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Dear Caroline,

It was a pleasure to appear before your committee last week and provide an update on the progress being made across the programme. I hope that you and your fellow committee members found the session helpful.

Since I last wrote to you the project continues to move in the right direction. I am pleased to say that following the finalisation of critical documents on Friday 19 November, Trial Operations began on 20 November, in line with the earliest forecast date. Trial Operations 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. It will include exercises to make sure that all people, systems and procedures work effectively and can respond to any incidents, including customers being unwell or signal failures.

There will be two distinct phases to Trial Operations that will deliver the full scope of activity required before opening to customers. The phased approach has seen the project enter Trial Operations as planned. Initially, there will be a limited number of scenarios that will allow for the remaining commissioning of the tunnel ventilation system software upgrade to be completed at Christmas, along with the ELR110 signalling software update which provide further increases in operational reliability. In the new year, a series of more complex exercises will include evacuations of trains and stations. The final step will see a period of shadow running, operating timetabled services ahead of the Elizabeth line opening.

It will take several months to complete Trial Operations. This is an immensely complex railway and Trial Operations will continue until it is clear the Elizabeth line can operate at the highest levels of safety and reliability before the start of passenger services. This is critical to confirming when the railway will be ready to open. Trial Operations will also see a number of organisations, including London Underground and Transport for London, MTR Elizabeth line, Network Rail and the emergency services, all working together to respond to the trial scenarios.

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## **Safety**

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.

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.

## **Trial Running**

Trial Running 12 trains per hour (tph) has been regularly performed to build reliability and flush out any issues with our systems and signalling software. We have also undertaken timetable demonstrations of 24 tph, the service frequency in the central section when the Elizabeth line is fully operational. Overall Trial Running has been successful at flushing out system integration issues, and we have plans in place to rectify these in upcoming software releases.

During the ELR100 commissioning blockade, Trial Running was paused, as planned on 10 October, and resumed on 27 October. The ELR100 software was successfully commissioned during the blockade. It is one of the last major configurations before revenue service and is integral to the programme moving into Trial Operations. It has fixed a considerable number of the bugs identified during Trial Running and its performance is currently being assessed. Early indications of the effect of the software upgrade on the railway are encouraging and provides confidence that the objectives that were set out to be achieved have been delivered. The blockade also allowed for the tunnel ventilation system to be upgraded, as well as other key works to the rolling stock, signalling, and fleet rollout.

Before the end of the year, there will be further changes to the tunnel ventilation system to complete the functionality of the system software for passenger service. There will also be a smaller scale ELR110 signalling software update that will sweep up the remaining issues identified during Trial Running. These final fixes are small in number but are important in the final completion of the railway for revenue service.

## **Trial Operations**

A phased approach to Trial Operations has been adopted to build greater resilience into the railway and to allow for the earliest commencement of passenger services next year.

The central section stations are now at an advanced stage, with eight out of the ten now under the care of TfL. Tier 1 contractors are demobilising from site. To date, Tier 1 contractors from Farringdon, Tottenham Court Road, Woolwich and Liverpool Street stations have demobilised from site and Paddington has started the process.

The next station to be transferred to TfL is Canary Wharf where the schedule has been adjusted to reflect the introduction of the staged approach to Trial Operations. Final modifications to the safety systems are being carried out and it is expected to be transferred by the middle of December.

Bond Street station achieved its readiness to support Trial Operations on 8 October. 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.



### **Focus and Challenges**

The programme is at a critical stage. We are driving to the earliest deterministic dates as this is the best way to minimise both cost exposure and the use of time risk allowance that currently underpins our assessment that the railway will open in the first half of 2022.

Alongside the commissioning of ELR100, the tunnel ventilation system has been updated and is almost complete. Following this there will be some final testing and software adjustments at Christmas to get the system to a level that safely and reliably supports passenger service.

The next major improvement in system reliability is the new Alstom train software currently going through its assurance process and due for commissioning on the railway before the end of the year. The success of ELR100 and the new Alstom train software will be very influential to the opening of the railway to passenger service.

### **Operational Readiness**

TfL Rail continues to deliver a good service with the Public Performance Measure (PPM) beating target during the four-week period between 19 September and 16 October. It compares favourably against the rest of the industry with only Merseyrail and London Overground performing better. The east section of the line achieved 97.5 per cent with the west section achieving 93 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.

The transition of the Liverpool Street to Shenfield service to a full nine-car Class 345 operation, with up to 22 trains commenced on 1 November and is expected to be complete by the end of this year.

### **Surface Stations**

Enhanced station improvements on the east at Ilford and Romford are progressing with lift cars installed at both sites. In addition, the ticket hall ceiling is being completed at Ilford whilst ticket vending machines are being installed at Romford. The stations are expected to be completed in early 2022, with Network Rail continuing to monitor this to drive performance.

The next couple of months will be exciting for the programme as we progress through Trial Operations, the final stage before opening the railway, but also as we continue to build greater resilience into the railway. There is a real desire from everyone involved in the project to continue to build on the strong performance and deliver this railway for passenger service in the first half of next year.

Yours sincerely,



**Mark Wild**  
CEO