

Date: 8 December 2021

Item: Elizabeth Line Operational Readiness and Crossrail Update

This paper will be considered in public

1 Summary

- 1.1 This paper provides an update on the status of the remaining work on the Crossrail project (Crossrail) and of the readiness of the Infrastructure Managers (IM) for the operations and maintenance of the railway after handover from Crossrail.
- 1.2 Delivery of the Elizabeth line reached its next significant milestone on 20 November 2021 with the Trial Operations phase now underway. This marks the final phase of the programme before the Elizabeth line opens for passenger services between Paddington and Abbey Wood in the first half of 2022.

2 Recommendation

- 2.1 **The Board is asked to note the paper.**

3 Crossrail Update

- 3.1 With the project in the final complex stages of delivering the railway, the focus remains on ensuring that it is completed safely. The overall Health and Safety indicators remain within the parameters set by the programme.
- 3.2 The number of Covid-19 cases across sites has generally remained constant. The Covid-19 situation continues to be closely and carefully monitored. Existing measures will remain in place and will be re-assessed following the commencement of Trial Operations.
- 3.3 The ELR100 commissioning blockade commenced on 10 October 2021, which saw the ELR100 software successfully commissioned during what was a 15 day blockade. The blockade also allowed for the tunnel ventilation system (TVS) to be updated and this is now almost complete, as well as other key works to the rolling stock and signalling.
- 3.4 Before the end of 2021, there will be further changes to the TVS to complete the outstanding functionality of the system software for passenger service. There will also be a smaller scale software update (ELR110) that may sweep up any new issues identified during Trial Running. These fixes are expected to be few in number but are important in the final completion of the railway for revenue service.

- 3.5 On 20 November 2021, the programme entered into Trial Operations that involves operational exercises to ensure the safety and reliability of the railway for public use and to fully test the timetables. More than 150 scenarios will be carried out over the coming months to ensure the readiness of the railway for passenger service. These include exercises to make sure that all systems and procedures work effectively and staff can respond to incidents, including customers being unwell or signal failures.
- 3.6 In the new year, a series of more complex exercises will include evacuations of trains and stations using thousands of staff. The final step will see a period of 'shadow running', operating timetabled services ahead of the Elizabeth line opening.
- 3.7 It will take several months to complete this final phase. The Elizabeth line is an immensely complex railway and Trial Operations will continue until it is clear that it can operate at the highest levels of safety and reliability before the start of passenger services. Only then will a specific opening date for the railway be announced. Trial Operations will also see a number of organisations, including Transport for London, MTR Elizabeth line, Network Rail and the emergency services all working together to respond to the trial scenarios.
- 3.8 The central section stations are now at an advanced stage, with eight out of the 10 now under the care of TfL and ready to support Trial Operations. Tier 1 contractors are beginning to demobilise from site. To date, Tier 1 contractors from Farringdon, Tottenham Court Road and Woolwich stations have started the demobilisation process, along with those at Paddington and Liverpool Street stations.
- 3.9 The next station to be transferred to TfL is Canary Wharf. Final modifications to the safety systems are being carried out and it is expected to be transferred by the end of 2021.
- 3.10 Bond Street station achieved its readiness to support Trial Operations on 8 October 2021. This is a significant milestone for the station and for the wider programme. The team at Bond Street are now working on a plan to get the earliest opening date for the station. The possession of the oversite development and urban realm has also recently been handed to the developer.
- 3.11 Following the completion of station works at Hayes & Harlington in September 2021, Network Rail's station enhancement works on the west are largely complete. A significant benefit of these works is that passengers are now able to make step-free journeys across TfL Rail between Paddington, Reading and Heathrow.
- 3.12 Enhanced station upgrade works are progressing in the east at Ilford and Romford. The glass façade is now complete at Ilford and lift cars also installed at both sites. The target for entry into service of the new station buildings is February 2022 and Network Rail continues to monitor this to drive performance.

4 Elizabeth Line Operational Readiness

- 4.1 Since resuming train movement in the Central Operating Section, following the two-week blockade in October 2021 to allow for the commissioning of one of the ELR100 signalling software update, we have seen a significant improvement in performance of the 12 trains per hour (tph) timetable.
- 4.2 Sustained delivery of the 12 tph timetable was critical to allow us to move into the Trial Operations phase. The improved reliability enables our operational teams to increase their understanding of how to manage the service, utilise the infrastructure available and deal with issues as they arise, more effectively. Further work will take place in December and over the Christmas period on the TVS and the next software upgrade (ELR110).
- 4.3 A series of project gates has been established as “Go/No-Go” decision points to move throughout Trial Operations, towards Revenue Service. A ‘gate’ has been scheduled for December 2021 to provide the conditional “Go/No-Go” for the more complex exercises of Trial Operations subject to the successful completion of the TVS works. Once approved, this will allow us to carry out planned evacuation exercises in January 2022 including the emergency services.
- 4.4 Our existing TfL Rail operations continue to deliver a good service with the Public Performance Measure beating target during period 7, the four-week period between 19 September 2021 and 16 October 2021. We compared favourably against the rest of the industry with only Merseyrail and London Overground performing better. The eastern section of the line achieved 97.5 per cent with the western section achieving 93.0 per cent of trains meeting their reliability target. The overall Moving Annual Average trend also continues to be better than target at 95.3 per cent.

List of Appendices:

None

List of Background Papers:

None

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