



CROSSRAIL BOARD

**Minutes of the Meeting of the Board of Directors of Crossrail Limited
Held on Thursday 19 July 2018 at 13:40
28th Floor Boardroom, 25 Canada Square, Canary Wharf, London E14 5LQ**

Members:	In Attendance:	Apologies:
Terry Morgan <i>Chair</i>	Funmi Amusu <i>Assistant Company Secretary</i>	
Mathew Duncan <i>Finance Director</i>	Dawn Barker <i>Head of Human Resources</i>	
Phil Gaffney <i>Non-executive Director</i>	Susan Beadles <i>Head of Legal Services and Company Secretary</i>	
Robert Jennings <i>Non-executive Director</i>	Lucy Findlay <i>Chief of Staff</i>	
Anne McMeel <i>Non-executive Director</i>	Paul Grammer <i>Commercial Director</i>	
Nelson Ogunshakin <i>Non-executive Director</i>	Howard Smith <i>Operations Director</i>	
Andy Pitt <i>Non-executive Director</i>		
Chris Sexton <i>Technical Director</i>		
Mark Wild <i>Non-executive Director</i>		
Simon Wright <i>Chief Executive</i>		

The meeting was quorate.

	<p>The Chairman welcomed Board members and attendees.</p> <p>Directors' Interests</p> <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>Informal Session</p> <p>It was NOTED that an informal session of the Board had been held earlier in the day.</p> <p>The Board had received detailed briefings on the following topics:</p>
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	<ul style="list-style-type: none"> • Programme Overview – progress across the programme including updates on dynamic testing; handover; training; asset information; quality; sustainability; the Crossrail art programme; and the Tottenham Court Road open day; • Checkpoint 2 – an update on recent schedule deep dives and analysis of dynamic testing, outlining the potential impact on project completion; and • RAB(C) – update on progress with approvals. <p>The Board had NOTED that at its upcoming meeting in August 2018, the Checkpoint 2 Schedule review would be considered for approval and should include cost, risk and resourcing plans.</p> <p>The Board had AGREED that a meeting should be organised to discuss integration issues in more detail.</p> <p>Action: Simon Wright/ Mark Wild/ Jeremy Bates/ Chris Binns/ Phil Clayton/ Andy Pitt/ Chris Sexton</p> <p>The Board had questioned why it took 3 weeks for Siemens to prepare documentation for submission to RAB(C) and had NOTED that Jeremy Bates would look into this and that the discussion on the rate of Siemens submissions to RAB(C) would be revisited at the Board meeting in August 2018.</p>
BD MIN 180621	<p>Minutes of the Meeting of the Board held on 21 June 2018</p> <p>The Board APPROVED the minutes of the meeting held on 21 June 2018 for signature.</p>
BD AC 180719	<p>Actions and Matters Arising</p> <p>The Board NOTED that all 'due' actions had either been completed or were covered by the agenda for the day's meeting.</p> <div data-bbox="352 1339 1369 1507" style="background-color: black; width: 100%; height: 75px; margin-top: 10px;"></div>
BD CBR 180719	<p>Crossrail Board Report Period 3</p> <p>Simon Wright introduced the Board Report for Period 3 highlighting that:</p> <ul style="list-style-type: none"> • There had been significant activity to move the programme more fully into the testing phase and complete the construction phase. Although there had been a number of achievements in the Period, there was very significant pressure on the amount of work left to complete in the time available. Managing the multiple streams of activity was becoming increasingly complex. As such, the teams were working even harder with the Infrastructure Managers (IMs) to identify and prioritise the activities critical for handover; • The successful extension of Dynamic Testing into Zones 3 and 4 had initially focused on line speed tests in manual mode between Pudding Mill Lane and Westbourne Park. This was followed by signalling tests and

multi-train testing in Zone 1 and signalling tests between the train and platform interfaces in Zones 2, 3 and 4. The amount of testing required vs. the time available in which to carry them out was critical and continued to be worked daily. Weekly calls with Siemens had been established and a reworked schedule had been requested from them including consideration of deferring functionality. In addition, a series of deep dive completion reviews had been undertaken with the major contracts;

- At the end of Period 3, the project was 93.8% complete against a plan of 95.6% (100% would be achieved at Stage 5);
- Following the Q1 Quantitative Risk Assessment (QRA), several projects had adjusted their AFC forecasts. Consequently, in the Period, the AFCDC had significantly increased by £87m to £12,810m (£297m above IP2). As this was clearly unwelcome, the Executive remained committed to minimising cost increases whilst recognising the impact of the schedule delays incurred;
- The Sponsors had written to CRL confirming the intention to provide up to a total of £300 million additional funding for the project. The Board **REQUESTED** that they be copied into the response to this letter;

Action: Simon Wright/ Lucy Findlay

- HSPI decreased slightly to 2.59 from 2.64 in the previous Period (compared to a target of 2.20). This still demonstrated a very strong health and safety performance; and
- The final 'Year of Engineering' events took place in July with 'Open House' activities being held at Tottenham Court Road and Whitechapel stations.

Are We Safe?

It was **NOTED** that:

- All the 11 key contracts continued to achieve a HSPI score of 2.20 or above, with 9 of the contracts scoring 2.45 or above;
- The RIDDOR and Lost Time Case (LTC) rates remained at 0.09 and 0.16 respectively, with Woolwich station achieving 2.5million hours without a LTC;
- In the Period, there were 5 significant incidents – 1 RIDDOR, 1 LTC and 3 High Potential Near Misses; and 12 injuries were sustained, the largest category (5 injuries) being slips, trips and falls.

Are We Within Funding?

Mathew Duncan presented a summary of financial performance for the Period. It was **NOTED** that:

- CRL was still awaiting TfL's annual letter confirming that CRL would remain its subsidiary for the next year and the financial statements and accounts would not be approved by the CRL Board until this annual letter was received. The Board **AGREED** that should the letter be received

before the Board meeting in August 2018, delegated authority was granted to Robert Jennings, Anne McMeel and Mathew Duncan to approve and sign off the financial statements and accounts;

- The AFCDC in Period 3 was at £12,810m. There was a net increase in risk of £71m, predominantly for forecast cost increases at the major contracts following the Q1 QRA and a review of costs to go by senior CRL management;
- Of the £249m QRA total, £237m was currently Programme risk not allocated to projects. URTs had increased by £56m in the Period. If all £162m of URTs were approved, the QRA total would reduce to £87m;
- In the Period, CRL had spent £51.2m above the 2018/19 Business Plan. The Business Plan was set in Period 6 2017/18 and since then, there had been a significant increase to the AFCDC (£0.5bn) and delays to MOHS dates for the key contracts, therefore variances to the Business Plan were to be expected;
- The overspend in the Period was predominantly: [REDACTED]
[REDACTED]
[REDACTED] offset by unspent Programme risk due to cost being reported in the Sectors (£16.2m); and
- The overall contingency budget of £228m was not sufficient to cover the risk exposure of £249m by £22m.

Commercials Update

Paul Grammer updated the Board on commercial performance in the Period. The Board **NOTED** that:

- The total gap between CRL's and its contractors' views of target had increased by [REDACTED] and the total forecast gap in forecast defined cost increased by [REDACTED];
- The Q1 Defined Cost Review considered the impact of schedule delays across the programme and their associated cost increases. As contractors continued to struggle to meet the demands of the schedule, demobilisation from the project had been pushed back further with the associated presence of labour, plant and staff all driving increases in their defined cost. [REDACTED]
[REDACTED]

The Board **REQUESTED** that the 'Cost to Go' and 'Period Actual Cost of Work Performed (ACWP)' figures for each contract should be expanded to include the trend;

Action: Paul Grammer

[REDACTED]

Action: Paul Grammer

Network Rail On Network Works and Funding

- The Forecast Final Outturn Cost (FFOC) remained at £2,376m reflecting a reported grand total cost position of £2,835.4m less the non-Network Rail (NR) programme costs (£305.4m for accelerated renewals/ traction power/ other non-Crossrail related spend in addition to the £154m combined cash funding from the DfT, CRL and NR). CRL had assessed the grand total cost mid-point sensitivity to be +£78.5m;
- Total Funding secured remained at £2,835.4m. NR was still seeking £9.8m of recoveries in relation to other NR projects and tax/ insurance. NR's application for additional funding (£54m) from the NR Portfolio Board (CP5 contingency) had been approved;
- NR's cumulative (gross) spend (excluding adjustments for traction power/ accelerated renewals) was £2,695.6m and represented 96% complete. The Period 3 Cost of Work Done (COWD) was £20.1m – higher than forecast due to a re-baseline of the Old Oak Common Paddington Approaches (OOCPA) costs now being undertaken by Amey;
- For the Enhanced Stations (West) packages, NR had had to defer the contract award by 2-3 months. This had introduced further pressure on the commitments to deliver these upgrades by December 2019. CRL was working closely with NR to ensure all options were considered to try to protect major construction activities planned during Christmas 2018 possessions. In the meantime, the enabling works packages continued. NR had also identified a gap in budgets and was seeking further funding from NR contingency; and
- With regard to the 2019 construction access dispute with Great Western Railway (GWR), NR was working on a revised access request as opposed to trying to appeal the decision with GWR.

The Board **REQUESTED** that a meeting should be arranged with Andy Haines, NR's new CEO.

Action: Simon Wright

Are We on Time?

Simon Wright had presented an overview of delivery performance during the informal session held earlier in the day. The following current issues were **NOTED** by the Board:

- Progress of 0.6% was achieved in the Period against the plan of 0.9%;
- Schedule pressures continued to generate very considerable concern around the amount of time available for handover and testing & commissioning activities. 25 anchor milestones had been re-set around a revised number of weekend dynamic testing windows and the completion of construction works;
- During the Period, 7 anchor milestones were delivered (cumulatively 32)

including C610 starting Dynamic Testing in Zones 3 and 4 after successfully completing the permanent energisation of the Over Head Line Equipment (OHLE); SCADA was made available in Zones 3 and 4; Platform Screen Doors (PSDs) in Zone 1 were now being tested; the PSD platform train interface tests had started; trains had been provided to Systemwide for Dynamic Testing; and Gidea Park Stabling Sidings achieved substantial completion;

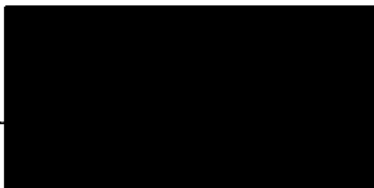
- The On Network Works (ONW) were 96% complete. Activities noted in the Period included RBC permanently connected to the signalling interlocking; the Office of Rail and Road (ORR) briefing was held for the new ETCS derogation; and Abbey Wood platforms remained on target for substantial completion;
- To further evidence the schedule pressures being felt across the Project, only 42 out of 105 measured project milestones were delivered in the Period. However, a further 11 milestones were delivered ahead of plan. As stated in previous periods, it remained true that while many of these missed milestones did not affect MOHS and the completion of dynamic testing, they still needed to be addressed. However, it was becoming clear that as works were not physically completed on time, there was an accumulation of pressure on the provision of documentation essential to the testing & commissioning process;
- With regard to Signalling tests, Test Windows 4 and 4x were completed. Across the two windows, a total of 41 out of a stretch target of 74 tests were carried out. Of the 41 tests completed, 12 were passed, with 3 failures and 26 currently being analysed;
- With regard to non-Signalling tests, there were 301 of them, 43 of which had been successfully passed. Zones 3 and 4 were now available for Test Window 5 onwards. Test Window 6 had been limited to a single day and Windows 7-10 had been reworked to align to the NR 'even' weeks to accommodate transition works. A further test period had been introduced on 15/16 September 2018 for the second GW transition testing;
- The delivery of Siemens communications software continued to be very challenging but was being managed. Concerns around installation resources remained with an additional 30+ test engineers now required to meet the needs of the demand for testing, now scheduled for August, September and October 2018. The emphasis remained on the handover of assets by Stations and Systemwide to Siemens to allow them to maintain their schedule to completion;
- Pre-testing of the signalling software release (v3.1.0) for passenger service was ongoing. This release of the software was expected to become available at the end of July 2018. However, some key functionality (e.g. auto-reverse) would not be working when combined with the other systems on the train. The overall volume of testing required to be carried out exceeded the current time available in the programme and testing to date had not yet included the most challenging aspects i.e. the transitions at the fringes. Work remained ongoing to look at the extent of time required for residual testing and the Executive were asked to report to the Board in August 2018 on the outcome of further detailed schedule reviews;
- Energisation of the non-traction power supply across each of the sites remained critical and under the scrutiny of the CRL Executive. Woolwich

	<p>Arsenal, Plumstead, Limmo, Canary Wharf and Stepney Green were energised in the Period;</p> <ul style="list-style-type: none"> • The overall production of Installation Release Notes (IRN) (as well as other key documents) to support handover of assets by the Tier 1 contractors remained critical. In addition to the resource challenge within the Tier 1 contractors to produce the evidence documentation, the slow progress of physical work had also resulted in slower production of IRNs. Close monitoring remained across all sites; and • The provision of asset data, O&M manuals and training materials by contractors in time to meet the IMs' needs remained critical. With growing concern over the ability to meet the delivery expectations on O&M manuals, a wholesale review of the end-to-end process had been instructed by the Programme Delivery Board, to be completed urgently. All parties continued to work to accelerate the production of asset data and to make best use of it progressively as it became available. <p>Operations</p> <p>Howard Smith provided an update on key operations matters, highlighting Stages 1 and 2 current operations; Old Oak Common Depot; Stages 2 and 3 Rolling Stock software; Stages 1 – 3 class 345 reliability growth; Stage 3 operational and maintenance readiness; Stages 2 – 5 MTR driver training; Stage 3 reliability growth; and Stage 4 and 5 key issues.</p> <p>Are We Ready for Closeout?</p> <ul style="list-style-type: none"> • Options for CRL accommodation were being considered in preparation for the end of tenancy at 25 Canada Square in December 2018, with the intention to relocate staff to Westferry Circus and TfL's offices at Endeavour Square, Stratford towards the end of 2018. The Board NOTED that an update on the plans for accommodation, including IT migration, would be presented to the Board meeting in September 2018; • Crossrail external affairs and communications were now being managed by TfL, with input from CRL. The meeting considered the responsibility of the Board in this regard, whether TfL communications were accountable to the CRL Board for Crossrail project matters and NOTED that this would be discussed further offline. <p>The Board NOTED the Board Report for Period 3.</p>
18/19	<p>CRLB 18/19 – Increase in Investment Authority and AFC for Contracts</p> <p>The Board received a paper requesting approval of the transfer of £96.2m of Board Contingency to Programme Contingency; an increase of £19.6m to the Financial Budget to align it with the P3 2018/19 AFCDC; and increased Investment Authority (IA) and Anticipated Final Cost (AFC) for the contracts –</p> <p>[REDACTED]</p> <p>The Board:</p> <ul style="list-style-type: none"> • APPROVED the transfer of £96.2m of Board Contingency to Programme

	<p>Contingency;</p> <ul style="list-style-type: none"> • APPROVED an increase of £19.6m to the Financial Budget (to be allocated to Board Contingency); and • APPROVED the provision of additional IA and increases to the AFC for the contracts. 						
<p>19/19</p>	<p>CRLB 19/19 – Future Audit Committee Arrangements</p> <p>Robert Jennings tabled a revised paper (to replace the one initially circulated to the Board) seeking approval for the proposed changes to the governance procedures for Audit Committee matters going forward.</p> <p>The Board NOTED that the paper set out a clear distinction between the governance delivered by the TfL Audit and Assurance Committee (relating to the Elizabeth line) and that provided by the CRL Board (relating to the delivery of Crossrail), to ensure that appropriate matters were debated in the correct forum. The meeting NOTED that the intention was that the CRL Audit Committee would not meet again after its last meeting on 8 June 2018, however, there was always the option for these arrangement to be reviewed, if necessary.</p> <p>The Board APPROVED the proposed revised governance arrangements for Audit Committee matters going forward and REQUESTED that Simon Kilonback (TfL) should be informed of the CRL Board’s decision on this.</p> <p>Action: Mathew Duncan</p>						
<p>20/19</p>	<p>CRLB 20/19 – Replacement of Senior Independent Director</p> <p>The Board APPROVED the replacement of Terry Hill by Phil Gaffney as the Senior Independent Director from 19 July 2018.</p>						
<p>21/19</p>	<p>CRLB 21/19 – Project Representative Report (P-Rep) Period 2</p> <p>The Board reviewed and NOTED the P-Rep Report for Period 2.</p> <p>Simon Wright provided a verbal summary of the issues that were expected to be raised in the Period 3 report which were NOTED by the Board. These included matters relating to: financials; Stage 2 Opening; Stage 3 Opening (Infrastructure & Systems and Handover & Operational Readiness); and Stages 4 and 5 Openings.</p>						
	<p>Minutes of Board Committees for Reference</p> <p>The Board received the following minutes for reference:</p> <table border="1" data-bbox="371 1603 1382 1709"> <tr> <td data-bbox="371 1603 852 1709"> <p>Executive and Investment Committee</p> </td> <td data-bbox="852 1603 1118 1709"> <p>EIC D 180613 EIC D 180618</p> </td> <td data-bbox="1118 1603 1382 1709"> <p>Simon Wright</p> </td> </tr> </table> <p>Verbal Updates of Recent Board Committee meetings</p> <table border="1" data-bbox="371 1776 1382 2105"> <tr> <td data-bbox="371 1776 852 2105"> <p>Executive and Investment Committee 11 July 2018 Matters covered by the Committee were:</p> <p>Board agenda items:</p> <ul style="list-style-type: none"> • Checkpoint 2 Schedule Update • Future Audit Committee Arrangements </td> <td data-bbox="852 1776 1118 2105"></td> <td data-bbox="1118 1776 1382 2105"> <p>Simon Wright</p> </td> </tr> </table>	<p>Executive and Investment Committee</p>	<p>EIC D 180613 EIC D 180618</p>	<p>Simon Wright</p>	<p>Executive and Investment Committee 11 July 2018 Matters covered by the Committee were:</p> <p>Board agenda items:</p> <ul style="list-style-type: none"> • Checkpoint 2 Schedule Update • Future Audit Committee Arrangements 		<p>Simon Wright</p>
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	<ul style="list-style-type: none"> • Increase in IA and AFC for Contracts <p>Other items:</p> <ul style="list-style-type: none"> • Update on Cost Saving Initiatives • Accommodation Update • Risk Management Report 		
<p>AOB</p>	<p>The Board AGREED that the membership of the Remuneration and Nominations Committees should be updated following the new structure of the CRL Board</p> <p>Action: Terry Morgan/ Dawn Barker</p> <p>There was no other business.</p>		
<p>NEDs Only Session</p>	<p>Non-executive Directors provided feedback on the day's meeting.</p>		

Signed by:



Terry Morgan
Non-executive Chairman