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Dear Alison,

Delivery of the Elizabeth line is now in its complex final stages with a comprehensive plan to complete the railway focused on completing the remaining construction and systems integration followed by intensive operational testing.

A programme of this scale and complexity was already challenging, but the impact of COVID-19 has clearly made the existing pressures more acute. We are doing our best to mitigate the delays but unfortunately, time has been lost, only some of which can be recovered. The opening of the central section between Paddington and Abbey Wood next summer is not achievable and further work is required on the detailed recovery plan and on the financial implications. A more comprehensive update will be issued in due course.

Despite the impact on the project, we continue to make good progress in support of our focus on entering intensive operational testing of the railway, Trial Running, at the earliest opportunity. Eleanor Street shaft has reached the last stage before it is handed over to TfL and we expect the last of the ten shafts and portals (Stepney Green Shaft) to achieve this by the middle of August. All safety documentation for the routeway has been submitted by the contractor and is an important step in the journey to Trial Running. All our stations are ready to support entry into Trial Running, with the exception of Bond Street which we anticipate will achieve this milestone during the coming months. As mentioned previously, we will be commencing a construction blockade across our tunnels, shafts and portals in August. We are also progressing the detailed assurance and safety case that must be completed for Trial Running.

From the start of Trial Running a period of time will be required 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.

### **Safety**

Despite Crossrail's strong health and safety performance during the execution of the safe stop and the remobilisation of over 1,800 people back on site, we have had a stark reminder this month of the need to be vigilant and diligent in ensuring our people are protected. On 3 July, at Farringdon station, an operative stepped on a non-load bearing hatch, causing the latch to give way, the operative suffered bruising after falling two metres. An investigation is currently ongoing, and we will of course be ensuring that lessons are learned across the programme.

**MOVING LONDON FORWARD**





The programme is progressing towards the next key stage of its COVID-19 recovery plan, the construction blockade. It is necessary leading up to and during the blockade that there is the same level of focus on health and safety. An increased level of communication on safety and health will be implemented before the blockade starts and during the blockade there will be a weekly targeted focus on our Target Zero rules.

As the country takes tentative steps in reducing a number of the restrictions that were put in place to manage the pandemic, Crossrail continues to ensure that we are fully aligned with Transport for London's response. With our sites re-opening we have introduced strict social distancing measures, most of our sites also have testing facilities and temperature monitoring. The health and wellbeing of our workforce is our top priority.

### **Central Section Progress**

The construction blockade will commence on 3 August and will continue for six weeks. It is focused on finishing all the remaining safety critical and construction works in the routeway, including completing scenario testing required for entering into Trial Running.

Following Plumstead Portal and Eleanor Street successfully achieving their Staged Completion for Familiarisation state, only one of the ten Shafts and Portals remain to achieve this, and we expect Stepney Green Shaft to achieve this in mid-August. Staged Completion for Familiarisation is the step before full handover and means that the safety critical works have been completed with only minor works and assurance documentation left to complete. This will be managed with dedicated resource, undertaken on an 8-12-week timeline and allows Rail for London to start familiarising itself with the asset. The routeway construction blockade will unlock the ability to complete dependent assurance documents that will enable the Safety Justifications to be completed.

Planning continues for the early station transfer of Tottenham Court Road and Farringdon to TfL. Dates for transfer to take place are currently being considered along with the potential risks and benefits of doing so.

Testing of the train and signalling software is progressing well with 108 of the required 120 test cases for the baseline Trial Running configuration passed meaning that Crossrail have a viable software product (PD+11) available for Trial Running. Prior to starting the construction blockade the remaining signalling tests and a day of scenario testing will be carried out so that any changes to the software can be incorporated ahead of the new releases in the autumn.

We are confident that the next evolution of the software, referred to as TR2, will be suitable for Trial Running and it has recently been loaded onto our test track at Melton. TR2 software will be uploaded for Dynamic Testing this autumn which will allow us to increase the number of trains that we are able to undertake testing with.

The combination of making good progress with the TR2 software and the work scheduled for the construction blockade, should allow the project to be in a place where we are able to improve reliability in the central section, identify any issues with the software and, ultimately, help keep the Trial Running period to a minimum.



The disruptive 'Bismarck' testing on the high voltage power systems is now complete and evaluated how the network recovers following power outage. We are also making good progress with the complex routeway integration scenario testing for Trial Running, which now sits at 71% complete.

Work is underway on the activities that need to be completed after the blockade including the assurance of the TR2 software configuration and the commencement of the Systems Integration Dynamic Testing (SIDT). SIDT will provide us with an opportunity to start testing how well our systems work in operational-like situations. We will be undertaking SIDT as we complete the complex assurance evidence to be submitted to the Office for Rail and Road (ORR).

### **Focus and Challenges**

Our focus is on completing the outstanding works across the tunnels, shafts and portals so that intensive operational testing can begin, and the Elizabeth line can be delivered at the earliest opportunity. Much of the remaining work is complex involving hooking up, integrating and testing the completed infrastructure and railway systems along with the finalisation of the extensive safety case to the ORR who will give the go-ahead to commence Trial Running.

As part of the detailed recovery plan, strategic planning is also being applied to the station recovery plan for the Trial Operations phase. Associated with the stations' recovery are two key challenges that are being managed. The first is the concurrency of resources required to complete the volume of assurance evidence and documentation for the stations, and the second is the interface works between the communication and control systems and the stations to ensure they are fully integrated into the network. Options for solutions to these challenges form part of the submission to the Board this month and incorporate lessons learned on the signalling and train systems.

### **Operational Readiness**

TfL Rail continues to perform with high reliability. Punctuality in the latest four-week period exceeded 98% (Public Performance Measure). Since 4 July a full pre-COVID-19 timetable has been restored (with one additional early morning service) and passenger numbers have risen steadily to around a third of pre-COVID-19 levels.

Earlier this week we introduced the first full-length Class 345 train in passenger service between Paddington and Heathrow. It is a significant milestone as it uses the ETCS signalling system and means that we continue to build mileage on the Class 345 fleet that will be used on the full Elizabeth line. There will be a gradual increase in the number of Class 345s serving Heathrow over the coming weeks.

Operational training has restarted, and maintenance training will re-commence at the beginning of August, both using safe, social distancing procedures. TfL teams continue to work with Crossrail colleagues on handover of the shafts and portals, progressing the complex assurance including the digital asset data and preparing for the intensive Trial Running phase of the project.



With the project moving towards an operational railway, discussions are underway between TfL and DfT regarding the transition from CRL to TfL.

### **Network Rail**

Network Rail's major upgrade of the existing railway and stations on the east and west of the Elizabeth line is now into its final stages.

Following the temporary pause to the station enhancement works and necessity to adhere to social distancing measures, Network Rail are evaluating the impact on their construction. However, the completion of step-free works along the east and west of the route are being prioritised.

On 20 July, the government announced that overall costings for Network Rail's programme for the Elizabeth line requires an extra £140 million of funding with the cost of the surface works package now standing at just under £3 billion. The additional costs, which were assessed before the COVID-19 crisis, are the result of some station and power upgrade work taking longer than planned.

Crossrail's continued priority is to complete the outstanding works for the Elizabeth line as soon as possible and oversee the successful transition of the project as an operational railway to Transport for London. Further work on the schedule will be taken to future Crossrail Board meetings and updates will be provided in due course. In the meantime, we will continue to work tirelessly to deliver the Elizabeth line for London as soon as we can.

Kind regards



**Mark Wild**  
CEO