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1 September 2020

Dear Alison,

In our previous update we advised that it is no longer possible to open the central section between Paddington and Abbey Wood next summer. We also advised that further work would be required on the detailed delivery plan and associated cost estimates before we could provide further certainty to Londoners.

Delivery of the Elizabeth line is now in its complex final stages and is being completed at a time of great uncertainty due to the risks and potential impacts of further Covid outbreaks.

Our focus remains on opening the Elizabeth line as soon as possible. We have a comprehensive plan to complete the railway and we are striving to commence intensive operational testing for the Elizabeth line, known as Trial Running, at the earliest opportunity. The Crossrail Board, Sponsors and TfL are currently working together to review governance arrangements to make sure the right decisions are taken as the project moves to completion, and that we successfully transition the operational railway to TfL as soon as possible. We continue to work tirelessly to complete the remaining infrastructure works so we can fully test the railway as soon as we can.

On 21 August we announced that our latest assessment, based on our current detailed integrated programme, 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. According to current plans, there is the possibility the central section will open without Bond Street station, but we are working hard to improve on this.

This assessment follows further work to refine and validate the remaining schedule to complete the railway and associated costs, this provides a clear plan leading through to the start of intensive operational testing in the routeway along with a revised schedule for completing the testing and commissioning and handing over the stations to TfL.

The latest cost estimate presented to the Board 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.

**MOVING LONDON FORWARD**





We are planning 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 involving people being invited onto trains and stations to test real-time service scenarios to ensure the readiness of the railway.

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.

A programme of this scale and complexity was already challenging but the impact of COVID-19 has made the existing pressures more acute. The schedule delay is due to three main factors:

- **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. We will complete handover of the final shafts and portals this autumn.
- **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 large and complex 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.
- **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.

It is disappointing that we are not able to open the railway next summer, but everyone remains focused on continuing to deliver this railway. Work continues on all elements of this complex project and since I last wrote we continue to make progress.

Recent progress, particularly surrounding the shafts and portals, has demonstrated high levels of performance across the project. As a result of this progress and the detailed and comprehensive planning work which took place following the Covid lockdown, we are confident in the programme.

To help recover some of the lost time, Crossrail is undertaking a period of intensive construction activity during August and September to complete the remaining construction works in the routeway for Trial Running. The construction blockade is progressing well and achieving targeted levels of productivity. During the blockade, we are also progressing Routeway Integration Testing, completion of the scenario testing for Trial Running.



Following completion of the blockade in September, Crossrail will commence testing of the next evolution of the signalling software, TR2, helping to further build operational reliability. Once software testing completes later this year, Crossrail will then begin an enabling phase for Trial Running, known as Systems Integration Dynamic Testing, allowing testing in the tunnels to be undertaken with an increased number of trains. This will provide an opportunity to test how well the railway systems work in operational-like situations and will be undertaken as the extensive safety case to the Office of Rail and Road to commence Trial Running is finalised.

### **Safety**

The health and safety of everyone working to deliver the Elizabeth line is our overarching priority, but during our construction blockade our focus must be unrelenting. With up to 2,000 people now on back on site and 24/7 working in place, the blockade is seeing an intense level of activity.

We are now about half way through the construction blockade and there have been no significant incidents attributable to the blockade, but there have been reminders of the need to remain vigilant, particularly as the start of the blockade coincided with the recent period of hot weather which highlights the importance of staying hydrated and taking the necessary precautions.

We have also seen our tight controls regarding COVID-19 on sites being exercised, with several individuals being subject to self-isolation following temperature checks and the subsequent test and trace processes initiated. Fortunately, none of these have translated into confirmed cases of COVID-19.

### **Central Section Progress**

With the six-week construction blockade at its mid-point, we are seeing strong performance despite experiencing a small number of operational issues during the commencement of the blockade which were principally due to train logistics affected by a points failure at Pudding Mill Lane, and late de-energisation.

Our primary method of measuring success is monitoring the construction activities against a change-controlled plan of work, with each start and finish considered as a milestone. This plan is mapped against the safety critical construction-based works across the programme (including snagging and defect works) that are required for entering into Trial Running, and these physical activities are subsequently linked to the assurance work they unlock.

We have set a performance benchmark for success of 90 per cent achieved against the plan and as of 18 August, the cumulative performance against all milestones is 90 per cent (92 per cent against activity starts, and 89 per cent against activity finishes). This is a significant achievement and is reflective of the leadership and commitment at all levels.

All of our shafts and portals except Stepney Green Shaft have reached either full handover to the Infrastructure Manager (six assets) or are under Staged Completion for Familiarisation (three assets).

The completion of our PD+11 testing which was planned for the start of the blockade was not possible due to a fire alarm at the Romford Control Centre impacting the running of the



trains. A small number of tests remain outstanding and these have been planned into the works post-blockade.

The complex routeway integration scenario testing for Trial Running has increased from 71 per cent complete, as advised in my last update, to 74 per cent complete and we have the plans from the supply chain to complete the remaining testing.

The planning for Systems Integration Dynamic Testing (SIDT) that will occur prior to Trial Running and concurrently to completing the assurance case for Crossrail has advanced, with a works and access plan progressing through the stages of formalisation. SIDT gives us a valuable opportunity to test our complex systems in operation-like scenarios and begin to understand the reliability performance of the railway.

### **Focus and Challenges**

Focus of the past couple of weeks aside from the blockade has been the progression of our internal base case for the completion of the works to deliver the Elizabeth line in line with our recovery plans.

Our stations recovery plan, which is principally concerned with the commencement of Trial Operations, has progressed and detail of this is being considered. The key challenges have been regarding the concurrency of station commissioning, both in the complexity of the task and the resource needs, and the completion of the communication and control systems that integrate the systems within and between stations and the rest of the railway.

A staged approach to commissioning has been proposed as the strategic solution to alleviate concurrency pressures and facilitate the feeding of lessons into subsequent stations, and a 'Plateau 2' team is being established for the systems integration issues. Plateau 2 builds on the success of the original Plateau team that has been fundamental in managing the interfaces and integration of our signalling and train software.

### **Operational Readiness**

TfL Rail continues to operate to a high level of reliability, with a Public Performance Measure above 96 per cent for the most recent period. Whilst customer numbers are currently around only 40 per cent of the equivalent day last year, a full schedule has been in operation since 4 July. As highlighted in our previous update, full-length Class 345 rolling stock have been operating between Paddington and Heathrow since 30 July.

Maintenance and Operator training has resumed. The training centre at Ilford (TUCA) has restarted face-to-face training sessions, albeit the number of delegates that can be trained at any one time has reduced to comply with social distancing guidelines. Where possible training material has also been reworked so it can be delivered remotely. Operations training has been in place since mid-July. Progress is on course across the team to achieve competency that meets requirements for Trial Running, all in addition to supporting Systems Integration Dynamic Testing with Traffic Managers in situ at the office.

We continue to work closely with the Rail for London Infrastructure (RfLI) and London Underground teams. The North Woolwich Portal was successfully handed over to RfLI at the start of August, and we are fully focused on planning the resources to manage the



particularly challenging and concurrent assurance activities for the commissioning of the central section.

### **Network Rail**

Network Rail's major upgrade works are progressing, and step-free access is being prioritised, where possible.

The delivery of the enhanced ticket halls and access improvements on the surface section is well underway and progressing well with particular progress at Acton Main Line, West Ealing and Ealing Broadway. Due to the temporary pause in Network Rail works as a result of COVID-19 it is likely that these enhanced stations, along with West Drayton, Hayes & Harlington and Southall, will be completed as soon as reasonably practicable in 2021.

Our focus remains on opening the Elizabeth line as soon as possible. Now more than ever Londoners are relying on the capacity and connectivity that the Elizabeth line will bring, and we are doing everything possible to deliver the railway as safely and quickly as we can. We are working tirelessly to complete the remaining infrastructure works so that we can fully test the railway and successfully transition the project as an operational railway to Transport for London.

Kind regards



**Mark Wild**  
CEO