECHR prioritisation and Handover 'Lite'). In management review, a decision was made to reflect the benefit of these mitigations which resulted in the Period 11 assessment of prolongation being retained. Prolongation risk is already a significant component of the overall cost risk being reported at Period 12 and constitutes c.10% of cost to go.

- 4.21. Scenario planning is being undertaken to determine the optimum strategy for getting into Trial Running whilst ensuring that outstanding work on the infrastructure are completed in the most cost-effective way to support entry into passenger service.
- 4.22. The Cost of Work Done (CoWD) over the past 6 periods is more than the corresponding rate of reduction for Cost to Go (CtG) + risk because the AFCDC estimate has increased over this time. In Period 7, AFCDC increased by ██████ and in Period 12 there was a further ██████ increase. The explanations for the increases were set out in the Board Reports and associated papers for these periods. In other periods, the increase in CoWD has seen a corresponding decrease in cost + risk.

STAGE 2B (Reference: 10.0)

- 4.23. The 2B status was correct at the time of going to press. The Authorisation to Place Into Service (APIS) was initially thought to be achievable for issue from the Office of Road and Rail (ORR) on 04 April 2020. However, the review and response cycle has taken longer than anticipated due to the COVID-19 pandemic. There remains some dialogue between all parties and feedback indicates that the process is almost complete. This is being monitored and supported on a daily basis and the APIS, informally, is expected around early May.
- 4.24. The four trains per hour Heathrow-Paddington service remains and the migration of services to this point is now under review as the effects of social distancing and the operational requirement for a full service is uncertain. There is also uncertainty around project milestones and due dates which will become clearer as the restrictions surrounding the COVID-19 pandemic subside. This will enable work to continue towards a passenger service start date of 20 April 2020 which is at risk but is still achievable.

STAGE 3 (Reference: 11.0)

- 4.25. As stated in previous periods, a Delivery Control Schedule (DCS) refresh was dependent on significant progress around alignment of EOWL triage and ECHR triage. While EOWL triage work is substantially complete, the ECHR alignment remains outstanding as of Period 13 update. Therefore, as at Period 12 and Period 13, Crossrail do not have forecasts that will fully benefit from these triages. Work is underway to complete the enabling work and report to the Board at the end of April 2020.
- 4.26. In the interim, Crossrail recognise continued adverse forecasts and is working to mitigate and recover where possible, with integrated interventions across Crossrail, London Underground (LU) and Rail for London (RfL). This will include the early handover of LU stations. To improve the performance and utility of the DCS, pre- and post- the refresh, a first Line of Defence assurance review of schedule integrity and use has been initiated to provide more clarity around the underpinning rigour around the DCS. This will include practical recommendations.
- 4.27. The Period 13 position is currently being produced, which predominately will only include actualised impacts of COVID-19 and not forecasted effects. However, COVID-19 overlay scenarios will be applied to Period 13 to estimate the potential effect of COVID-19.

APPROVALS, ASSURANCE AND AGREEMENTS *(Reference: 12.0)*

- 4.28. The target for all Routeway related Engineering Safety Justifications was set for the end of March 2020. However, this was achieved in mid-April and the latest submissions are currently under Crossrail review. This provides a good working baseline to move the safety assurance activity forward with some clarity around the known dependencies.
- 4.29. An initiative has been applied to the handover process called 'ECHR triage' to confirm what is essential to support the Stage Completion ROGS milestone for transfer of operational control of the Central Operating Section Routeway assets to RFLI as the new duty holder under ROGS. This is to ensure the Trial Running milestone can be achieved as soon as possible, following the impacts of COVID-19 on the programme.
- 4.30. The use of the T-Minus process for each element does not in itself cause delays. It is the ability of the physical assets and associated assurance evidence needed to complete the ECHR report to the timeline defined by the T-Minus framework that is the cause of delays. It is expected that as each element progresses in maturity and lessons are learnt from the nursery sites, it will become easier for the T-Minus process to be successfully followed.

RAIL SYSTEMS & DYNAMIC TESTING *(Reference: 13.0)*

- 4.31. Crossrail notes the comments presented in the Project Representative's report.

RELIABILITY GROWTH *(Reference: 14.0)*

- 4.32. Crossrail notes the comments presented in the Project Representative's report

STAGE 4 SUMMARY *(Reference: 15.0)*

- 4.33. Crossrail notes the comments presented in the Project Representative's report

STAGE 5B OPENING *(Reference: 16.0)*

- 4.34. Crossrail notes the comments presented in the Project Representative's report

END

APPENDIX 1 – LIST OF CONTRIBUTORS**RESPONSE TO THE CROSSRAIL SPONSORS ON THE PROJECT REPRESENTATIVE
SPONSOR SUMMARY REPORT**

Period 12 FY2019-20 (02 February 2020 – 29 February 2020) report, issued and received on 31 March 2020.

Chief of Staff
Chief Projects Officer
Commercial Director
Communications Director
Contracts Commercial Manager
Cost Engineer (Project Delivery)
Crossrail Operations Business Manager
Deputy Programme Controls Director
Head of Assurance
Head of Programme Delivery Strategy
Head of Project and Programme Assurance
Head of Risk
Head of Systems Integration
Health and Safety Director
Lead Reliability Engineer
Operations Business Manager
Programme Controls Director
Programme Delivery Business Manager
Reporting and Governance Support Manager

ANNOTATED PREP REPORT

RESPONSE TO THE CROSSRAIL SPONSORS ON THE PROJECT REPRESENTATIVE SPONSOR SUMMARY REPORT

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