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Dear [REDACTED]

With the Chair of the London Assembly Transport Committee not yet in position, following the Mayoral and London Assembly elections, I am writing to you with this month's Crossrail update to the London Assembly's Transport Committee. I would be grateful if you could provide the new Chair of the Committee with a copy of this update once they are in position.

Crossrail has recently commenced timetabled train movements in the Central Operating Section as part of the commissioning of the railway. This marks the beginning of the period where the project begins to demonstrate the capability for revenue services.

In recent weeks the project has achieved three major milestones that are necessary for activities in the central section to begin and, crucially, for delivering passenger services in our opening window. These are the commissioning of the Great Western Main Line (GWML) and Great Eastern Main Line (GEML) fringes and the assumption by Rail for London Infrastructure (RfLI) of responsibility for relevant infrastructure as an Infrastructure Manager under Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS), which gives TfL the ability to allow the infrastructure to be used for operating the trains.

Connecting the GWML and GEML lines to the Central Operating Section is a significant moment for the project as we now have, for the first time, a fully joined up railway.

At this important milestone, RfLI has taken over control the Central Operating Section of the railway as Infrastructure Manager and RfLI will manage the railway as the project moves through the Trial Running phase. We are bedding in the new operations and maintenance processes for the controlled start to Trial Running and the operation of four trains per hour. It is an important stage in the commissioning of the Elizabeth line before gradually increasing the number of trains running.

As work progresses with Trial Running, the project is also preparing for entry into the final stage before opening, Trial Operations. Critical to achieving this is handing over the central section stations to TfL. On 5 May Tottenham Court Road station was successfully transferred to London Underground in line with our delivery schedule. The number of central section stations in TfL's possession is now three. The remaining stations to go, with the exception of Bond Street, are either in the T-12 process or readying for it. Canary Wharf and Whitechapel are the next stations expected to begin the T-12 process in the coming months.

**MOVING LONDON FORWARD**





At this stage in the programme, and with the number of milestones achieved, it remains the case that the opening of the Elizabeth line for passenger services is still due to be realised in the first half of 2022.

### **Safety**

The successful transition from a construction to an operational railway environment has changed the safety profile across the project. It is a major change as we are now no longer working under construction rules and we are now working on a 'live' railway. We have prepared for this transition and monitor it very closely. It is pleasing that this transfer has happened safely with no harm to anyone in our workforce and in line with our target zero ethos. There have been some instances of process non-compliance the first few weeks of entry into ROGS but this has not resulted in any harm as we are in the controlled introduction period. Learnings from these limited instances will help inform corrective actions to ensure we remain as safe as possible.

In collaboration with TfL, we have recently launched a safety campaign to remind everyone on the project of the safety rules we need to follow, now that we are working in an operational railway environment. The campaign focuses on the key learnings that have been encountered since entering ROGS.

### **Trial Running Phase**

The move from a construction site to an operational railway environment on 27 March was achieved on time and in line with the opening window of the central section. This milestone is perhaps the biggest step in the Crossrail journey so far. It provides an opportunity to gain experience of using the new Rule Book and for operational and maintenance staff, the experience of managing a "live railway". TfL has taken control of the railway as infrastructure manager and will manage the railway as the project progresses into the Trial Running phase.

As mentioned in my previous update, there is currently a controlled start to the Trial Running phase underway, allowing the operations and maintenance teams to mobilise and transition.

We have now commenced a trial running timetabled service, initially with four trains per hour (tph) and this will gradually increase to eight and 12 tph. The increase of trains on the railway will take place before further activities such as timetable operation, timetable demonstrations and integration testing can be undertaken.

To enable multiple trains operating in the central section, and in addition to the completion of maintenance activities, a number of milestones across the routeway needed to be achieved. On 28 March, the GWML transition was commissioned and on 25 April the GEML fringe commissioning took place, meaning that Crossrail infrastructure is now connected to the network and ready to run trains across the route. Systems Integration Dynamic Testing concluded on 16 March which has built train mileage and helped test the system. In addition, RfLI has taken control of the Route Control Centre, which is providing valuable opportunity for the operators to gain experience and confidence.

The transfer of the relevant infrastructure to RfLI and the controlled start to the Trial Running phase has demonstrated the collaborative effort between all parties involved, which is imperative to get the Elizabeth line into passenger service.

### **Trial Operations**

The handover and integration of nine major stations is critical to entering Trial Operations and the delivery of the Elizabeth line. Whilst, on average, TfL typically commissions and brings into use one large station a year, for the Elizabeth line they will have to receive nine stations over the same period of time.



The central section stations need to achieve a number of additional, interim states of progress towards completion. These works continue with all stations, with the exception of Bond Street and Canary Wharf, having achieved their Staged Completion 3 (SC3) state, which enables the final complex systems integration and assurance activities.

The recent transfer of Tottenham Court Road station to London Underground was another milestone that supports the project on the journey to delivering passenger services within the opening window and is a significant achievement for the project and the stations team.

Woolwich and Liverpool Street stations have recently entered into the T-12 process and good progress is being made. The T-12 milestone means that the station is considered to be 12 weeks away from being ready for handover to TfL. Work at the station will now be primarily focused on the extensive testing and commissioning of systems ahead of the Elizabeth line opening. Reaching this important milestone allows the contractor to commence demobilisation across the site and enables Crossrail to commence the process of handing the station over to TfL. Paddington station is also in the T-12 process; however, there is considerable pressure at the station, and it looks likely that it will require further time before it is handed over to TfL.

Following handover to London Underground, the Western Ticket Hall at Farringdon has been opened and will provide further access to passengers wishing to access the London Underground platforms at the station, ahead of the Elizabeth line opening.

### **Focus and Challenges**

With the project now safely into a ROGS environment, there is an increased focus on the transition to Trial Operations. A Passenger Service Steering Group has been established and will manage planning for Trial Operations. It will further strengthen the organisation's readiness for Trial Operations by providing recommendations to leadership and reviewing readiness assessments.

Work is also underway to refresh the Delivery Control Schedule (DCS). This review will build upon the existing logic, enabling more granular information to be incorporated for upcoming phases reflecting on work that has been undertaken to further define the conditions required for effective delivery of Trial Running as well as successful transition into Trial Operations and Revenue Service. It will also provide an opportunity to consider lessons learnt in the build up to Trial Running, strengthening previous planning assumptions on assurance processes. This will not be a full re-baseline of the schedule but instead a targeted refinement of components of the schedule where further information is now available. This review will also provide the opportunity to further assure the critical path and delivery of key dates for the remainder of the programme, providing the platform for robust performance tracking over the coming months.

As previously mentioned, a period of maintenance activities has commenced with the intention to support the pivot from Crossrail's blockade-style maintenance to RfLI's periodic, regular maintenance. There have been challenges with the works, which has resulted in delays to the start of operating four tph on the central section. These difficulties are broadly related with gaining access to the routeway under the constrained environment of ROGS. Despite the prolongation to the maintenance activity and slippage to the train service, this has not affected the overall schedule and it is consistent with delivering Stage 3 in the first half of 2022.

### **Operational Readiness**

The Public Performance Measure (PPM) improved since last period to 96.7%, with the Moving Annual Average (MAA) trend continuing to improve and now at 96.0%, the highest since TfL Rail took over operations. This was the third best annual PPM in the country which was led by Merseyrail and London Overground.



The Class 345 nine-car Full Length Units (FLU) operating the Reading and Heathrow services have continued to grow in reliability in the period. Although the signalling (ETCS) related defects have significantly reduced, in line with the prediction for the new train control software, a number of electrical and mechanical defects have depressed the growth rate, and this is being investigated.

The platform extensions at Liverpool Street mainline station were completed during the Easter blockade and the first full-length train was transferred from Old Oak Common Depot to the Liverpool Street - Shenfield route to conduct operational proving. The completion of the engineering work ensures that the eastern route is ready for the introduction of the full-length trains into passenger service at the start of the next timetable change later this month.

#### **Network Rail**

Following the successful handover of Acton Main Line and West Ealing stations to the operator (MTR-EL), providing crucial step-free access for passengers, the first phase of works at Ealing Broadway is nearing completion. These works will deliver a new entrance and ticket hall and lifts to the platforms. West Drayton, Hayes & Harlington, and Southall stations remain on forecast to be step-free by the Summer of 2021. Work is also progressing on the eastern section at Ilford and Romford stations. They are both forecast to enter service before the opening of the central section.

On a project as complex as the Elizabeth line there will inevitably be challenges as we work to get it into passenger service. However, we will be relentless in our determination and approach to deliver this railway by the first half of 2022, to support London's recovery.

Kind Regards,



**Mark Wild**  
CEO