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Dear Chair,

Crossrail progress update: Summer 2020

Following our last letter, dated 31 July 2020, we are writing to you in order to provide an update on the Crossrail project.

Delivery of the Elizabeth line is now in its complex final stages with a plan to complete the railway focussed on the remaining construction and systems integration, followed by intensive operational testing. Crossrail Ltd is working to complete the remaining infrastructure so it can fully test the railway and successfully transition the project as an operational railway to Transport for London (TfL).

As we highlighted in July, a programme of this scale and complexity was already challenging and the impact of COVID-19 has clearly made the existing pressures more acute. Due to a pause of physical activity on sites and significant constraints on ongoing work – time has been lost, only some of which can be recovered.

Following the July meeting of the Crossrail Board, we confirmed that the opening of the central section between Paddington and Abbey Wood next summer, as announced earlier this year prior to COVID-19, would not be achievable. The Board's latest assessment is that the central section between Paddington and Abbey Wood will be ready to open in the first half of 2022. As work to complete the railway progresses, there may be opportunity to review and bring forward the opening of the central section, subject to progress during the intensive operational testing phase.

Delays to the programme have been caused by three main issues:

- **Routeway:** we have had lower than planned productivity in the final completion and handover of the shafts and portals. The shafts and portals form a critical part of the routeway and contain many of the complex operating systems for the Elizabeth line.
- **Stations:** as more detailed plans for the completion and handover of the ten central section stations have developed, we have revised our previous schedule assumptions about the pace at which these mostly large and complex underground stations can be handed over to TfL. The completion and handover of all the stations in the central section is a monumental task - in our updated plan we have phased the transfer of stations to take account the scale of this undertaking.

MOVING LONDON FORWARD



- **COVID-19:** Covid has further exacerbated the schedule pressures due to a pause of physical activity on sites during lockdown to keep the workforce safe and significant constraints on ongoing work and productivity due to the reduced numbers that can work on site to meet strict social distancing requirements. We now have a maximum of around 2,000 people on our sites, less than 50 per cent of our pre-Covid complement.

Following the opening of the central section, full services across the Elizabeth line from Reading and Heathrow in the west to Abbey Wood and Shenfield in the east will be introduced. The introduction of full services will be aligned with the National Rail timetable change which occurs twice a year in May and December.

Cost

The latest estimate presented to the Crossrail Board in August shows that the cost to complete the Crossrail project could be up to £1.1bn above the Financing Package agreed in December 2018 (£450m more than the upper end of the range announced in November 2019). Work is ongoing to finalise the cost estimates. TfL and the Department for Transport as joint sponsors continue to work with Crossrail Ltd on the funding position.

This majority of the cost increase is due to the impact of COVID-19, specifically the pause of physical activity on site during lockdown and the subsequent constraints on ongoing work and productivity due to social distancing. Around a quarter of the increase is down to prolongation of the programme for non-Covid related reasons such as resequencing station handovers with a further quarter due to additional resources and other supplier costs being required to deliver the programme. A small proportion of the additional funding pressure is for completing previously unidentified work or correcting deficiencies uncovered during the extensive testing programme.

Routeway construction blockade

In order to recover some of the time lost across the programme, we implemented a construction 'blockade' across our tunnels, track, shafts and portals, which ran from 3 August to 17 September. It allowed for exclusive 24/7 access to the central tunnel section routeway for construction and testing workers and was focussed on finishing all the remaining safety critical and construction works in the routeway.

The blockade was very successful with a high level of productivity achieved and a major programme of works delivered across the central section routeway by the supply chain. A productivity rate of 96% was achieved during the blockade with 1,235 of a total 1,286 milestones completed - the remaining tasks will be scheduled for completion at the earliest possible opportunity.

All of our shafts and portals have now reached either full handover to the Infrastructure Manager (six assets) or are under Staged Completion for Familiarisation (four assets). In our previous update, we noted that Stepney Green shaft was due to reach its final stage by the middle of August. We can now confirm that despite a minor slippage, Stepney Green shaft has reached Staged Completion for Familiarisation.

Stations

Many of the central section stations are now nearing completion – Custom House was the first of the central section stations to be handed over to TfL. We continue to progress planning for the early station transfer of Tottenham Court Road and Farringdon. Remaining works at the stations including snagging will continue into 2021.

We have developed a stations recovery plan in order to sequence the handover of each central section station to their operator. We now expect all underground central section stations, except Bond Street, to achieve SC3 ROGS certification (ready to support passenger operations) by mid-2021. In our previous update, we outlined some of the challenges being faced at Bond Street. It is the one remaining station yet to achieve SC1 certification (ready to support Trial Running), however we expect it to reach this point later this year.

Software

Dynamic Testing was restarted in windows during the construction blockade with a high percentage of tests being completed during this period. We plan to commence intensive software testing shortly, including for the next evolution of the signalling software, known as TR2, helping to further build operational reliability. Once TR2 software testing completes, Crossrail will then commence an enabling phase for Trial Running in late 2020, known as Systems Integration Dynamic Testing (SIDT), with testing in the tunnels undertaken with an increased number of trains. This will be undertaken as the extensive safety case to the Office of Rail and Road to commence Trial Running is finalised.

Trial Running / Trial Operations

As highlighted in previous updates, Trial Running marks the project's key transition to an operational railway and is a critical step forward in making possible the opening of passenger services between Paddington and Abbey Wood. This will see multiple trains operating in the tunnels to fully test the timetable and build reliability while the final works to the stations are completed.

Crossrail is seeking to start intensive operational testing, known as Trial Running, at the earliest opportunity in 2021. From the start of Trial Running it will then take a period of time to fully test the Elizabeth line before it can open for passenger service. This includes a final phase known as Trial Operations to test real-time scenarios. Duration of the testing is still to be determined but this will be for as long as is necessary to ensure the safety and reliability of passenger services.

Assurance / Handover

Good progress has been made completing the documentation required for Crossrail to enter into Trial Running, with over two thirds of all documents required being ready and awaiting finalisation. While the priority has been getting to this intensive stage of operational testing, focus on the completion of all documents has been maintained and in total over half of that documentation is finalised.

Heathrow to Paddington (Stage 2B)

From 14 September, all TfL Rail services between Paddington and Heathrow have been operated entirely by Class 345 Elizabeth line trains. The units inherited from the previous Heathrow Connect service have been withdrawn with customers benefiting from much longer and more spacious trains with full air conditioning and modern customer information. This latest development follows the initial introduction of Class 345 trains operating a limited number of TfL Rail services between Heathrow and Paddington in July.

Network Rail

Network Rail's major upgrade works to surface stations on the eastern and western sections of the railway continue to progress, with step-free access being prioritised where possible. Following a pause to upgrade works as a result of Covid restrictions, Network Rail now expects

to deliver the remaining surface stations by mid-2021 before the opening of the full Elizabeth line.

Governance

To align with the next phase of the programme, discussions are underway regarding responsibility for the governance of the Crossrail moving to TfL from this autumn. The joint sponsors of Crossrail, TfL and the Department for Transport, are working closely with Crossrail Ltd to finalise the governance transition plan. The plans will ensure that decision making between Crossrail Ltd and TfL is seamless and fully aligned during the critical final phases of the programme as the operational testing is undertaken and the remaining parts of the railway are completed and transferred to TfL.

Over time further phases of the transition will take place as Crossrail becomes a fully integrated part of TfL, as originally planned. In the meantime, everyone involved with Crossrail continues to be focussed on completing the outstanding works to commence intensive operational testing at the earliest opportunity in 2021.

Recent progress, particularly surrounding the shafts and portals and the blockade, has demonstrated high levels of performance across the project. We have confidence in the ability of the Executive Team to deliver the programme to the newly agreed timetable providing they are not subject to further lockdowns or the interruption of works as a consequence of a further wave of COVID-19.

Earlier this month, the Crossrail Board held its final meeting, at which it was agreed with the joint sponsors of the programme that the Board would resign at the end of the month. In order to provide continuity, some Board members will, however, be staying on as part of Crossrail's governance within TfL.

Whilst this is the last update you will receive from us as Crossrail Chairman and Deputy Chairman, Mark Wild, CEO of Crossrail Ltd, will continue to provide regular updates going forward.

If you require any further information about the project, please do not hesitate to contact us, or Crossrail's Public Affairs Manager, on 07597 190045 or by email at rossgarrod@crossrail.tfl.gov.uk.

Yours sincerely,



Tony Meggs CB
Chairman, Crossrail Ltd.



Rt. Hon Nick Raynsford
Deputy Chairman, Crossrail Ltd.

CC: Andy Byford, Commissioner at Transport for London
Bernadette Kelly CB, Permanent Secretary at the Department for Transport
Gareth Davies, Comptroller & Auditor General at the National Audit Office