

# Agenda

**Meeting: Elizabeth Line Committee**

**Date: Thursday 24 November 2022**

**Time: 10:00am**

**Place: Conference Rooms 1 and 2,  
Ground Floor, Palestra,  
197 Blackfriars Road, London,  
SE1 8NJ**

## Members

Heidi Alexander (Chair)

Anne McMeel (Vice-Chair)

Prof Greg Clark CBE

Seb Dance

Dr Nelson Ogunshakin OBE

Mark Phillips

Sarah Atkins

Matthew Lodge (Department for  
Transport Observer)

Copies of the papers and any attachments are available on [tfl.gov.uk How We Are Governed](https://tfl.gov.uk/How-We-Are-Governed).

This meeting will be open to the public and webcast live on [TfL YouTube channel](#), except for where exempt information is being discussed as noted on the agenda.

There is access for disabled people and induction loops are available. A guide for the press and public on attending and reporting meetings of local government bodies, including the use of film, photography, social media and other means is available on [www.london.gov.uk/sites/default/files/Openness-in-Meetings.pdf](https://www.london.gov.uk/sites/default/files/Openness-in-Meetings.pdf).

## Further Information

If you have questions, would like further information about the meeting or require special facilities please contact: Sue Riley, Secretariat Officer; Email: [sueriley@tfl.gov.uk](mailto:sueriley@tfl.gov.uk).

For media enquiries please contact the TfL Press Office; telephone: 0343 222 4141; email: [PressOffice@tfl.gov.uk](mailto:PressOffice@tfl.gov.uk)

Howard Carter, General Counsel  
Wednesday 16 November 2022

**Agenda  
Elizabeth Line Committee  
Thursday 24 November 2022**

**1 Apologies for Absence and Chair's Announcements**

**2 Declarations of Interest**

General Counsel

**Members are reminded that any interests in a matter under discussion must be declared at the start of the meeting, or at the commencement of the item of business.**

**Members must not take any part in any discussion or decision on such a matter and, depending on the nature of the interest, may be asked to leave the room during the discussion.**

**3 Minutes of the Meeting of the Committee held on 29 September 2022  
(Pages 1 - 6)**

General Counsel

**The Committee is asked to approve the minutes of the meeting of the Committee held on 29 September 2022 and authorise the Chair to sign them.**

**4 Matters Arising and Actions List (Pages 7 - 10)**

General Counsel

**The Committee is asked to note the updated actions list.**

**5 Safety Update (Pages 11 - 18)**

Director, Elizabeth line

**The Committee is asked to note the paper.**

**6 Elizabeth Line Operations and Programme Completion Update**  
(Pages 19 - 26)

Director, Elizabeth line

**The Committee is asked to note the paper.**

**7 Finance and Risk Update** (Pages 27 - 28)

Chief Finance Officer

**The Committee is asked to note the paper and the supplementary information on Part 2 of the agenda.**

**8 Elizabeth Line Programme Assurance Update** (Pages 29 - 42)

Director of Risk and Assurance

**The Committee is asked to note the paper and the supplementary information on Part 2 of the agenda**

**9 Crossrail Learning Legacy** (Pages 43 - 46)

Director, Elizabeth line

**The Committee is asked to note the paper.**

**10 Members' Suggestions for Future Discussion Items** (Pages 47 - 50)

General Counsel

**The Committee is asked to note the forward plan and is invited to raise any suggestions for future discussion items for the forward plan and for informal briefings.**

**11 Any Other Business the Chair Considers Urgent**

**The Chair will state the reason for urgency of any item taken.**

**12 Date of Next Meeting**

Tuesday, 24 January 2023 at 2.30pm.

### **13 Exclusion of Press and Public**

**The Committee is recommended to agree to exclude the press and public from the meeting, in accordance with paragraph 3 of Schedule 12A to the Local Government Act 1972 (as amended), in order to consider the following items of business.**

#### **Agenda Part 2**

**Papers containing supplemental confidential or exempt information not included in the related item on Part 1 of the agenda.**

### **14 Finance and Risk Update (Pages 51 - 54)**

**Exempt supplementary information relating to the item on Part 1.**

### **15 Elizabeth Line Programme Assurance Update (Pages 55 - 78)**

**Exempt supplementary information relating to the item on Part 1.**

## Transport for London

### Minutes of the Elizabeth Line Committee

**Conference Rooms 1 and 2, Ground Floor, Palestra,  
197 Blackfriars Road, London SE1 8NJ  
10.00am, Thursday 29 September 2022**

#### Members

Heidi Alexander (Chair)  
Anne McMeel (Vice-Chair)  
Seb Dance  
Dr Nelson Ogunshakin OBE (via Teams)  
Mark Phillips (via Teams)  
  
Sarah Atkins (via Teams)  
Matthew Lodge (Department for Transport Observer)

#### Executive Committee

Andy Byford                      Commissioner (via Teams) (for part)  
Howard Carter                  General Counsel (via Teams)

#### Staff

Joan Buszewska                Head of Elizabeth line Programme and Project Assurance,  
Rachel McLean                Chief Finance Officer, Crossrail and Finance Director, TfL  
Operations  
Howard Smith                 Director, Elizabeth line  
Chris Tann                      Head of Financial Accounting and Tax  
Sue Riley                        Secretariat Officer

#### Other Attendees

Ellie Burrows                 Route Director, East Anglia (Network Rail) (via Teams)  
TC Chew                        Chair of Elizabeth line Independent Investment Programme  
Advisory Group Sub-Group (via Teams)

### **58/09/22 Apologies for Absence and Chair's Announcements**

The Chair welcomed everyone to the meeting, including those on Teams.

As this was Andy Byford's last attendance at the Committee, following the announcement of his resignation, the Chair expressed her sincere thanks for his leadership, professionalism and hard work. The opening of the Elizabeth line was one of his key priorities when he had joined TfL in June 2020. He had acted swiftly to get the Crossrail project under direct TfL control and, through the Elizabeth Line Delivery Group and this Committee, drove the project forward enabling it to open successfully on 24 May 2022. Before he leaves TfL it was expected that Bond Street station would open on 24 October 2022, followed by the next phase of integrating the railway.

Apologies for absence had been received from Professor Greg Clark CBE. Dr Nelson Ogunshakin OBE, Mark Phillips and Sarah Atkins were attending via Teams and were able to take part in the discussions but were not counted towards the quorum. The meeting was quorate.

The meeting was being broadcast live on TfL's YouTube channel to ensure the public and press could observe the proceedings and decision-making.

TfL maintained a priority focus on safety. The Chair highlighted that there was a specific agenda item on safety, which would be the first item considered at the meeting. She invited Members to raise any safety issues either under the specific agenda item or with the appropriate member of the Executive Committee after the meeting.

### **59/09/22 Declarations of Interests**

Members on the TfL Board confirmed that their declarations of interests, as published on [tfl.gov.uk](http://tfl.gov.uk), were up to date and there were no interests to declare that related specifically to items on the agenda.

### **60/09/22 Minutes of the Meeting of the Committee Held on 14 July 2022**

**The minutes of the meeting of the Elizabeth Line Committee held on 14 July 2022 were approved as a correct record and the Chair was authorised to sign them, subject to the following additional action being added to 53/07/22 (Crossrail Complaints Commissioner's Report):-**

**Any outstanding complaints to be reported back and monitored by the Committee.** [Action: Howard Smith/Rachel McLean]

### **61/09/22 Matters Arising and Actions List**

Howard Carter introduced the paper. All actions from previous meetings had been completed or were scheduled on the forward plan. The additional action agreed in 60/09/22 would be added to the Actions List. [Action: Secretariat]

**The Committee noted the updated actions list.**

## **62/09/22 Safety Update**

Howard Smith introduced the paper, which provided an update on safety for Periods 4 and 5 of 2022/23.

Safety performance continued to improve due to reduction in construction works and continued safety and leadership engagement, with the current focus on safety at Bond Street station.

Tunnel Vent System safety briefings had been provided in person to maintenance staff, including personal briefings to the nightshift staff.

**The Committee noted the paper.**

## **63/09/22 Elizabeth Line Operational Performance**

Howard Smith introduced the paper on operational performance of the Elizabeth line for Periods 4 and 5 of 2022/23.

Discussions were ongoing with Network Rail to drive up performance on the western section of the route which was due to asset issues and staffing levels. The Committee requested aspirational public performance measures to be applied across the whole of the service and continual challenge by TfL to all operators, to drive up performance. **[Action: Howard Smith]**

Performance of Great Western Railway generally was also a current focus for the Department for Transport.

Passenger numbers were higher than budgeted based on post pandemic figures.

Further details would be provided on the historical differences in performance levels in step-free access between London Underground and MTR stations.

**[Action: Howard Smith]**

**The Committee noted the paper.**

## **64/09/22 Crossrail Programme Completion**

Howard Smith presented the update on the status of the Crossrail project.

The Commissioner paid tribute to the teamwork and dedication of staff in achieving completion of the Elizabeth line programme, including the support of the Board, this Committee and the Chair.

The Committee stressed the importance of ensuring clear communication with passengers as to why some trains were timetabled to pause outside Paddington station.

**The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda.**

## **65/09/22 Finance and Risk Update**

Rachel McLean presented the update on the financial performance at Period 5 of 2022/23 and on risk management progress.

Passenger journeys had exceeded budget expectations due to the early opening of the central section of the Elizabeth line and recent events in central London. All revenues raised contributed to TfL's overall funding package agreed with Government.

The Committee welcomed the report and the robust cost controls being applied during the completion phase, including the continued release of Tier 1 contractors. Residual works would be transferred off the programme as a more efficient and cost effective way of dealing with them.

Further time was needed to understand passenger trends and fare streams.

**The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda.**

## **66/09/22 Elizabeth Line Programme Assurance Update**

Joan Buszewska introduced the paper, which provided an update on progress with Elizabeth line Programme Assurance activity since the previous report. TC Chew was also in attendance.

Further resilience and contingency planning were needed as well as clarity on who would be leading and managing future signalling software updates. This would be a desk top exercise only, due to the potential impact on the timetable and service.

Significant progress continued to be made since the last report and the overall assessment of the Third Line of Defence was that the assurance framework continued to operate effectively.

**The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda.**

## **67/09/22 Measuring and Maximising Benefits, Impacts and Learnings**

Rachel McLean introduced the paper which provided an overview of the Elizabeth line benefits framework published by TfL in partnership with the Department for Transport, as joint sponsors.

The interim findings were scheduled to be published in mid-2023 and would be submitted to the Committee for discussion. **[Action: Rachel McLean]**



Members stressed the importance of capturing positive community impacts and economic factors from the announcement of the project through to its opening and beyond.

**The Committee noted the paper.**

## **68/09/22 Crossrail Asset Restructuring**

Chris Tann introduced the proposal for Crossrail asset restructuring.

It was reported that the proposal from TfL had yet to be presented to the Secretary of State for Transport. Members requested that a clear and simplified version of the benefits to both parties of the asset and lease re-structuring be presented to the Secretary of State. **[Action: Chris Tann]**

**The Committee noted the paper and, subject to receipt of the necessary, related approvals from the Finance Committee and to consent from the Secretary of State for Transport, authorised any Chief Officer and any director of Crossrail Limited (for Transport for London and any of its subsidiaries) to finalise the terms, and authorise the execution, of any amendments to the Crossrail Sponsors Agreement and/or Project Development Agreement and any other matter they consider necessary to implement the lease restructuring arrangements described in the paper.**

## **69/09/22 Crossrail Project Funding**

Rachel McLean presented the update on the funding and financing of the remainder of the Crossrail project.

**The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda and:**

- (a) approved unbudgeted Financial Authority of £48.5m;**
- (b) approved additional Programme and Project Authority of £98.5m, giving a total Programme and Project Authority of £15,887.5m;**
- (c) noted that Procurement Authority for any new or extended contracts will be sought at officer level in accordance with the Standing Orders; and**
- (d) noted that the matters to which the authorities sought above extend beyond TfL's current Business Plan and Budget, provision will need to be made for them in future Business Plans and Budgets.**

## **70/09/22 Members' Suggestions for Future Discussion Items**

Howard Carter introduced the item and the Committee's forward plan. Suggested future agenda items captured during the meeting would be included on the forward plan.

**The Committee noted the forward plan.**

### **71/09/22 Any Other Business the Chair Considers Urgent**

There was no other urgent business to discuss.

### **72/09/22 Date of Next Meeting**

The next scheduled meeting of the Committee would be held on Thursday 24 November 2022 at 10.00am.

### **73/09/22 Exclusion of the Press and Public**

The Committee agreed to exclude the press and public from the meeting, in accordance with paragraph 3 of Schedule 12A to the Local Government Act 1972 (as amended), when it considered the exempt information in relation to the items on Crossrail Programme Completion; Finance and Risk Update; Elizabeth Line Programme Assurance Update; and Crossrail Project Funding.

The meeting closed at 11.30am.

Chair: \_\_\_\_\_

Date: \_\_\_\_\_

## Elizabeth Line Committee



**Date:** 24 November 2022

**Item:** Matters Arising and Actions List

---

### **This paper will be considered in public**

#### **1 Summary**

1.1 This paper informs the Committee of progress against actions agreed at previous meetings.

#### **2 Recommendation**

2.1 **The Committee is asked to note the Actions List.**

#### **List of appendices to this report:**

Appendix 1: Actions List

#### **List of Background Papers:**

Minutes of previous meetings of the Elizabeth Line Committee

Contact Officer: Howard Carter, General Counsel

Email: [HowardCarter@tfl.gov.uk](mailto:HowardCarter@tfl.gov.uk)

[page left intentionally blank]

## Actions from the meeting held on 29 September 2022:

Minute No.	Item/ Description	Action By	Target Date	Status/Note
60/09/22	<b>Minutes of the Meeting on 14 July 2022</b> Any outstanding Crossrail Commissioner complaints to be reported back and monitored by the Committee.	Howard Smith Rachel McLean	Ongoing.	Oral update to be provided at meeting.
61/09/22	<b>Matters Arising and Actions List</b> The additional action above be added to the Actions List.	Secretariat	24 November 2022 meeting.	Complete.
63/09/22 (1)	<b>Elizabeth Line Operational Performance</b> Aspirational public performance measures to be applied across the whole of the service and continual challenge by TfL to all operators, to drive up performance.	Howard Smith	24 November 2022 meeting.	Update provided in the report on the agenda. Complete.
63/09/22 (2)	Further details to be provided on the historical differences in step-free access between London Underground and MTR stations.	Howard Smith	24 November 2022 meeting.	Update provided in the report on the agenda. Complete.
67/09/22	<b>Measuring and Maximising Benefits, Impacts and Learnings</b> Interim findings scheduled to be published in mid-2023 and to be submitted to the Committee for discussion.	Rachel McLean	Mid-2023	Scheduled on Forward Plan.
68/09/22	<b>Crossrail Asset Restructuring</b> A clear and simplified version of the benefits to both parties of the asset and lease re-structuring be presented to the Secretary of State.	Chris Tann	Following the meeting.	A positive discussion was held with the DfT at working level and a decision is awaited.

**Actions from previous meetings:**

<b>Minute No.</b>	<b>Item/ Description</b>	<b>Action By</b>	<b>Target Date</b>	<b>Status/Note</b>
<b>54/07/22 (1)</b>	<b>Member's Suggestions for Future Discussion Items</b> A report on the net gains and losses, including customer dispersals, to TfL since the opening of the Elizabeth line, to be submitted to a future meeting.	Howard Smith	24 November 2022 meeting.	Informal briefing scheduled. Complete.
<b>54/07/22 (2)</b>	A plan to evaluate the business case of the Elizabeth line to be submitted to a future meeting.	Rachel McLean	Mid-2023	Scheduled on Forward Plan.
<b>35/05/22</b>	<b>Project Status Update</b> A symposium of the completion of Crossrail to be shared with the Committee prior to publication.	Rachel McLean	24 November 2022 meeting.	Report on agenda.

## Elizabeth Line Committee



**Date:** 24 November 2022

**Item:** Safety Update

---

**This paper will be considered in public.**

### **1 Summary**

1.1 This paper provides an update on safety for Periods 6 and 7 of 2022/23.

### **2 Recommendation**

2.1 **The Committee is asked to note the paper.**

### **3 Overall Safety Update**

3.1 This paper includes a performance update for the Infrastructure Manager, Rail for London (Infrastructure) Limited (RfL(I)) and the Crossrail programme.

3.2 With respect to operational safety, all RfL(I) Safety Key Performance Indicators (SKPIs) remain better than target. As at Period 7, there have been no RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013) reportable events or workforce Lost Time Injuries (LTIs), and no fatalities or serious injuries to customers or workforce. There is an ongoing focus on proactive safety management including the reporting of Close Calls.

3.3 Safety performance on the Crossrail programme continues to see an overall improvement compared with previous years. This is attributed to both the declining risk profile of the remaining works and continued safety and leadership engagement.

### **4 Operational Safety Update**

4.1 The RfL(I) Safety Key Performance Indicators are all better than the annual target:

- (a) RfL(I) recorded no RIDDOR events or LTIs during Period 6 or Period 7. RfL(I)'s RIDDOR event rate for Period 7 is at 0.00 (reduced by 0.10 points from Period 5 to Period 6, then maintained for Period 7) and 0.19 for LTIs, which is at a level trend.
- (b) The Fatality and Weighted Injuries Index and All Accident Frequency Rate (AAFR) both show a slight increase from Period 6 to Period 7 due to a minor injury – as a result, the respective AAFR rates for those periods have risen to 0.0034 (up 0.0005), and 0.67 (up 0.09).

- (c) There were no major customer or workforce injuries recorded during Period 6 or Period 7.
- 4.2 A Close Call is defined as anything that has the potential to cause harm or damage – for example, causing major or minor harm to a person, damage to railway infrastructure or environmental damage.
- 4.3 The initiative to drive an increase in Close Call reporting, which is recognised as a leading indicator of a strong safety culture, has now been in place for two periods and has been delivering the intended rise in reports, with an increase in Close Calls reported across Periods 6 and 7 when compared to the previous periods.
- 4.4 Sixteen Close Calls were reported in Period 6 with a further 15 in Period 7. This means there were a total of 46 Close Calls reported during the most recent three periods, compared to 18 for the previous three (Period 2 to Period 4).
- 4.5 The number of incidents (occurrences with the potential to cause harm to a person, the environment or infrastructure and equipment) shows a slight reduction with four reported during Period 7 which compares to six during Period 6. One accident (an instance where harm occurs) – in which an operative twisted their ankle – was reported during Period 7, which is the first accident since Period 3. This saw an investigation take place and set of actions produced to prevent any recurrence. In total three accidents and 32 incidents have been recorded during the financial year.

## **5 Programme Safety Update**

- 5.1 No RIDDOR events or LTIs occurred on the Crossrail programme during Period 6 or Period 7, making the latter the ninth consecutive period in which no incidents of either kind occurred. As a result, since the last report to the Committee, the Crossrail RIDDOR Accident Frequency Rate (AFR) has fallen from 0.05 to 0.03 in Period 6, where it remained for Period 7.
- 5.2 The Lost Time Case (LTC) AFR has also decreased because of the continued good performance in this area. As a result, since the last report the LTCAFR has fallen from 0.11 to 0.06 in Period 6 where it remained for Period 7.
- 5.3 AFRs are calculated using an industry-recognised, rolling 13 period calculation with the rates not only influenced by incidents, but also by hours worked.
- 5.4 Since the last report to the Committee, the Crossrail High Potential Near Miss (HPNM) rate has increased following three incidents (all at Bond Street) which were classified as HPNMs. During Period 6, the rate increased to 0.38, before slightly reducing in Period 7 to 0.34.
- 5.5 The three Bond Street incidents which were classified as HPNMs were:
- (a) two cables being cut whilst removing the temporary electrical network;
  - (b) a tower scaffold not erected as per manufacturer's design; and
  - (c) a report of personnel entering the Tunnel Ventilation System without authority.



- 5.6 No harm occurred as a result of these incidents, and following senior level reviews, several improvements were implemented to prevent future reoccurrence and ensure the project continues to complete the remaining works safely.
- 5.7 People's safety is at the heart of the Crossrail programme and with three HPNMs occurring in a short time frame, the team took the decision to hold a half-day safety 'stand down' on both days and nights at Bond Street. During a safety stand down a halt is called to all programme works, and the team comes together to review performance and reiterate the paramount importance of safety on site. The key messages delivered at the stand down were 'safety before productivity' and 'stop, think and question'.
- 5.8 Incident reporting is fundamental to a positive safety culture. While three HPNMs is more HPNMs than the programme would wish to see, it also demonstrates the open and fair culture that has been, and continues to be, at the heart of Crossrail's safety culture. Continued visibility of these incidents enables us to work to prevent reoccurrence and future harm to people, while ensuring these values are pursued through to the conclusion of the project.
- 5.9 Focus remains on Crossrail's HSPI SMART metric (the Health and Safety Performance Index) measurement which reflects the level of safety engagement on the project, ensuring that the leadership team is involved in continuous outreach to communicate the safety message and drive continuous safety improvement. Planned engagement activities are reflective of the reducing work forecast. The HSPI SMART score during Period 6 was 2.75 with all contracts achieving the maximum score of 3.0 in Period 7.

#### **List of Appendices:**

- Appendix 1: RfL(I) Health, Safety and Environmental dashboards  
Appendix 2: Crossrail Health, Safety and Environmental dashboards

#### **List of Background Papers:**

None

Contact Officer: Howard Smith, Director, Elizabeth line  
Email: [howardsmith@tfl.gov.uk](mailto:howardsmith@tfl.gov.uk)

[page left intentionally blank]

# RfLI Safety Performance Period 07 22/23 Overall - Appendix 1

RfLI KPIs are all achieving target with zero RIDDORs or Lost Time Injuries's reported this financial year.

### Incidents / Accidents

Four Incidents and one Accident was reported during P07. In addition there was a Network Rail attributable signalling incident which had the potential to be a COS safety issue.

An Accident occurred on the 07/10 at Whitechapel where a member of track staff twisted their ankle whilst carrying-out ultrasonic inspection. Other incidents included a technical SPaD at Westbourne Park 23/09, and two diesel On Track Plants (OTP) operating in tunnel sections without track visitor permits (TVP) 9/10.

### Close Calls

Fifteen Close Calls were recorded during P07, a slight reduction from the previous period.

### Investigation Actions

Four Investigation actions were closed during the period, fifteen, twenty-seven percent are overdue.

## Period Overview

RfLI WAG P07							
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Wk1	18/9	19	20	21	22	23/23	24
Wk2	25	26	27	28	29	30	1/10
Wk3	2	3	4	5	6	7	8
Wk4	9	10	11	12	13	14	15

<span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Zero Incidents	<span style="background-color: #FFFF00; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Incident / Accident / Injury
<span style="background-color: #FF0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Major Incident / Accident / Injury	<span style="background-color: #FFD700; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Close Call

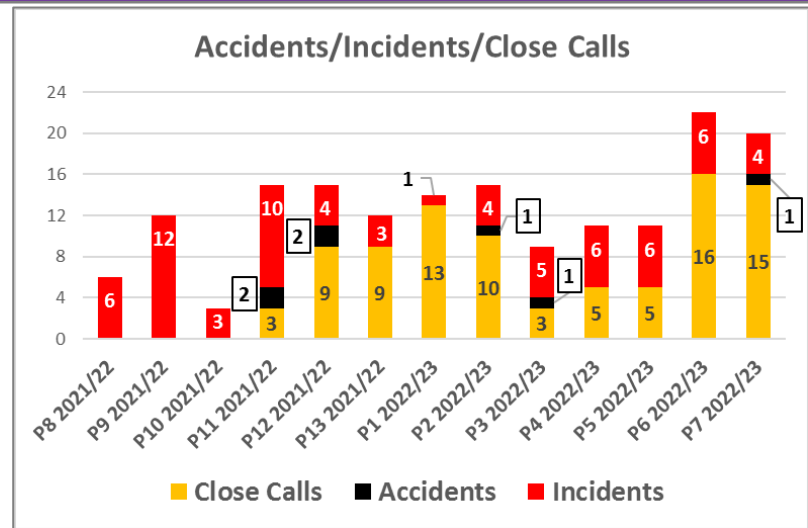
## Safety Key Performance Indicators

Safety Key Performance Indicator (SKPI)	Annual RfLI Safety Target	P07	RfLI Performance YTD as at P07
RfLI Workforce Fatalities	0	0	0 <span style="color: green;">↔</span>
RfLI Workforce Specified Injuries	0.3	0.0	0.0 <span style="color: green;">↔</span>
RfLI Workforce Lost Time Injuries	3	0	0 <span style="color: green;">↔</span>
RfLI Workforce Lost Time Injury Frequency Rate	0.239	0.000	0.000 <span style="color: green;">↔</span>
RfLI Workforce FWI rate	0.0560	0.0034	0.0034 <span style="color: green;">↑</span>
RfLI RIDDOR Reportable events	0	0	0 <span style="color: green;">↔</span>
COS and RfLI's GE/GW stations fatality/serious injury rate (customer and workforce killed or seriously injured per m customer journeys)	>0.14	0	0 <span style="color: green;">↔</span>

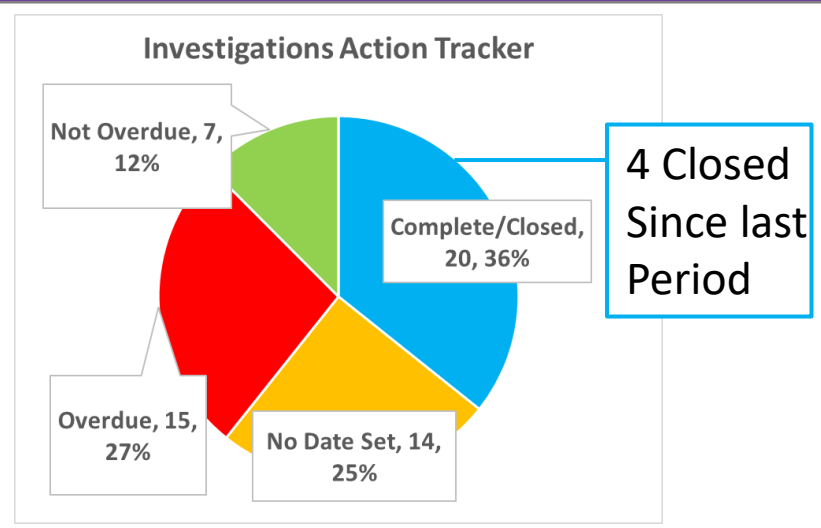
  

TfL Scorecard Measures			
Customer Injuries Per Million Passenger Journeys	2.58	1.62	1.73 <span style="color: green;">↔</span>
Workforce Injuries	tbc	5	29

## Accidents / Incidents / Close Calls



## Investigation Action Tracker



[page left intentionally blank]

## HSE Period - Appendix 2 Performance P06 22/23

### Significant Incidents

Three Significant Incidents were reported during P06 both HPNMs.

- BOS 25/8 two 230v electrical cables cut.
- BOS 13/9 access tower incorrectly assembled.
- BOS 17/9 CRL staff opened two doors to TVS area during traffic hours.

No personnel injured in any of the above incidents.

### RIDDOR & Lost Time Case (LTC)

The Accident Frequency Rate (AFR) for RIDDOR and LTC both show a significant decrease to 0.03 and 0.06 respectively. There is now just one RIDDOR and two LTCs recorded over the last thirteen periods.

### HPNM

The HPNM rate increased by 0.05 to 0.38. This change is due to an increase of incidents and the reduction in hours worked.

### HSPI SMART

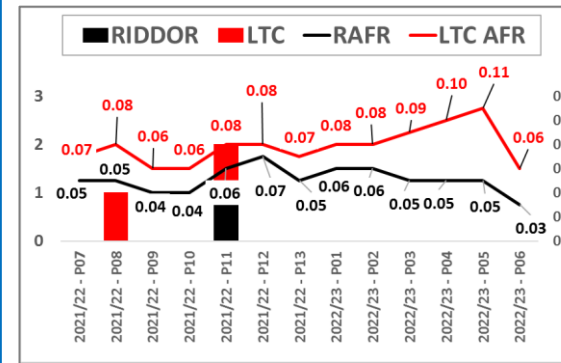
The HSPI SMART score is 2.75, C610 reported zero H&S inspections.

### Significant Incidents Overview

CRL HSE CALENDAR 2022/23-P06						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
21 Aug	22 Aug	23 Aug	24 Aug	25 Aug BOS HPNM	26 Aug	27 Aug
28 Aug	29 Aug	30 Aug	31 Aug	01 Sep	02 Sep	03 Sep
04 Sep	05 Sep	06 Sep	07 Sep	08 Sep	09 Sep	10 Sep
11 Sep	12 Sep	13 Sep BOS HPNM	14 Sep	15 Sep	16 Sep	17 Sep BOS HPNM

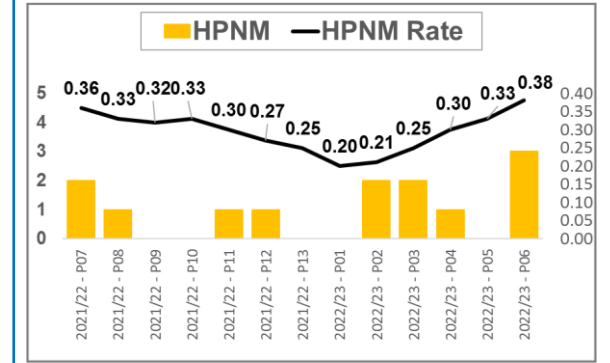
Three Significant Incidents were reported at Bond Street during P06.

### RIDDOR and LTC AFRs



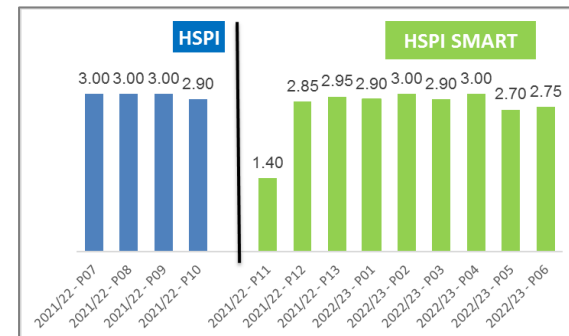
Zero RIDDOR and LTCs were reported for the eighth consecutive period. RAFR and LTCAFR both decreased 0.03 and 0.06.

### High Potential Near Miss



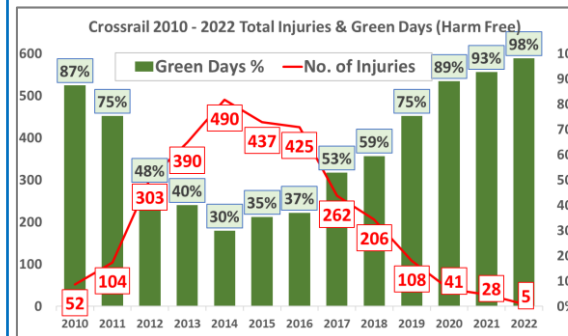
Three HPNMs were reported during the period. The rate has increased by 0.05 to a year high of 0.38.

### HSPI SMART – Engagement



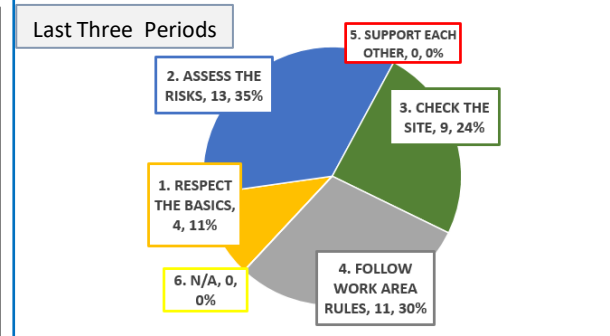
The HSPI SMART score for P06 is 2.75 a slight improvement on the P05 score.

### Crossrail Injury Trend



There have been five injuries reported so far during 2022 compared to twenty-three injuries during the same timeframe in 2021 and thirty-one during 2020.

### Behaviours - Golden Rules



Golden Rule 2 Assess the Risks is the most reported breach over the last three periods with 13 at 35%.

## HSE Period Performance P07 22/23

### Significant Incidents

Zero Significant Incidents were reported during P07.

### RIDDOR & Lost Time Case (LTC)

The Accident Frequency Rate (AFR) for RIDDOR and LTC remain at 0.03 and 0.06 respectively. There is now just one RIDDOR and two LTCs recorded over the last thirteen periods.

### HPNM

The HPNM rate decreased by 0.04 to 0.34.

### HSPI SMART

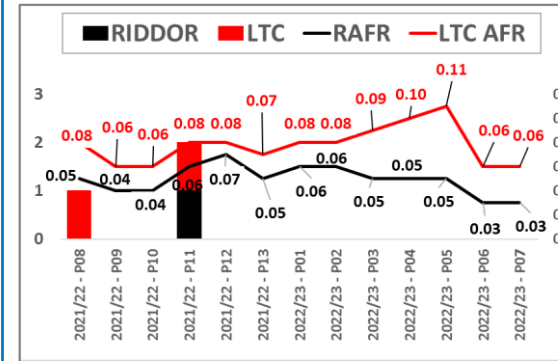
The HSPI SMART score is 3.00 - the maximum score.

### Significant Incidents Overview

CRL HSE CALENDAR 2022/23-P07						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
18 Sep	19 Sep	20 Sep	21 Sep	22 Sep	23 Sep	24 Sep
25 Sep	26 Sep	27 Sep	28 Sep	29 Sep	30 Sep	01 Oct
02 Oct	03 Oct	04 Oct	05 Oct	06 Oct	07 Oct	08 Oct
09 Oct	10 Oct	11 Oct	12 Oct	13 Oct	14 Oct	15 Oct

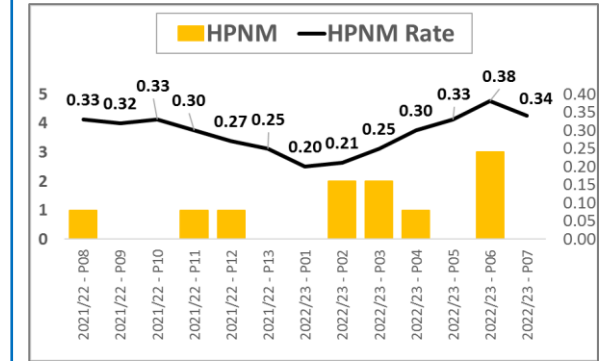
Zero Significant Incidents were reported during the period.

### RIDDOR and LTC AFRs



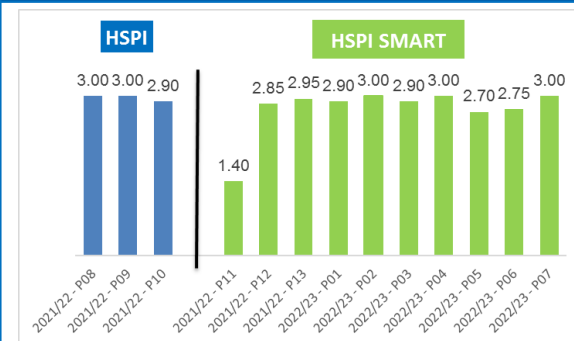
Zero RIDDOR and LTCs were reported for the ninth consecutive period. RAFR and LTCAFR remained at 0.03 and 0.06.

### High Potential Near Miss



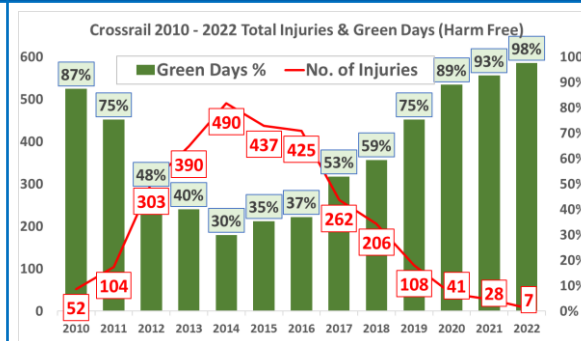
Zero HPNMs were reported during the period. The rate has decreased by 0.04 to 0.34.

### HSPI SMART – Engagement



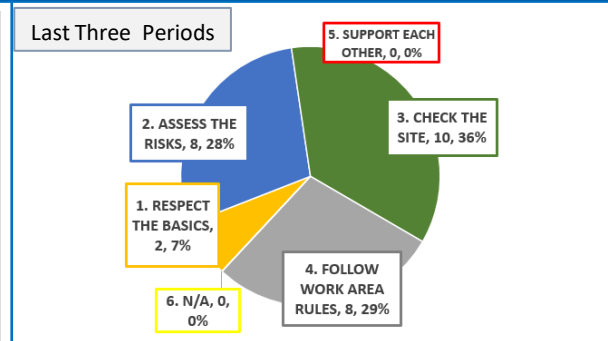
The HSPI SMART score for P07 is 3.00, all contracts achieved target.

### Crossrail Injury Trend



There have been seven injuries reported so far during 2022 compared to twenty-three injuries during the same timeframe in 2021 and thirty-four during 2020.

### Behaviours - Golden Rules



Golden Rule 3, Check the Site is the most reported breach over the last three periods with 10 at 36%.

## Elizabeth Line Committee



**Date:** 24 November 2022

**Item:** Elizabeth line Operations and Programme Completion Update

---

### This paper will be considered in public

#### 1 Summary

- 1.1 This paper provides an update on Elizabeth line performance and the status of the Crossrail project.
- 1.2 The Elizabeth Line Delivery Group (ELDG) was formed to ensure appropriate oversight of the delivery of the Elizabeth line by Crossrail and the Transport for London (TfL) Executive. The ELDG is chaired by the Commissioner. In line with the commitments made by the Mayor for greater transparency of the Crossrail project, the minutes and actions from ELDG are available on our website<sup>1</sup>. Available reports will be uploaded to correspond to the meeting of this Committee.

#### 2 Recommendation

- 2.1 **The Committee is asked to note the paper.**

#### 3 Operations and Programme Update

- 3.1 Through-running services were introduced on the Elizabeth line on Sunday 6 November 2022, with Sunday services also commencing from this date – a major milestone for passengers on the east and west of the line, delivering many of the railway's key benefits.
- 3.2 For the first time, trains with passengers on board entered the underground platforms from the west at Paddington, and from the east at Liverpool Street, and on towards the central section. Meanwhile, passengers boarding at London Underground stations were able to pass through the new Elizabeth line stations at Paddington and Liverpool Street without needing to change trains or enter the mainline station above.
- 3.3 Opening day and the first weekday service on Monday 7 November 2022 were very successful with excellent customer feedback and performance at the levels anticipated. A further verbal update will be provided at the meeting.
- 3.4 Timetable trial days have been a key part of preparation for the successful delivery of through-running, with two trials taking place on Sundays in September 2022, and a further one on 23 October 2022. These days helped to build confidence in the infrastructure and allowed the control teams to practise their

---

<sup>1</sup> <https://tfl.gov.uk/corporate/publications-and-reports/elizabeth-line-delivery-group>

operational response to incidents – similar to during the trial operations which ran prior to the opening of the Central Operating Section (COS).

- 3.5 Following the introduction of through services on 6 November 2022, most passengers travelling on the Elizabeth line will have seen significant enhancements to service frequency, connectivity and journey times.
- 3.6 A small number of services will not run directly through into the Elizabeth line tunnels and some customers may need to change at London Paddington or London Liverpool Street National Rail stations.
- 3.7 Bond Street Elizabeth line station opened to passengers for the first time on Monday 24 October 2022, meeting the target of an autumn opening date and its opening marked the completion of all ten of the new central section stations.
- 3.8 On opening day, the doors at Bond Street were opened to customers by the then Commissioner, Andy Byford, and Director of the Elizabeth line, Howard Smith, accompanied by the Mayor of London, Sadiq Khan, and the then Parliamentary Under Secretary of State at the Department for Transport, Katherine Fletcher MP.
- 3.9 Bond Street's opening has been warmly welcomed by businesses and attractions in the area. With capacity for 140,000 passengers each day, the new facility provides a direct link between the West End and Heathrow, further improves connectivity with the Jubilee line and has provided greater accessibility to one of the busiest shopping districts in the UK just ahead of the Christmas period.
- 3.10 The Crossrail Project will move to being a Close Out Organisation from 16 January 2023 when Jim Crawford will step down as Chief Programme Officer for Crossrail, transferring responsibility to Kim Kapur as the Crossrail Close Out Director. At this point, the Crossrail Close Out Organisation will be a full part of the Elizabeth line team, reporting to the TfL Elizabeth line Director. This is timed to follow the major signalling commissioning over the Christmas period.
- 3.11 Updated "SCADA" communications software was successfully commissioned at the end of October, removing two remaining operational restrictions. Meanwhile, the ELR300 signalling software update also underwent successful 'over and back' testing, putting it on track for its planned commissioning over the Christmas period.
- 3.12 Stage 5c remains on track to deliver 24 trains per hour in the central section at peak times. The capability will be delivered by the ELR300 software update, but the timetable will remain the same until May 2023 in order to align with National Rail timetable changes. A further signalling upgrade is due as part of ELR400, in Easter 2023, at which time all station contracts are also expected to be complete.

## **4 Operational Service**

- 4.1 Throughout Periods 6 and 7, the Elizabeth line ran a 12 trains per hour service, Monday to Saturday in the COS, through extended operating hours of 05:30 to 23:30. This improvement in operational hours has been achieved by improved access and productivity of maintenance.

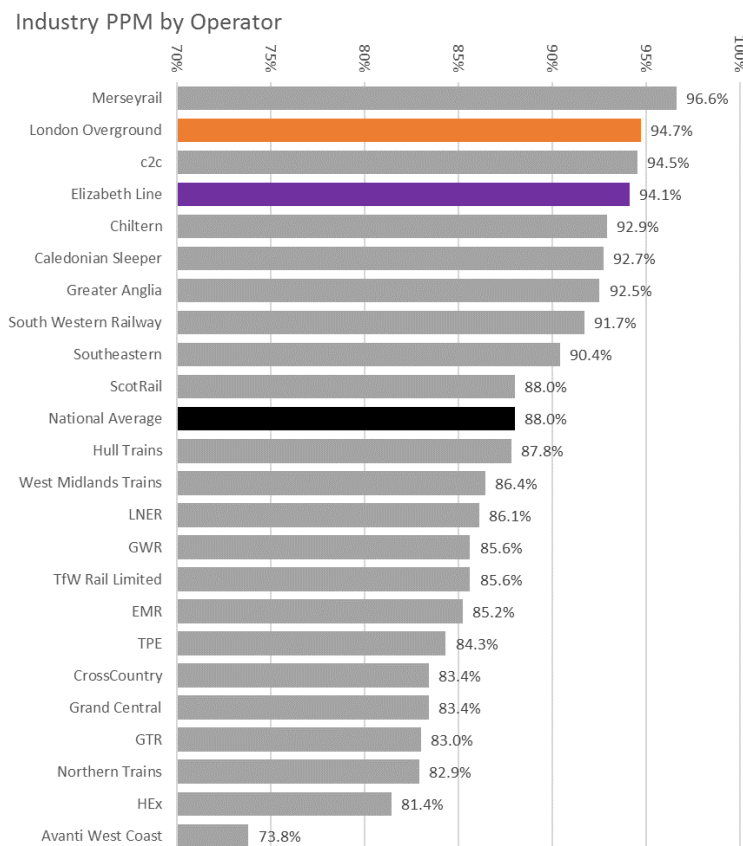


## 5 Reliability

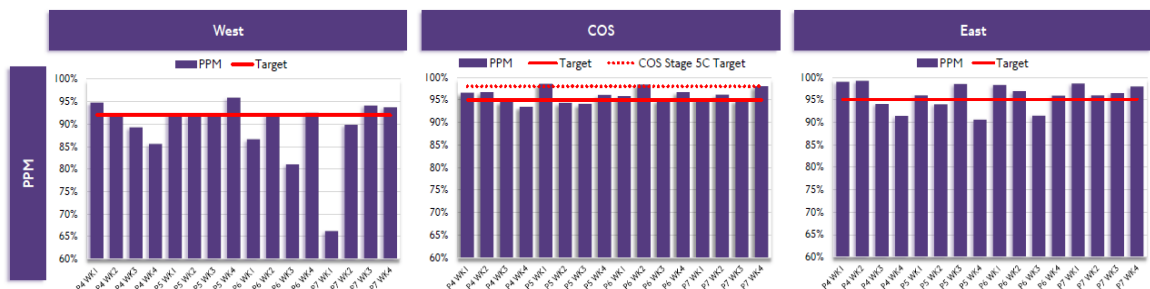
5.1 The overall Elizabeth line Public Performance Measure (PPM) during Period 7 (18 September to 15 October) was at 94.1 per cent – though marginally below target the figure is an improvement on Period 6 and represents good recovery from some major issues on the surface sections of the line, including dewirements on the western section of the route.

5.2 COS performance remained high – at 96 per cent for Period 7, and 96.5 per cent in Period 6. The focus ahead of stage 5b- is on the ability to respond and recover quickly and efficiently to protect the reliability of the railway through this major uplift in services and the added complexity of through-running.

5.3 Chart showing industry PPM by operator for Period 7 (18 September – 15 October 2022):



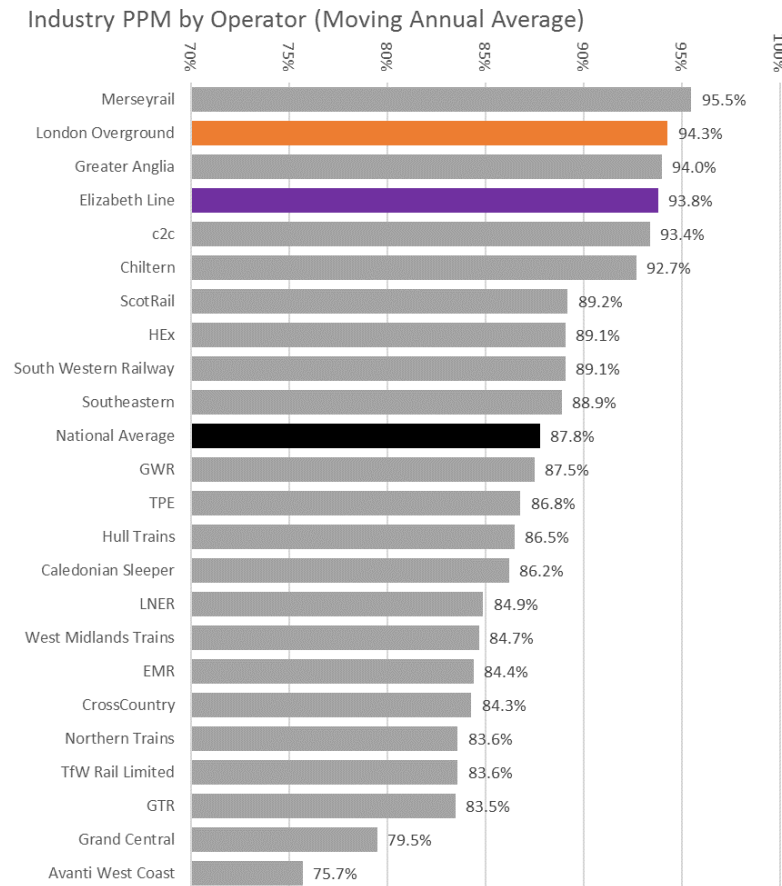
5.4 Charts showing weekly breakdown of PPM on the line for West / COS / East:



(Data date 25 June 2022 – 15 October 2022)

5.5 The Moving Annual Average (MAA) performance is now at 93.8 per cent – remaining the fourth best in the sector.

5.6 Chart showing industry PPM by operator (MMA) – long-term performance indicator up to 15 October 2022:

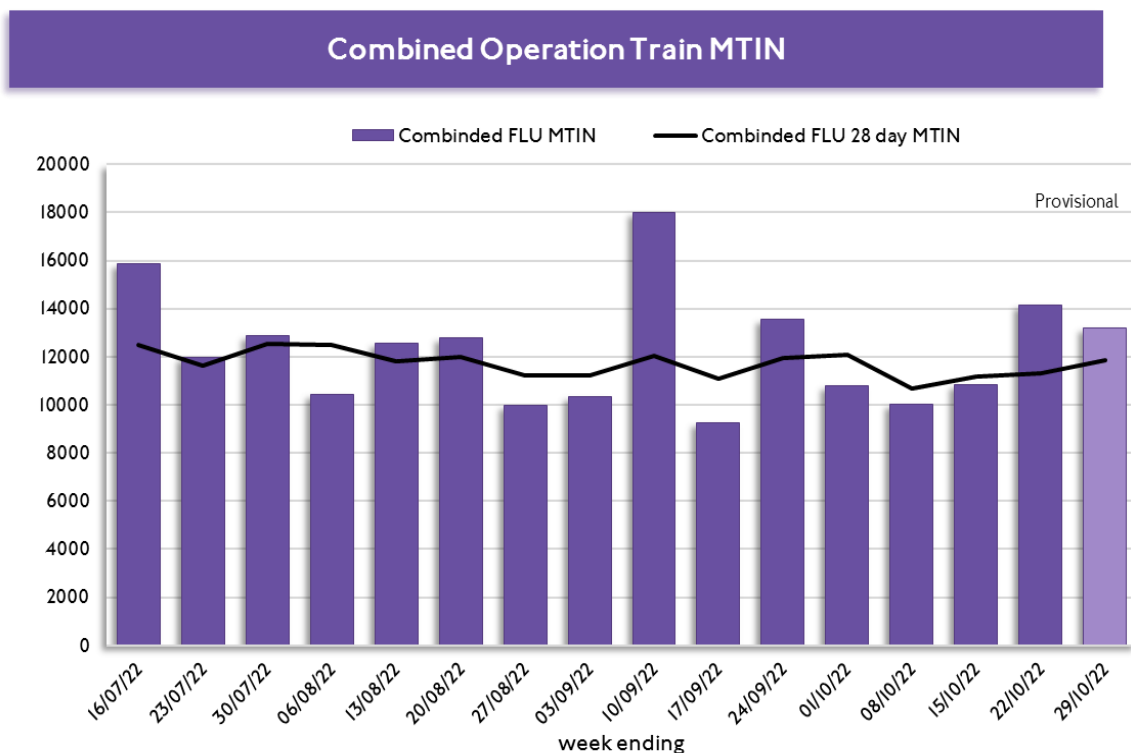


5.7 Overall, platform screen door (PSD) reliability continues to improve. Work is also ongoing towards a permanent solution to detachment or dislodgement of PSD seals, which has been notable at Liverpool Street and Paddington stations as major interchanges for passengers with large luggage. The operational impact has already been largely mitigated since a new and improved incident response procedure was implemented by MTR Elizabeth Line on 1 October 2022.

5.8 On rolling stock, the first of the three remaining seven-car class 345 trains was withdrawn from service on 31 October for conversion to a nine-car Full Length Unit (FLU). All seven-car trains will have been converted by mid-December, at which point the Elizabeth line will be running a homogeneous fleet of 70 FLUs.

5.9 The underlying class 345 MTIN figure (miles per service affecting faults of three or more minutes), which reflects train reliability, has remained largely static but has been consistently above the 10,000-mile mark for 5b minus services.

5.10 Chart showing combined operation (COS and Surface) train reliability for the 16 weeks up to 29 October 2022:

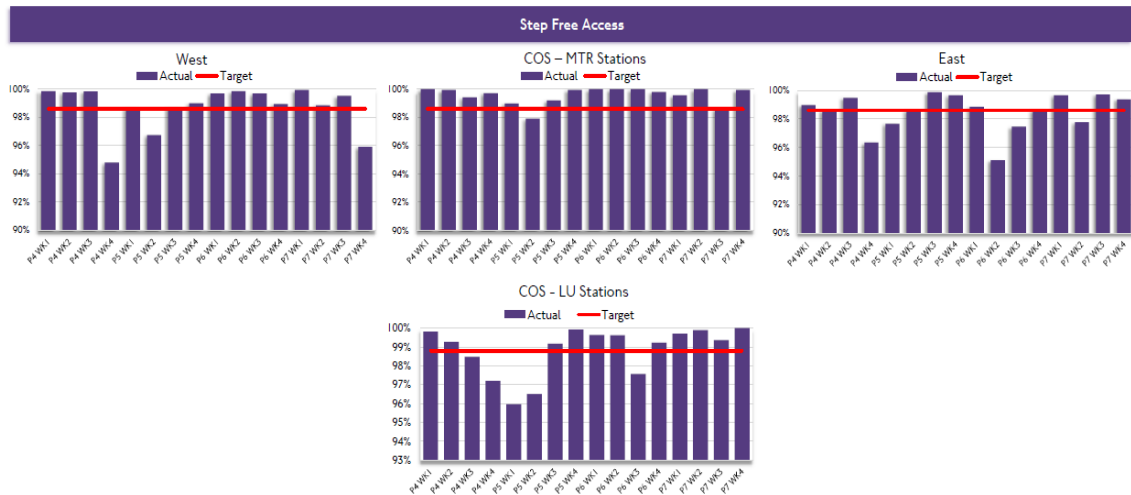


5.11 The train manufacturer, Alstom, has several intermediate initiatives in place to grow reliability and increase the overall fleet reliability to around 15,000 MTIN ahead of the delivery of the next reliability-focussed train software release, scheduled for February 2023.

## 6 Step Free Access

- 6.1 Step Free Access in the COS has remained reliable since entry into revenue service. During Periods 6 and 7 it remained above target at all stations with the exception of Period 6 Week 3, when Liverpool Street experienced several issues – none of which ultimately affected Step Free Access to the line.
- 6.2 Step Free Access in the west has also been above target, with the exception of the final week of Period 7 when faults occurred at several stations including Southall, Hayes and Harlington, West Drayton and Taplow. These are being investigated by Stannah with a view to reducing future impacts.
- 6.3 In the east, performance has improved with new assets such as lifts being brought online in recent months (at e.g. Ilford, Romford and Goodmayes) and is now generally on target. However, a significant outage of one lift at Seven Kings affected performance in Week 3 of Period 6, which required new parts before the lift could be returned to service later in the week.

6.4 Chart showing weekly step-free access availability by section/operator:



(Data Date 25 June 2022 – 15 October 2022)

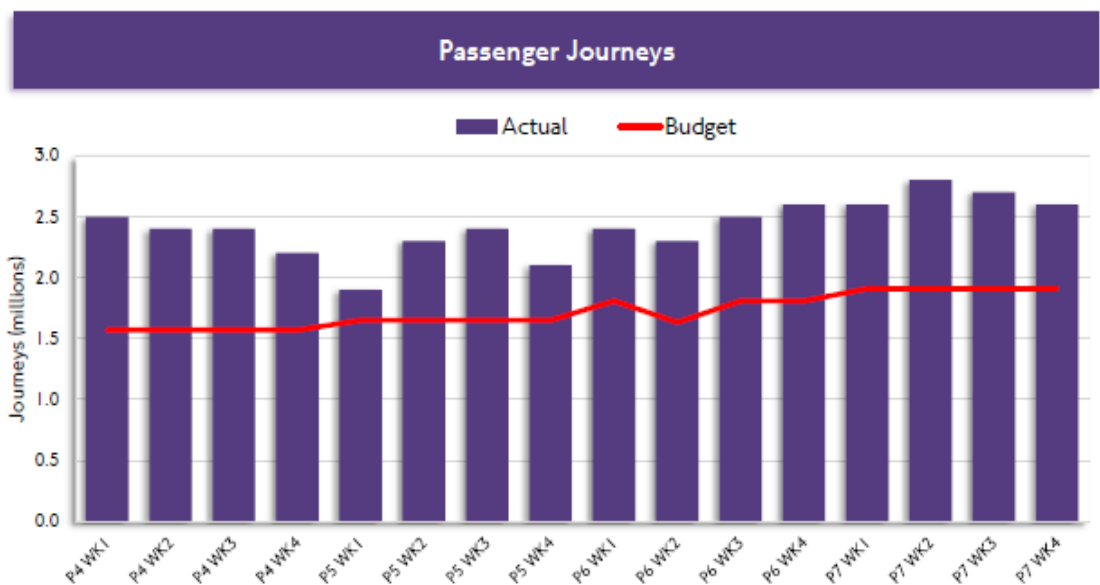
7 Passenger Numbers

7.1 Elizabeth line usage continues to contribute to London’s recovery from the pandemic and following the opening of Bond Street Elizabeth line station, which allows passengers an additional option for interchange with the Jubilee line in central London and is a further major destination to visit along the Elizabeth line route.

7.2 An average of more than 400,000 journeys were made in period 6 and 7 across the whole of the line every single day. Since the railway opened in May 2022, more than 60 million journeys have been made altogether, including 30 million journeys in the central section.

7.3 During Period 7 the number of journeys made in the central section on any one day reached a record 290,000 on Thursday 29 September.

7.4 Chart showing weekly passenger journeys in millions vs budget:



(Data date 25 June 2022 – 15 October 2022)

**List of appendices to this report:**

None

**List of Background Papers:**

None

Contact Officer: Howard Smith Director, Elizabeth line  
Email: [howardsmith@tfl.gov.uk](mailto:howardsmith@tfl.gov.uk)

[page left intentionally blank]

## Elizabeth Line Committee



**Date:** 24 November 2022

**Item:** Finance and Risk Update

---

### **This paper will be considered in public**

#### **1 Summary**

- 1.1 This paper provides an update on the financial performance and risk management process at Period 7 2022/23.
- 1.2 A paper is included on the Part 2 agenda which contains supplementary information that is exempt from publication by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the business affairs of TfL and other parties. Any discussion of that exempt information must take place after the press and public have been excluded from the meeting.

#### **2 Recommendation**

- 2.1 **The Committee is asked to note the paper and the supplementary information on Part 2 of the agenda.**

#### **3 Elizabeth Line Operational Finance**

- 3.1 In the year to date (YTD) to Period 7, passenger journeys for the Elizabeth line exceeded budget by 20 million. This was due to the Central Section opening five weeks earlier than assumed, plus higher than expected passenger numbers across the whole line. Fares income was, therefore, £29m above budget as a consequence.
- 3.2 YTD, direct operating costs were £9m lower than budget, and the Net Operating Deficit for the Elizabeth line was £122m, £38m favourable to budget. Elizabeth line capital expenditure was £2m lower than budget for the YTD.
- 3.3 The Elizabeth line is on target to break-even in the year 2023/24.

#### **4 Crossrail Programme Financial Performance**

- 4.1 Spend in Period 7 was £15m and is £143m for the YTD. The period spend was £3m below the Delivery Control Schedule 1.2 (DCS1.2) Budget and the Programme is £47m below the DCS1.2 Budget for the YTD.

- 4.2 On average the Programme has seen an underspend of £7m a period in this financial year mainly driven by rephasing of contingencies and a reduction of the programme Anticipated Final Crossrail Direct Cost (AFCDC).
- 4.3 The number of Crossrail full time equivalent staff is 327 (note this excludes consultancy resource). This was 72 higher than what had been forecast in the DCS1.2 Workforce Plan, driven by role extensions.

## **5 Anticipated Final Crossrail Direct Cost**

- 5.1 In Period 7 the P50 (50<sup>th</sup> percentile) AFCDC was reduced by £3m to £15,935m reflecting a reduction in risk exposure following the bringing into use of Bond Street Station and the completion of the Canary Wharf contract.

## **6 Funding**

- 6.1 In Period 6, as part of the recent funding agreement with Government, a further £98.5m of funding became available to the Project, resulting in a revised funding package of £15,887.5m.
- 6.2 This is £47m below the P50 AFCDC, and £63m below the at P80 (80<sup>th</sup> percentile) AFCDC of £15,956m. Both remain well below the “up to £1.1bn” additional requirement originally expected at the point of transition to full TfL governance.
- 6.3 The AFCDC has reduced in each of the last two periods, reflecting greater certainty in delivery and progress on the contract completions. Work continues which aims to reduce the AFCDC further in future periods.

## **Risk**

- 7.1 There are five Level 1 Risks at Period 7.
- 7.2 These risks summarise the significant risks that face the Elizabeth line and residual Crossrail Programme. Review and update of Level 1 and working-level risks is a well-established part of senior management activity, with a substantive review of risks and interventions on a four-weekly basis.

### **List of appendices to this report:**

Exempt supplemental information is contained in a paper on Part 2 of the agenda.

### **List of Background Papers:**

None

Contact Officer: Rachel McLean – Chief Finance Officer, TfL  
Email: [rachelmclean@crossrail.tfl.gov.uk](mailto:rachelmclean@crossrail.tfl.gov.uk)



## Elizabeth Line Committee



**Date:** 24 November 2022

**Item:** Elizabeth Line Programme Assurance Update

---

### **This paper will be considered in public**

#### **1 Summary**

- 1.1 This paper reports on progress with programme assurance activity across the Elizabeth line since the last report.
- 1.2 A paper is included on the Part 2 agenda which contains supplementary information that is exempt from publication by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the business affairs of TfL. Any discussion of that exempt information must take place after the press and public have been excluded from this meeting.

#### **2 Recommendation**

- 2.1 **The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda.**

#### **3 Background**

- 3.1 The Elizabeth line Integrated Assurance Framework is based on a Three Lines of Defence model comprising:
  - (a) Line 1 – Management functions of Crossrail Limited (CRL), Rail for London (Infrastructure) Limited (RfL(I)) and key interfaces;
  - (b) Line 2 – Project and Programme Assurance Elizabeth line (PPA-EL); and
  - (c) Line 3 – TfL Internal Audit and a sub-group of the Independent Investment Programme Advisory Group (IIPAG-EL).
- 3.2 This paper reports specifically on Line 2 (PPA-EL), Line 3 (Internal Audit) and Line 3 (IIPAG-EL) assurance progress.
- 3.3 The teams meet periodically with a panel of advisers to ensure that assurance is carried out by the right team, at the right time and to avoid duplication and minimise overlap of effort.

#### **4 Line of Defence 2 (LoD2) Assurance**

- 4.1 Since the Elizabeth line entered Revenue Service on 24 May 2022, the service has continued to perform consistently at a good level in the Central Operating Section (COS). This consistency supported the T-minus process decisions to implement enhanced train services (Stage 5b minus) on 6 November 2022, with

trains running directly from Reading and Heathrow to Abbey Wood, and from Shenfield to Paddington.

- 4.2 The train fleet and overall system continue to perform well in the COS. Additional train and signalling software upgrades and other interventions (including for Platform Screen Doors) are providing further operational reliability improvements.
- 4.3 The reliability of the Network Rail (NR) infrastructure on the Great Western Main Line (GWML) has been of concern ahead of the introduction of Stage 5b minus service, however NR have set out a series of interventions aimed at delivering improvements for Stage 5b minus and beyond through to Stage 5c in May 2023. These improvements are monitored and reported on a weekly basis and good progress is being made.
- 4.4 Work has continued on a continuous assurance basis with formal reporting via the LoD2 Periodic Assurance Review (PAR) Reports. Of particular focus has been the overall system and fleet reliability and availability, the quality of the service response to issues arising during service operation as well as the status of continued works and people and team readiness across all aspects of the Operation and Maintenance teams, in preparation for Stage 5b minus.
- 4.5 Since the last meeting of the Committee, LoD2 PAR Reports have provided input to the periodic Integrated Assurance Report to the Elizabeth Line Delivery Group.
- 4.6 Regarding cost to complete, although potential new cost pressures are being prudently recognised in the Anticipated Final Crossrail Direct Cost (AFDCDC) as they arise, the programme continues to maintain provision and contingency budgets. Actions are ongoing across all areas to identify opportunities to reduce the AFDCDC and minimise funding requirements.
- 4.7 The programme for the remaining works to successfully deliver the whole end to end railway has been baselined and is being used to monitor progress.
- 4.8 Deterministic dates are being held and are as follows:
  - (a) Stage 5b minus is 6 November 2022 (22 trains per hour (tph) peak/16 tph off peak, Shenfield to Paddington, Abbey Wood to Reading and Heathrow); and
  - (b) Stage 5c is May 2023 (24 tph full end-to-end service), dictated by the national railway timetable changes. The key drivers continue to be confidence in achieving the required fleet availability and whole systems reliability to support the enhanced intensity of service. The maintenance of the programme is being led by the Elizabeth line Operations team, with support from CRL for those elements of work it is responsible for.

- 4.9 The project has continued to make significant progress since the last report, key progress highlights include:
- (a) the successful opening of Bond Street station to passengers on 24 October 2022;
  - (b) commencement of the physical works at Westbourne Park (civils, fencing and signage) to facilitate later introduction of auto reverse functionality;
  - (c) achievement of the target for fleet availability required for Stage 5b minus as well as the continued strong reliability performance in the COS since the commencement of live operational service;
  - (d) improvements in team working and embedding of lessons learnt across the Operations teams, leading to strong service recovery and incident handling;
  - (e) continued engagement, planning and the implementation of improvement initiatives with NR on the GWML to prepare for the integration of railways for Stage 5b minus; and
  - (f) software upgrades to signalling, fleet and infrastructure (Platform Screen Doors) software enhancing performance further.
- 4.10 The maintenance programme has been reviewed and significant improvements implemented to support the enhanced utilisation of resources and the introduction of automation, thereby delivering a more efficient maintenance service. Experience during operational service in the COS is helping to shape the improvements required in terms of response and fix times and root cause analysis to support a 22/24 tph service.
- 4.11 Both fleet and system performance reliability and availability are on a positive trajectory towards meeting the desired performance targets expected for Stage 5b minus, however these are being closely monitored on a weekly basis.
- 4.12 Following our risk based continuous assurance approach, concerns and recommendations are identified throughout each reporting period. Management responses for those items are provided in the following table and have been provided during Periods 5 and 6 of 2022/23 (24 July to 17 September 2022) (P5 and P6).

Periods 5 and 6	LoD2 Concerns	Management Response
P5/1	<p><b>Staff Readiness for 24 tph</b> – Visibility of plans to train and familiarise staff (drivers, Operations staff in the Romford Control Centre and stations staff and command and control teams). This should include the shift in mindset to working in a 22/24 tph environment.</p>	<p>Competent team numbers continued to steadily grow in line with the plan. All efforts focused on maximising numbers of competent resources across all roles prior to 6 November 2022.</p>
P5/2	<p><b>Timetable (TT) Demonstration for 5b minus</b> – Important that the TT has had sufficient opportunity to be tested as a through service for Stage 5b minus. Specific exercises to test the interface contingency plans and the end-to-end railway, with staff given the opportunity to experience the impact and response required from perturbations during a 22 tph service. In addition, attention should be given to lessons learned from previous two TT trials, e.g. the poor performance of the Customer Information System (CIS) during the demos and the short timescale we have to resolve before Stage 5b minus. Consideration to be given to testing bringing Bond Street online, with particular focus on testing the impact of stopping at Bond Street station on the overall TT performance.</p>	<p>The challenge of operating Timetable Editor (TTE) in disruption has now been established with significant impact on workloads for the Timetable Manager if not covered by any other resource. Plan mobilised to introduce a new role and interim arrangements in place for 6 November 2022 ahead of the permanent recruitment plan. The TTE role and arrangements will also greatly assist in keeping CIS up to date by ensuring cancelled trains (if applicable) are removed from the relevant systems and CIS.</p>
P5/3	<p><b>Maintenance</b> – Good progress has been made in the prioritisation and scope development of the Access Improvement Programme. However, as we move into implementation, we require visibility of plans for supporting resources within Maintenance teams, both project specific and other</p>	<p>The Access Improvement Programme has been progressed with the benchmark exceeding for entry into Stage 5b minus. A confidence statement has been drafted which has been endorsed. Access improvement still continues to be a business priority with activities still in flight however it has been acknowledged that the threshold has been met for entry into Stage 5b minus.</p> <p>Critical resources in the resilience workstream</p>

Periods 5 and 6	LoD2 Concerns	Management Response
	critical resources to ensure the expected performance improvements are delivered in time for Stage 5b minus and the maintenance response is as required in a 22 tph railway.	have been planned and identified to ensure that the maintenance capability continues into Stage 5b minus. The Maintenance team is analysing its staff to ensure that there are the right number of competent people within the business. This is being included as part of the Maintenance Improvement Plan.
<b>P5/4</b>	<b>Great Western (GW) Performance</b> – Whilst progress continues and further improvement initiatives are underway, we recommend continued prioritisation and visibility at weekly cadence meetings of infrastructure and train performance improvements and resource plans for Thames Valley Signalling Centre.	<p>The ownership cuts across a number of stakeholders. The prioritisation and visibility of the items listed is being made more explicit at weekly forums such as the T-minus as an example and other forums are looking more end-to-end in anticipation of the railway becoming more joined up.</p> <p>The focus continues to shift to GW performance as well as the performance of the railway as an inter-connected 'whole'.</p>
<b>P5/5</b>	<b>Signalling Software</b> – Better alignment between CRL and RfL(I) on scope for Engineer's Line Reference (ELR) version upgrades to avoid confusion and time wasting.	Overall ELR scope is managed by the Chair of the 'Plateau' (technical systems integration meeting), who takes on-board requests from Asset Engineers, Operators (RfL(I) and MTREL)), Performance team, Maintenance team, as well as rolling stock and weaves it into a single list, to ensure Siemens have no doubt about the RfL(I) desires and hence avoid disappointment, timewasting, etc. CRL (who manage the C620 contract) then use the Staged Completion Report process to control delivery of the scope.
<b>P5/6</b>	<b>Fleet performance</b> – While performance in the COS is encouraging, surface performance remains concerning. The short-term mitigation is dependent on Alstom meeting trains at turnarounds and no permanent solution is proposed for implementation before autumn 2023. A plan is to be shared on how a permanent solution can be addressed more quickly.	<p>Relates to prevalence of European Train Control System (ETCS) defects requiring the driver to perform resets in service.</p> <ul style="list-style-type: none"> <li>i. Technicians have been in place at key turnaround locations since 18 September 2022 to carry out ETCS health check and complete any reset prior to departure time.</li> <li>ii. Alstom undertook a component swap on specific trains with statistically highest susceptibility-material on depot on 30 September 2022. Assessed service-performance benefit in October.</li> <li>iii. Alstom have launched a new configuration development (H5.30) with a target date of May 2023 to deliver an earlier permanent solution. This will be implemented on the</li> </ul>

Periods 5 and 6	LoD2 Concerns	Management Response
		<p>Fleet from May 2023 (advanced from autumn 2023) if step (ii) above does not yield the expected reduction in ETCS resets.</p> <p>The above plan has been presented by Alstom – and copied by TfL to LoD2.</p>
P6/1	<p><b>Command and Control</b> – Recommend a desktop exercise to test the roles and responses across the different organisations, especially in light of recent changes with the addition of a Senior Service Delivery Manager Role being introduced into the Regional Control Centre for Stage 5b minus. Need to test the new role in relation to other roles in the command-and-control structure.</p>	<p>We have carried out three workshops to cover this which have captured a small number of actions across all parties to complete. While not critical to 6 November 2022, they will be closed out as quickly as possible.</p>
P6/2	<p><b>Great Western</b> – We recommend the development of backup (contingency) plans in the event that GW are unable to present trains ‘Right Time’ (RT) to the COS.</p>	<p>As part of the Western Route Readiness for Stage 5b minus- the following have been actioned:</p> <ul style="list-style-type: none"> <li>• Agree Regulatory Policy to prioritise ‘RT at COS’;</li> <li>• Formal commitment to ‘RT at COS’ for Elizabeth line trains (not within the Public Performance Measure); Commitment provided to ‘RT at COS’;</li> <li>• Revise train regulation protocol to deliver ‘RT at COS’ with all operators; RT Regulation policy already written, shared and briefed to Control and signallers – NR will be actively monitored to ensure adherence to policy taking into consideration MTR feedback on outcomes;</li> <li>• Minimise unplanned Main/Relief line crossing (Anglia and West Coast Main Line experience); Service Principles which aim to ‘contain’ disruption to mains/reliefs minimising impact.</li> </ul>
P6/3	<p><b>Desktop Exercises for critical processes Stage 5b minus</b> – Would recommend at least another couple of desktop exercises to enable staff to be given the</p>	<p>Two sessions including control and signallers (desktop/simulation) planned for every Wednesday started on 28 September 2022</p> <p>In terms of coverage for the TTE, we now have this covered with currently four people and a fifth</p>

<b>Periods 5 and 6</b>	<b>LoD2 Concerns</b>	<b>Management Response</b>
	opportunity to experience how to respond to the impact of perturbations during a 22 tph service, including cut and run and contingency timetable.	arriving for training on 6 November 2022. Training is approximately two weeks. The four initial people can cover the role sufficiently.
<b>P6/4</b>	<b>Auto-Reverse</b> – Some good progress has been made with the definition, procurement and delivery of fence and Closed-Circuit Television (CCTV) works for Westbourne Park. Further clarity needed on the scope of Auto-reverse being delivered for December and what impact this may have on the operation.	Driverless Train Reverse Operation Forward, the first move of auto-reverse forward, required to enable Auto-Reverse at Westbourne Park is the scope planned for December 2022.  Unplanned Auto-Reverse and Driverless Train Reverse Operation Backward, the first move of auto-reverse backwards, required for tunnel sections is targeted for early 2023 with support of Operational Restrictions.
<b>P6/5</b>	<b>System Reliability Performance Management</b> – We recommend continued emphasis on a systems wide integration approach in managing the performance of the railway system when planning future functionality enhancements/software updates across signalling, comms and control and fleet software. We also recommend a single systems expert to arbitrate on multi party fault finding, close out and assessing solution trade-offs.	We continue our systems wide integration approach with our systems experts at a working level. Systems wide integration is discussed as part of our governance in the Elizabeth Line Reliability Board, Reliability and Resilience Delivery Group as well as Plateau Technical Integration meetings.

## **5 Line of Defence 3 (LOD3 -TfL Internal Audit) Assurance**

5.1 This section covers the Internal Audit activities that were agreed in the Integrated Audit and Assurance schedule.

5.2 In P5 and P6 we issued four reports and one audit was in progress.

### **Audit Delivery**

5.3 Summary information of the reports issued in P5 and P6 is set out below.

5.4 Two audits of the Crossrail Complaints Commissioners Accounts were undertaken for 2021/22 and four months of 2022/23 to provide assurance that figures in the accounts are accurate. On the basis of the work carried out, it was confirmed that the accounts of the Crossrail Complaints Commissioner, in all

material aspects, accurately reflect the receipts and payments during the financial periods ended 31 March 2022 and 31 July 2022.

- 5.5 The cost verification audit of Equans (formerly Engie) provided assurance on the adequacy and effectiveness of cost verification controls over payments. We found certain controls were adequately designed and operating effectively. For example, costs were verified for the Canary Wharf contract site through checking a large sample of invoices and staff payments. However, other controls such as competitive quotations, cost benchmarking, or the checking of goods receipt notes were not consistently applied.
- 5.6 The Crossrail Act Obligations Audit was rated as 'Adequately Controlled'. One medium priority issue and one low priority issue were raised. The medium priority issue relates to the need to review resources dedicated to validating and confirming third party agreements and obligation discharge ahead of programme close out. In addition, formal assessment of any long-term monitoring beyond this has yet to take place or be agreed. Audits in progress at the end of P6 are included as Appendix 1, and work planned to start in Quarter 3 and Quarter 4 of 2022/23 (18 September 2022 to 31 March 2023) are included as Appendix 2.

### **Management Actions**

- 5.7 The team monitors the implementation of all Internal Audit management actions and confirms whether they have been adequately addressed before closing them. There are no overdue actions at the end of P6.

### **Changes to the Audit Plan**

- 5.8 TfL Internal Audit regularly review and update the audit elements of the Integrated Audit and Assurance Audit Plan throughout the year, in liaison with management, to reflect changing business priorities. No changes to the plan have been made to date.

## **6 Line of Defence 3 (LoD3 - IIPAG-EL) Assurance**

- 6.1 The terms of reference of the IIPAG-EL sub-group require the group to provide a 'look ahead' of its proposed areas of interest and work. The areas of interest highlighted as part of the revised Integrated Audit and Assurance Schedule in February 2022 continue to apply. We also support the 'continuous assurance' process established by LoD2. This schedule is maintained and reviewed within the Elizabeth Line Programme Assurance Group which is co-ordinated by LoD2.
- 6.2 The focus by LoD3 over the reporting period has been on the preparations for the enhanced service level of Stage 5b minus, and the Stage 5c full 24 tph service. A more comprehensive update is provided in the paper on Part 2 of the agenda.
- 6.3 In general, the overall assurance framework for Elizabeth line has continued to operate effectively.



**List of Appendices:**

Appendix 1: Line 3 (TfL Internal Audit) Work in progress at the end of Period 6 2022/23  
Appendix 2: Line 3 (TfL Internal Audit) Work due to start in Quarter 3 and Quarter 4  
2022/23

**List of Background Papers:**

None

Contact Officer: Lorraine Humphrey, Director of Risk and Assurance  
Email: [lorraine.humphrey@tube.tfl.gov.uk](mailto:lorraine.humphrey@tube.tfl.gov.uk)

[page left intentionally blank]

Elizabeth Line Committee

Work in progress at the end of Period 6 2022/23

Appendix 1

- There is one audit in progress at the end of Period 6

Enterprise risk	Directorate	Ref	Audit title	Objective	Current Status
ER6 Deterioration of Operational Performance	RfL(I)	22 027	Obsolescence of Critical Operational Systems	To provide assurance that adequate controls are in place to prevent critical operational systems becoming obsolete.	Reporting

[page left intentionally blank]

Elizabeth Line Committee

Work planned to start in Q3 and Q4 2022/23

Appendix 2

- There are two audits planned to start in Q3/Q4

Enterprise risk	Directorate	Ref	Audit title	Objective
ER10 Governance and Controls Suitability	Information Governance	22 042	Information Management and Transfer – Hardcopy Documents	To provide assurance on the adequacy and effectiveness of transferring hardcopy data from Crossrail to TfL.
ER6 Deterioration of Operational Performance	RfL(I)	22 044	Elizabeth Line Transition from Capital Programme to BAU	To provide assurance on the effectiveness of the Elizabeth line’s transition from a capital programme to a business-as-usual operation.

[page left intentionally blank]

## Elizabeth line Committee



**Date:** 24 November 2022

**Item:** Crossrail Learning Legacy

---

### **This paper will be considered in public**

#### **1 Summary**

- 1.1 Crossrail has operated a Learning Legacy programme since mid-2015. The Learning Legacy was created in response to a recommendation by the House of Commons Public Accounts Committee and modelled on the London 2012 Olympics Learning Legacy – to collate and share the learnings from Crossrail for the benefit of the major projects industry.
- 1.2 In December 2021, the Crossrail Executive agreed to complete the learning legacy with a suite of papers presenting the learnings from the later phases of Crossrail and Elizabeth line delivery. These are to be published as a journal, in partnership with the Association for Project Management. The papers will be presented at a one-day conference event being arranged for 5 April 2023.
- 1.3 This paper describes the progress in drafting the papers and preparing for the event.

#### **2 Recommendation**

- 2.1 **The Committee is asked to note the paper.**

#### **3 Background**

- 3.1 There are eight papers in production. The table in Appendix 1 sets out the progress on each of these.
- 3.2 The papers will be circulated to the Committee for information before typesetting begins.
- 3.3 The event date has been set for 5 April 2023 to suit the availability of TfL and Department for Transport leaders. Key contributors have confirmed their willingness to take part regardless of having left the project.

#### **4 Financial Implications**

- 4.1 The Learning Legacy programme has a budget of £110k, enough for the remaining work of the programme.

**Appendices to this report:**

Appendix 1: Progress on papers

**List of Background Papers:**

None

Contact Officer: Howard Smith Director, Elizabeth line  
Email: [howardsmith@tfl.gov.uk](mailto:howardsmith@tfl.gov.uk)



## Progress on papers

<b>Title</b>	<b>Summary</b>	<b>Sponsor</b>	<b>Co-authors</b>	<b>Progress</b>
<b>Sponsorship and Governance</b>	Reflection on governance at sponsor level in the later phases	DfT/TfL	DfT/ TfL Sponsor teams	Internal comments received
<b>Project Recovery</b>	Explanation of the steps taken to understand and reconfigure the project after 2018 announcement that opening date would be missed.	Jim Crawford – Chief Programme officer, Crossrail	Rob Carr – Programme Services Director, Crossrail  Rob Scopes and Ed Park – Deloitte	Draft in progress
<b>Organisational Culture and Capability</b>	How the project team was rebuilt and resources deployed post 2018	Mark Wild – Former CEO, Crossrail		Draft in progress
<b>Contract Management</b>	Reflection on management of contractors and the form of contract from the later stages	Rachel McLean – Chief Finance Officer, TfL	Rob Halstead, Former Head of Risk, Crossrail  Victor Fornes – Finance Director, Crossrail  Stacey Kalita – Former Finance Director, Crossrail	Draft in progress
<b>Project Leadership</b>	Reflection on project leadership throughout the programme	Mark Wild – Former CEO, Crossrail	Tony Meggs – Former Chair of Crossrail Board	Peer review comments received
<b>Design Strategy</b>	How design and design management could have mitigated issues	Jim Crawford – Chief Programme officer, Crossrail	Chris Binns – Chief Engineer, Crossrail	To be drafted post 5B-

<b>Title</b>	<b>Summary</b>	<b>Sponsor</b>	<b>Co-authors</b>	<b>Progress</b>
<b>System Integration</b>	The challenges of integrating the systems that comprise the project and lessons for future projects in recognising the scale.	Jim Crawford – Chief Programme officer, Crossrail	Colin Brown – Former Technical Director, Crossrail	In peer review
<b>Bringing the Elizabeth line into use</b>	The experience of handover, trial running, and trial operations	Howard Smith – Director, Elizabeth line	<p>Martin Stuckey - Crossrail Operations Business Manager</p> <p>Danny Fox – Deputy Director Operations, Elizabeth line</p> <p>Richard Schofield – Former RfL(I) Infrastructure Director</p>	Draft in progress

## Elizabeth Line Committee



**Date:** 24 November 2022

**Item:** Members' Suggestions for Future Discussion Items

---

### **This paper will be considered in public**

#### **1 Summary**

- 1.1 This paper presents the current forward plan for the Committee and explains how this is put together. Members are invited to suggest additional future discussion items.

#### **2 Recommendation**

- 2.1 **The Committee is asked to note the forward plan and is invited to raise any suggestions for future discussion items.**

#### **3 Forward Plan Development**

- 3.1 The Board and its Committees and Panels have forward plans. The content of the plans arises from a number of sources:
- (a) standing items for each meeting: minutes; matters arising and actions list; and any regular reports, including the Safety Update, Elizabeth Line Assurance Update, Elizabeth Line Operations and Programme Completion Update and Finance and Risk reports;
  - (b) regular items which are for review and approval or noting;
  - (c) matters reserved for approval or review; and
  - (d) items requested by Members: The Deputy Chair of TfL and the Chair of this Committee will regularly review the forward plan and may suggest items. Other items will arise out of actions from previous meetings (including meetings of the Board or other Committees and Panels) and any issues suggested under this agenda item.

#### **4 Current Plan**

- 4.1 The current list of standing items is attached at Appendix 1. Like all plans, it is a snapshot in time and items may be added, removed or deferred to a later date.

**List of appendices to this report:**

Appendix 1: Elizabeth Line Committee Forward Plan 2022/23

**List of Background Papers:**

None

Contact Officer: Howard Carter, General Counsel

Email: [HowardCarter@tfl.gov.uk](mailto:HowardCarter@tfl.gov.uk)

## Elizabeth Line Committee Forward Plan 2022/23

## Appendix 1

**Membership:** Heidi Alexander (Chair), Anne McMeel (Vice-Chair), Professor Greg Clark CBE, Seb Dance, Dr Nelson Ogunshakin OBE, Mark Phillips, Sarah Atkins, Matthew Lodge (Department for Transport Representative)

<b>Standing Items</b>		
Safety Update	Director, Elizabeth line	
Elizabeth Line Operations and Programme Completion Update	Director, Elizabeth line	
Elizabeth Line Programme Assurance Update	Director of Risk and Assurance	
Finance and Risk Update	Chief Finance Officer	
<b>Items to be Scheduled</b>		
Evaluation of the Elizabeth line Business Case	Chief Finance Officer	

### Dates of Future Meetings

24 January 2023

16 March 2023

[page left intentionally blank]

By virtue of paragraph(s) 3 of Part 1 of Schedule 12A  
of the Local Government Act 1972.

Document is Restricted

[page left intentionally blank]



By virtue of paragraph(s) 3 of Part 1 of Schedule 12A  
of the Local Government Act 1972.

Document is Restricted

[page left intentionally blank]

By virtue of paragraph(s) 3 of Part 1 of Schedule 12A  
of the Local Government Act 1972.

Document is Restricted

[page left intentionally blank]

By virtue of paragraph(s) 3 of Part 1 of Schedule 12A  
of the Local Government Act 1972.

Document is Restricted

[page left intentionally blank]

By virtue of paragraph(s) 3 of Part 1 of Schedule 12A  
of the Local Government Act 1972.

Document is Restricted

[page left intentionally blank]



By virtue of paragraph(s) 3 of Part 1 of Schedule 12A  
of the Local Government Act 1972.

Document is Restricted

[page left intentionally blank]

By virtue of paragraph(s) 3 of Part 1 of Schedule 12A  
of the Local Government Act 1972.

Document is Restricted

[page left intentionally blank]