

CROSSRAIL BOARD

Minutes of the Meeting of the Board of Directors of Crossrail Limited
Held on Thursday 30 January 2020 at 11:00
10Boardroom01, 5 Endeavour Square, Stratford, London E20 1JN

Members:	In Attendance:	Apologies:
Tony Meggs <i>CRL Chair</i>	Funmi Amusu <i>Head of Secretariat</i>	Kathryn Cearns <i>Non-executive Director</i>
Sarah Atkins <i>Non-executive Director</i>	Tim Ball (Items 5-6 only) <i>NR Director, Elizabeth Line</i>	
Phil Gaffney <i>Non-executive Director</i>	Carole Bardell-Wise (Items 5-6 only) <i>Health and Safety Director</i>	
Steve Livingstone <i>Non-executive Director</i>	Susan Beadles <i>Head of Legal Services & Company Secretary</i>	
Rachel McLean <i>Chief Finance Officer</i>	Simon Bennett (Items 12-13) <i>Head of Learning Legacy</i>	
Anne McMeel <i>Non-executive Director</i>	Stuart Calvert (Items 5-6 only) <i>NR Capital Delivery Director, Wales & Western</i>	
Nelson Ogunshakin <i>Non-executive Director</i>	Mark Cooper (Items 2-11 only) <i>Programme Director</i>	
Andy Pitt <i>Non-executive Director</i>	[REDACTED] (Items 2-13, 16 & 23) <i>Project Representative</i>	
Nick Raynsford <i>Deputy CRL Chair</i>	Alex Kaufman (Items 12-13) <i>Communications Director</i>	
Chris Sexton <i>Deputy CEO</i>	Simon Kirby (Items 2-13 only) <i>Crossrail Advisory Panel</i>	
Jo Valentine <i>Non-executive Director</i>	Ailie MacAdam (Items 2-11 only) <i>Bechtel Limited</i>	
Mark Wild <i>CEO</i>	Howard Smith (Items 2-11 only) <i>Chief Operating Officer</i>	
	Stuart Westgate (Items 15 only) <i>Head of Programme Assurance</i>	
	Simon Adams (Item 23 only) <i>Head of Crossrail Joint Sponsor Team</i>	
	Mike Brown (Item 23 only) <i>TfL</i>	
	Ruth Hannant (Item 23 only) <i>DfT</i>	
	Simon Kilonback (Item 23 only) <i>TfL</i>	
	Matt Lodge (Item 23 only) <i>DfT</i>	
	Alex Luke (Item 23 only) <i>DfT</i>	

The meeting was quorate.

Item 1 NEDs	Non-Executive Directors (NEDs) only Session A NEDs only session was held before the meeting.
Item 2	Welcome and Declarations of Interest The Chair welcomed Board members and attendees.

	<p>Members were reminded that any interests in a matter under discussion must be declared at the start of the meeting, or at the commencement of the item of business.</p> <p>There were no interests declared in relation to the business of the meeting.</p> <p>However, the meeting NOTED the following, which were not conflicts of interest:</p> <ul style="list-style-type: none"> • that Mark Wild had recently been appointed to the Technical Advisory Board for the Heathrow Expansion programme; and • that Nelson Ogunshakin's son had recently become an employee of Equitix Limited, a company that had acquired and owned the rolling stock to be leased back for the Elizabeth line.
Item 3 BD MINS 191205 & 200109	<p>Minutes of the Meetings of the Board held on 5 December 2019 and 9 January 2020</p> <p>The Board APPROVED the minutes of the meetings held on 5 December 2019 and 9 January 2020 for signature.</p>
Item 4 BD AC 200130	<p>Actions and Matters Arising</p> <p>20.119 – Top 10 CRL and TfL Risks – these risks would be reviewed with the TfL and CRL risk teams respectively on Monday and Tuesday in the coming week. An update on the alignment of the risks would be provided to the Board on 27 February 2020;</p> <p>20.164 – Engagement with TfL – the CRL Chair, Tony Meggs and the CEO, Mark Wild, were scheduled to meet with the Managing Director for London Underground (LU) and the Elizabeth line, Andy Lord on Friday 31 January 2020 and part of the discussion on the day would be about further engagement with TfL in relation to transitioning to the Elizabeth line.</p> <p>It was NOTED that some of the key items which would be discussed at that meeting included: 1) independent assurance of CRL's readiness to hand over elements to TfL and for TfL to receive the elements from CRL; 2) the current position on alignment with getting to trial running and Infrastructure Manager (IM) take over including a) minimum requirements; b) Romford control centre; c) 'stepping up' of the IM particularly Rail for London (RfL); d) LU's adoption of the 5 stations where there was interface between Crossrail and LU trains; and e) the possibility of combining engineering and technical resources into one cohesive team; 3) the Alternative Delivery Model (ADM); and 4) governance and accountabilities of the Elizabeth line Board and the Trial Running Mobilisation Board.</p> <p>The Board NOTED the updates to all the other 'due' actions, which had either been covered at the Performance Engagement Forum (PEF) the day before or were on agenda for the day's meeting.</p>
Item 5 Verbal	<p>Health and Safety Update</p> <p>The Board NOTED the following:</p> <p><i>Headlines for Period 10</i></p> <ul style="list-style-type: none"> • There were one lost time injury and three High Potential Near Misses

	<p>(HPNMs) in Period 10. All these incidents had been reviewed at the Safety and Health Executive Leadership Team (SHELT) meeting and lessons learnt shared via the learning forum;</p> <ul style="list-style-type: none"> As two of the HPNMs took place at Bond Street station, senior leadership team members from CRL and the Costain Skanska Joint Venture (CSJV) met at that station to determine whether there was a reason for the decline in health and safety performance; and Scenario 4 tests were stopped (main integration tests for stations and systems critical for Stage Completion 1 (SC1)) due to non-conformance, with individuals breaching the doors on to the trace when they should not have. To address this, procedures had been tightened, to remove ambiguity and provide a single source of planning and coordination. <p><i>Forward Look</i></p> <ul style="list-style-type: none"> Areas of focus included: joint working between CRL, Network Rail (NR), RfL and MTR to improve documentation of the safe migration to trial running and ROGS; and continued safety leadership tours by members of the Executive Group as this was having a positive impact on the morale of site teams. <p>The Board REQUESTED that: a) the plan for the transfer of safety responsibility to the IMs as Crossrail moves into trial running should be presented to the Board, including any changes brought about by the ADM; and b) using a simple dashboard, a regular progress report on this should be presented to the Board.</p> <p>Action: Carole Bardell-Wise</p> <p>The Board highlighted that C660 (Comms and Control) had been identified in the Board Report as the only contract that had not performed above the HSPI corporate target of 2.0 and NOTED that this was due to their transparency in reporting incidents, following the increased scrutiny and assurance by CRL. The meeting NOTED that the CRL health and safety team had sight of the internal health and safety reports of the contractors and that there was a focus on scrutinising the contractors' health and safety improvement plans. The Board AGREED that an open letter should be prepared and sent to Siemens to congratulate them on their transparent health and safety culture.</p> <p>Action: Mark Wild</p> <p>The Board NOTED the following:</p> <ul style="list-style-type: none"> The last SHELT meeting had improved, with more clarity on reporting the root cause of incidents; A comment from MTR following an incident where a train stopped at the wrong signal seemed to suggest that they were rushing to get their drivers trained and this was worrying as there should be no compromise to safety. It was NOTED that the comment had been made prior to a full briefing on the incident and that there would be continuous monitoring to ensure that this did not happen; and National guidance from the National Health Service on the coronavirus had been issued to contractors.
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Item 6 107/20	<p>CRLB 107/20 – Network Rail On-Network Works Update</p> <p>The Board NOTED the following:</p> <p><i>Christmas Safety Incidents</i></p> <ul style="list-style-type: none"> • The two incidents that occurred over the Christmas period i.e. the Kensal Green Overhead Line Electrical incident and Paddington fall from height, were the subject of ongoing high-level investigations; • <i>Kensal Green Overhead Line Electrical incident</i> – the injured person was still in the hospital and it was hoped that he would be released in the following week. He had undergone extensive skin grafts and his progress was being monitored closely. An experienced director had been commissioned to conduct a general review of overhead lines with the contractors, to get to the root cause of such incidents. The incident had caused concern to staff and mental health and counselling support had been provided to them. Actions were also being taken forward to prevent a re-occurrence of this kind of incident. It was AGREED that the close out reports from the investigations into the two incidents would be shared with the Board when NR next attended the Board meeting in April 2020; <p>Action: Stuart Calvert</p> <ul style="list-style-type: none"> • The ability to fully isolate electrical lines as opposed to staggered isolations would be looked into; • LU had carried out an extensive campaign around safety critical communications and it was NOTED that NR were welcome to adopt this; • Other highlights from the update included the successful completion of extensive works over the Christmas period; the successful Stage 5a December 2019 timetable change; the joint NR and CRL top risks; and the financial position including the conclusion of cost reviews. <p>The Board REQUESTED that going forward, the following should be included in NR's quarterly update: shared risks (CRL, NR, TfL) on transitions including cross boundary testing and commissioning; May 2020 Heathrow timetable; Stage 4a; and key milestones. Also, that the shared CRL and NR risks should be kept to a maximum of 10.</p> <p>Action: Stuart Calvert</p>
Item 7 108/20	<p>CRLB 108/20 – Implementing the Alternative Delivery Model</p> <p>The Board received a paper which built on the materials considered at the Board meeting on 9 January 2020 and the Investment Committee meeting on 15 January 2020; and set out the latest progress in providing the ADM including the next steps required.</p> <p>The Board NOTED the following:</p> <ul style="list-style-type: none"> • There was more confidence in the ability of the ADM to deliver its strategic intent; • [REDACTED]

- [REDACTED]
- Risks included choreography of the outstanding elements and the requirements for achieving assurance and transition to the IM;
- Costs were under constant monitoring; and
- Next steps included progression of the Element Outstanding Works List (EOWL) and the flow of this into the ADM allocation process; deepening of individual commercial strategies and delving into the detail of the mechanics of how the ADM would work in reality; and maintaining good working relationships with relevant key senior individuals in LU as a high-level steer on implementing the ADM was required.

The Board highlighted the following:

- CRL was a subsidiary of TfL and this should provide opportunity for a simple, two-page, inter-company trading agreement dealing with the budget and expectations of the ADM;
- The LU team responsible for renewing and enhancing infrastructure would likely not have the necessary experience of working in a NR environment and some upskilling might be required. The time in the run up to SC3 could be used to provide them with this training;
- Implementation of the ADM needed to be done quickly, without adding complexity, to allow this to filter down to the sites and the Integrated Delivery Teams (IDTs) required clear instructions on how to use the ADM;
- The Board considered whether the timetable for implementing the ADM was ambitious enough and whether the items listed for completion e.g. in January 2020 had been achieved;
- The cost implication for implementing the ADM needed close monitoring as it was necessary not to incur additional cost, rather, savings were expected;
- A means should be devised to ensure that minimum configuration priority items were addressed as early as possible and timelines monitored. [REDACTED] and [REDACTED]
- LU's (as IM and LU R&E) and RfL's involvement in establishing the ADM and their readiness to take this on was key.

It was **NOTED** that consideration would be given to using CRL's resources to boost LU's limited resources; [REDACTED].

Item 8 109/20	<p>CRLB 109/20 – Delivery Control Schedule, AFCDC and Risk Update</p> <p>The Board received a paper which was to be read in conjunction with the Period 10 Board Report and provided an update on the status of the AFCDC.</p> <p>The Board NOTED the following:</p> <p><i>Funding Position</i></p> <ul style="list-style-type: none"> • The 3 months extension for the provision of immediate funding for the project whilst a new funding agreement was being put in place was due to expire that day, 30 January 2020 and the monthly certification letter provided by CRL to the Sponsors was due the following day, 31 January 2020. Discussions were ongoing with the Sponsors, with the expectation being that the provision of immediate funding would be extended for a period. This would be raised when the Sponsors arrived for the debrief discussion later on in the meeting. <p><i>Delivery Control Schedule (DCS)</i></p> <ul style="list-style-type: none"> • The ROGS date in the period had moved by two weeks to [REDACTED] due to an alignment of care and custody periods with trial running and the addition of half a cycle of reworks to cover comments and clarification that may be required, following 'bottom up' reviews by the Railway Assurance Board (Crossrail) (RAB(C); and • It was NOTED that the intention was for the DCS to be reset on an annual basis. The Board AGREED that the revised DCS 2.0, aligned with the budget, would be presented to the Board on 26 March 2020. <p>Action: Mark Cooper (Jim Crawford)</p> <p><i>Assumptions and Interventions</i></p> <ul style="list-style-type: none"> • A senior individual in the Programme Controls team was responsible for tracking and managing the assumptions and interventions listed below: <p><i>Assumptions</i></p> <ul style="list-style-type: none"> ➢ Concurrent safety justification reviews; ➢ Bond Street station achieving assured SC1 by 23 April 2020; ➢ Alstom, TSO, Costain (ATC) completing air flow tests for Bond Street station between 12 – 14 February 2020; ➢ Final engineering justification from ATC to be submitted by 31 March 2020; and ➢ Agreement of the adjustment to maximum temperature by all the relevant parties (Bombardier Transportation (BT), Siemens and Knorr Bremse) <p><i>Mitigations</i></p> <ul style="list-style-type: none"> ➢ [REDACTED] ➢ All party triaging of works left to be completed including assurance;

	<ul style="list-style-type: none"> ➤ Ability to transfer work through the ADM, with the associated budget; ➤ Creation and launch of the IDTs including a plan and appropriate delegated authority, to be completed by 19 February 2020; ➤ DCS alignment workshops completed; ➤ By 31 January 2020, produce the complete suite of KPIs for the 23 elements; ➤ Weekly alignment and mitigation review by the Programme Director, Mark Cooper, the Technical Director, Colin Brown and the Chief Operating Officer, Howard Smith of the escalations from the triage and other workshops; and ➤ The potential early handover of LU stations based on the statutory certification required for safe operation and maintenance. <p>The Board REQUESTED that a) a matrix of these mitigations should be developed and circulated to the Board; and b) that regular updates on progress with the mitigations should be provided to the Board;</p> <p>Action: Mark Cooper</p> <p>The Board highlighted the following:</p> <ul style="list-style-type: none"> • It was NOTED that the IDTs were each being led by a Project Manager and the Board questioned whether sufficient resources had been identified to head each IDT. The Board NOTED that there were a few gaps to fill as the aim was to have one person from each relevant team located, full time, at the sites; • It was key for the leaders of the IDTs to be provided with clear instructions on the minimum requirements for operating a safe railway that would apply across the piece. Coordination of setting the essential requirements was key, to ensure that this would not be based on the judgment of individual IDTs. It would be useful for the IDTs to meet on a regular basis, to ensure a common dissemination and understanding of their instructions. Also, the engineering and technical teams would need to work closely to prepare a structural engineering statement for the safety case of aiming for the essential requirements; • It was important for those items which were not delegated and required escalation from the triage and other workshops to be resolved in a timely manner. A simple process and time limit for responding should be established; and • [REDACTED] <p>AFCDC</p> <ul style="list-style-type: none"> • The plan was to ensure more rigour and scrutiny to costs at AFC reviews and increase the stability in AFC forecasting using the ADM, triaging. It would be highlighted that there was a cap on the budget whilst also being mindful of not creating an atmosphere where issues could not be raised; • The AFCDC movements from Periods 8 – 10 were considered. The Board NOTED that there was upward pressure and that the ADM
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	<p>should be used as a means of reducing costs; and</p> <ul style="list-style-type: none"> The Board considered that it would be useful to monitor costs against the budget until the completion of the project, rather than on a 'cost to go' basis. It would be useful to be provided with the budget for each month against the budget to end of the programme.
Item 9 Verbal	<p>Certified Information for Funding Drawdown date of 27 February 2020</p> <p>The Board had discussed this item under agenda item 8 – DCS, AFCDC and Risk Update.</p> <p>It had been NOTED that this would be discussed further when the Sponsors joined the meeting for the Sponsors de-brief discussion.</p>
Item 10 BD CBR 200130	<p>Crossrail Board Report Period 10</p> <p>The Crossrail Board Report for Period 10 was NOTED.</p>
Item 11 111/20	<p>CRLB 111/20 – Crossrail Advisory Panel Update</p> <p>The Board received a report from the Crossrail Advisory Panel, providing independent advice following specific targeted assurance on the latest DCS, which focused on: a review of train systems software; a review of operational readiness and a review of routeway assurance.</p> <p>The Board NOTED the findings and recommendations in the report and AGREED that a management response to the report should be prepared.</p> <p>Action: Mark Wild</p> <p>It was NOTED that work was ongoing with ATC to make a request to the Office of Rail and Road (ORR) for an increase in the number of trains being used for dynamic testing (currently four in number). The Board REQUESTED that the trial running programme including enhanced dynamic testing, should be presented to the Board for noting.</p> <p>Action: Mark Cooper (Jim Crawford)</p> <p>The Board considered that it would be useful: for a dynamic testing efficiency KPI to be developed, to monitor and provide visibility of how productive the four trains were; and for a trial running board to be established. The Board also considered that there should be contingency planning around transition and the capacity and capability of the organisation taking over the Elizabeth line to receive it.</p> <p>The Board AGREED that specific items should be identified for the Crossrail Advisory Panel to be focused on.</p> <p>Action: CRL Board (Tony Meggs/ Mark Wild)</p>
Item 12 112/20	<p>CRLB 112/20 – Communications and Engagement Strategy 2020</p> <p>The Board discussed the Communications and Engagement Strategy for 2020 and NOTED that more work needed to be done to refine it. It was NOTED that a number of NEDs (Tony Meggs, Nick Raynsford, Nelson Ogunshakin and Jo Valentine) would work with the Communications Director to further develop the strategy.</p>

Item 13 113/20	<p>CRLB 113/20 – Crossrail Learning Legacy</p> <p>The Board NOTED that the Learning Legacy programme had been re-established and that a new tranche of content would be published in May 2020, with further tranches at six-monthly intervals until after the project was completed.</p> <p>The Board highlighted the following:</p> <ul style="list-style-type: none"> • The need to ensure that implementing the learning legacy did not distract from the focus and drive to complete the programme; • The learning legacy could be implemented as a strand of the workstream on cultural change; and • The learning legacy should focus on learnings obtained during the current phases of testing and commissioning, assurance and handover.
Item 14 114/20	<p>CRLB 114/20 – Crossrail Limited Board Effectiveness Review</p> <p>The Board discussed the Board Effectiveness Review report and NOTED the main areas of focus which included: the frequency of Board meetings; the role of the PEF vis a vis the Board; Board Committee responsibility; and quality of Board papers.</p> <p>The meeting NOTED that a group of key individuals would meet to discuss possible changes to the Terms of Reference of the Investment Committee and the Scheme of Authorities.</p> <p>It was NOTED that the Board would prepare a response to the recommendations in the Board Effectiveness Review report.</p>
Item 15 115/20	<p>CRLB 115/20 – Periodic Assurance Report Period 10</p> <p>The Board received the Periodic Assurance Report for Period 10.</p> <p>It was NOTED that the recommendations in the report aligned with those from the Crossrail Advisory Panel report considered earlier and that a joint response would likely be prepared to both reports.</p> <p>The Board NOTED that the assurance process needed to evolve to a more agile one which focused on targeted areas, as the current process no longer added value.</p>
Item 16 116/20	<p>CRLB 106/20 – PRep Report Period 9 including CRL's Response to Sponsors</p> <p>The Board NOTED the PRep report for Period 9 including CRL's response to the Sponsors and NOTED the highlights from the Period 10 report.</p>
Item 17 117/20	<p>CRLB 117/20 – Indirect Cost Investment Authority Request</p> <p>The Board received a paper seeking Investment Authority (IA) to cover the value of Indirect cost for Periods 1 to 6 of the next Financial Year (FY2021). The values requested were aligned to that presented to the Board on 7 November 2019 as part of the Period 7 AFCDC update. This request for IA had been endorsed at the Investment Committee meeting held on 18</p>

	<p>December 2019, for submission to the Board for approval.</p> <p>The Board APPROVED:</p> <ul style="list-style-type: none"> • The grant of additional IA in the amount of [REDACTED] for the base Indirect cost for Periods 1 to 6, FY2021; and • The grant of additional IA in the amount of [REDACTED] for the Indirect prolongation allowance for Periods 1 to 6 FY2021. 				
Item 18 118/20	<p>CRLB 118/20 – C512 Whitechapel Station – Investment Authority</p> <p>The Board received a paper seeking increased IA for C512 Whitechapel station. This request for IA had been endorsed at the Investment Committee meeting held on 15 January 2020, for submission to the Board for approval.</p> <p>The Board APPROVED an IA increase of [REDACTED] for C512 Whitechapel station and AGREED that the Chief Finance Officer should ensure a staged release of the IA as the triage work was being completed.</p>				
Item 19 119/20	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]				
Items 20&21	<p>Minutes of Board Committees for Reference</p> <p>The Board received the following minutes for reference:</p> <table border="1"> <tr> <td>Investment Committee</td> <td>IC MIN 191120</td> </tr> <tr> <td></td> <td>IC MIN 191218</td> </tr> </table>	Investment Committee	IC MIN 191120		IC MIN 191218
Investment Committee	IC MIN 191120				
	IC MIN 191218				
Item 22 AOB	<p>AOB</p> <p>There was no other business.</p>				
Item 23 Verbal	<p>De-brief Discussion with the Sponsors</p> <p>The Board provided the Sponsors with an overview of the matters that had been considered during the meeting, highlighting the following: noting of the safety incidents, Siemens C660's openness in reporting on their health and safety performance and the plan to write to them commending their transparency; noting of the NR update on the [REDACTED] [REDACTED] incidents over the Christmas period; the ongoing work to align NR, CRL and TfL risks; more confidence in the ADM, questions on whether LU had the requisite resources to implement the ADM and consideration of who would bear the responsibility for cost and risk; discussion around cost and schedule, recognising the monthly slippage and noting that it was less this period, particularly in relation to the stations; the absolute necessity of clarity on the essential requirements for operating a safe railway, with a focus on high risk and safety critical items; progress with establishing the IDTs comprising 7 individuals located at each site and the need to ensure that the IDTs were given a clear definition of the minimum requirements; the update from the Crossrail Advisory Panel on the independent assurance into the</p>				

revised schedule; the Communications Strategy for 2020 and the NEDs nominated to refine this with the Communications Director; the Board effectiveness review and the recommendations, all of which were being taken into consideration; recognition of achieving a significant milestone i.e. the Safety Justification approval of the signalling system for PD11, to take the programme through to trial running and allow for multi train testing; the hope to move to enhanced dynamic testing [REDACTED], which would be key for getting to trial running [REDACTED]; disappointment with Bombardier Transportation's (BT's) performance in relation to obtaining the authorisation of the ORR for getting into Stage 2b and the need to ensure that this was not the beginning of a shift in their priorities; the need to move the assurance process to one that fit a safe railway coming into operation; noting that overall, setting [REDACTED] for trial running [REDACTED] had had a galvanising effect; noting of major outstanding items including the control centre, end to end testing, velocity testing and tunnel vent systems and the appeal to allow the Executive team the room to focus on getting the programme completed.

The Commissioner noted the positive shift in the tone of the NEDs in the last two meetings; asked to see the list setting out the minimum requirements for safely operating the railway; highlighted the meeting scheduled for the following day, between himself, Andy Lord, Tony Meggs and Mark Wild to have key discussions on moving the project forward; noted the need to drive BT to remain focused on Crossrail; and noted the need to keep in touch on any issues that need resolving.

The DfT expressed their readiness to collaborate with TfL in driving BT to deliver; questioned what progress had been made in instilling cultural change and noted that progress would be more visible when the minimum requirements for delivering a safe railway were finalised and there was alignment on items that would be completed or deferred.

With regard to the certified information for funding drawdown, the Sponsors confirmed the continued immediate funding for the project for another period while a new funding agreement was being put in place. The Sponsors also confirmed that the waiver was extended and that CRL should provide a certificate in the same revised form provided earlier in January 2020.

Signed by:
Tony Meggs
Chair

