

TRANSPORT FOR LONDON

BRIEFING NOTE

Subject: Weekly Mayoral update on Crossrail / Elizabeth line

Date: 8 March 2018

Manifesto commitment(s)

Not applicable

Draft Mayor's Transport Strategy (MTS)

A good public transport experience

Proposal 57: The Mayor, through TfL, will work with the DfT to open the Elizabeth line in 2019, with services initially providing 24 trains per hour through central London and increasing in frequency during the 2020s as demand requires.

1 Purpose

- 1.1 Weekly update to the Mayor outlining progress and challenges ahead of the launch of the Elizabeth line.
- 1.2 The Mayor is asked to **NOTE** this briefing.

2 Headlines

- 2.1 The detailed testing programme of the new trains in the tunnels in the south eastern section will continue at the end of this week following a scheduled break. The break was to enable further degreasing of the overhead wires in the tunnels and final gauge clearance to be achieved.
- 2.2 During the severe weather at the end of last week, the temporary fire main froze and fractured at surface level leading to a temporary halt of the systemwide work in the tunnels because without the fire main it is unsafe to undertake work in the tunnels.
- 2.3 This has now been repaired and work resumed on 5 March. Elsewhere, the weather did not have any serious effects on contractors and the work they were carrying out.
- 2.4 Significant focus is on the assurance and approvals needed to commence testing under signalling control on 25 March. Bombardier is reporting this is on track, but we are monitoring it very closely to confirm if this is the case.
- 2.5 A second 9-Car train started testing on the Great Western Main Line between Paddington and Maidenhead on 26 February and these will be used to start driver training on the route from 5 March. This is in line with the plan for introduction of trains on the route from May 2018.

3 Costs

- 3.1 This week CRL reported its cost forecast at the end of Period 11 which remains unchanged since Period 10 at £12,464m.



- 3.2 Discussions took place between CRL and Sponsors (DfT and TfL) at the Crossrail Sponsor Board on 22 February, regarding the likelihood of additional funding being required to complete the project. CRL's current forecast (3 February) continues to show £48m headroom to the limit of the £600m contingency, funded by TfL.
- 3.3 Scenario analysis presented by CRL indicates that the likelihood of their cost forecast breaching that limit by the time of the next formal report (May) is high as they incorporate the implications of the revised Master Operating Handover Schedule (MOHS), delays to energisation, revised Bombardier programme, and current levels of productivity on the systemwide contracts.
- 3.4 A deep dive into Crossrail / Elizabeth line readiness with TfL Board members has been scheduled for 20 March where the implications of a potential breach will be reviewed.

4 Programme and Schedule

- 4.1 The key commitments and dates in Crossrail's Master Operational Handover Schedule (MOHS) 2018 are provided in the annex.
- 4.2 Over the last week the Final Design Overview (FDO) was completed for Tottenham Court Road station. FDOs for other stations, portals, shafts and systemwide elements will be achieved later in March.
- 4.3 Completing the FDOs is an important step in the preparation for handing over of key infrastructure elements to the Maintainers during summer 2018. In addition, supervisory control and data acquisition (SCADA) connectivity was achieved between Westbourne Park and the Route Control Centre at Romford enabling the control of systems from Romford.
- 4.4 The MOHS 2018 sets out the dates to complete the central section stations including key milestones for: Phase 3 integration testing; all fit-out, mechanical and electrical, lifts and escalators and testing & commissioning; handover to the infrastructure managers; and completion of the whole works.

5 Industrial relations

- 5.1 Discussions between Unite the Union and Balfour Beatty are continuing regarding completion bonuses, with regard to a dispute involving Balfour Beatty electricians working at Woolwich.
- 5.2 Unite called four further strikes (7, 14, 21, 28 March) in order to maintain their mandate from the original strike ballot. Agreement has not yet been reached between the union and Balfour Beatty.
- 5.3 There was a small picket line of electricians (circa 15 individuals) at Woolwich early this morning (7 March). Impact on productivity is believed to be small. A separate, peaceful demonstration (circa 30 people) also took place later in the morning at Balfour Beatty HQ in Canary Wharf which then moved to Crossrail Ltd's office in Canary Wharf where they held a similarly peaceful protest and were met by a Crossrail director. There was no impact at other Crossrail sites.



6 Appendix

- Appendix A: Key milestones from MOHS 2018 and BT schedule
- Appendix B: Table of key risks and issues



Appendix A: Key milestones from MOHS 2018 and BT schedule

MOHS Milestones	MOHS2018 date	Status
Traction power Zones 1&2	Feb 18	Achieved
Dynamic testing Zones 1&2	Feb 18	Achieved
Traction power on Zones 3&4	May 18	On target
High Voltage Non Traction Power Zones 1&2	May 18	On target
Stage 2 commencement (contingency plan)	May 18	On target
Dynamic testing Zones 3&4	Jun 18	On target
Network Rail award west station contract	Jun 18	On target
Handover of stations and elements to RfL and LU	Jun-Nov	On target
High Voltage Non Traction Power All locations	Jul 18	On target
Dynamic testing all zones	Jul 18	On target
Trial running commences	Aug 18	On target
Safety case for central section submitted to RAB C	Aug 18	On target
Trial operations commence	Sep 18	On target
Submit Approval to Place Into Service to ORR	Sep 18	On target
Full Stage 2 services	Tbc	tbc
Stage 3 commencement	9 December 18	On target



BT Key Programme Milestones

Stage 2	P80 Programme (V3_5_1) 11 th Jan	Current Forecast
Approval for driver training on Great Western routes (excluding European Train Control System)	27 Feb	5 March
Approval for European Train Control System driver training on Great Western	24 Aug	TBC
Approvals for European Train Control System Passenger Service	28 Sept	TBC
Stage 3		
Completion of Transition testing at Melton ready for Central Operating Section Dynamic Testing	29 Jan	Complete
Approval of CBTC signalling for Central Operating Section Trial Operations	22 Jun	22 Jun
Availability of 22 trains for Trial Running in the Central Operating Section	13 Aug	13 Aug
Approval of Class 345 for Stage 3 Passenger Service	10 Oct	10 Oct
Start of Stage 3 Passenger Service	9 Dec	9 Dec
Old Oak Common Depot		
Section A Brought into Use	1 Mar	Complete
Section B1 Brought into Use	11 Apr	11 Apr
Section C Brought into Use	30 May	30 May



Appendix B: Table of key risks and issues

Risk / Issue	Key date	Mitigation / Action
Stage 2		
Issues arising from integration of on-board European Train Control System (ETCS) with infrastructure and associated delays to Regulatory Approvals	Initial ETCS integration testing started 12 Jan 2018	Revised BT programme was presented on 9 Jan 18. Weekly high- level dialogue with BT and dedicated CRL Stage 2 integration lead in place. Alternative (Class 360s) units secured - contract signed - to cover any delay.
Stage 3		
Timely provision of design assurance information, asset data, key operations/ maintenance information.	Systemwide Handover 5 Aug 2018	Design assurance slowed in the period so will receive further focus at close out meetings delivery of asset information including O&M requirements remains cause for concern. Escalation with Tier I contractors.
Risk of delays to the Bombardier schedule for installation of the Class 345 on-board TCMS / CBTC (v 6.1.1 & v7) impacts activities for Dynamic Testing.	Train tested & delivered to central section 29 Jan 2018	CBTC Testing started at Old Dalby. Revised plans developed to continue testing to build contingency to start of testing in central section in February 2018.
Risk of delays to commissioning of NR interfaces impacting trial running.	Blockades Z1&2 3-24 Mar 2018 Z3&4 6-20 May 2018	Recovery plans under development for installation of contract C620 equipment on NR lines to Stratford
Risk of insufficient time to undertake trial operations activity.	Trial Ops 09 Sept 2018	Complete infrastructure and testing as early as possible to allow unimpeded trial operations. Prepare station handover plans
Risk of LU readiness being impacted by ongoing construction at stations, spares availability and completion of staff training.	Trial Ops 09 Sept 2018	LU Readiness Board overseeing this activity.
Preferred delivery option and programme for wifi and 4G for passengers from stage opening and maintenance teams from handover.	Wi-Fi available to maintainers 5 Aug 2018 Wi-Fi for passengers 9 Dec 2018	Confirm programme and way forward. Scope and confirm funding.

