

Agenda

Meeting: Programmes and Investment Committee

Date: Wednesday 15 May 2019

Time: 10.15am

Place: Paddington Room, 11th Floor,
Palestra, 197 Blackfriars Road,
London, SE1 8NJ

Members

Prof Greg Clark CBE (Chair)
Dr Nelson Ogunshakin OBE (Vice-Chair)
Heidi Alexander
Ron Kalifa OBE
Dr Alice Maynard CBE

Mark Phillips
Dr Nina Skorupska CBE
Dr Lynn Sloman
Ben Story

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

This meeting will be open to the public, 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.

Further Information

If you have questions, would like further information about the meeting or require special facilities please contact: Jamie Mordue, Senior Committee Officer; Tel: 020 7983 5537; email: JamieMordue@tfl.gov.uk.

For media enquiries please contact the TfL Press Office; telephone: 0845 604 4141; email: PressOffice@tfl.gov.uk

Howard Carter, General Counsel
Tuesday 7 May 2019

**Agenda
Programmes and Investment Committee
Wednesday 15 May 2019**

1 Apologies for Absence and Chair's Announcements

2 Declarations of Interests

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 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 6 March 2019 (Pages 1 - 14)

General Counsel

The Committee is asked to approve the minutes of the meeting of the Committee held on 6 March 2019 and authorise the Chair to sign them.

4 Matters Arising and Actions List (Pages 15 - 20)

General Counsel

The Committee is asked to note the updated actions list.

5 Crossrail Update (Pages 21 - 24)

Chief Operating Officer - Elizabeth line
Investment Delivery Planning Director

The Committee is asked to note the paper and approved the change to the Sponsors Requirements in the Project Development Agreement providing for a new Stage 3 opening date of 'September 2020 to March 2021'.

6 Crossrail Limited Board Appointments (Pages 25 - 26)

General Counsel

The Committee is asked to note the paper and, under the authority delegated by the Board, to extend the appointments TfL Sponsor nominated non-executive directors to the Crossrail Limited Board.

7 Update on Major Projects and Sub-Programmes (Pages 27 - 30)

Director Major Projects and Managing Directors London Underground and Surface Transport

The Committee is asked to note the paper.

8 Independent Investment Programme Advisory Group 2019/20 Workplan (Pages 31 - 36)

General Counsel

The Committee is asked to note and provide comments on the Independent Investment Programme Advisory Group's 2019/20 workplan.

9 Use of Delegated Authority (Pages 37 - 42)

General Counsel

The Committee is asked to note the paper.

10 Air Quality Management Programme (Pages 43 - 58)

Managing Director Surface Transport

The Committee is asked to note the paper, approve Programme and Project Authority, and approve transfers of Financial and Programme and Project Authority to the Air Quality Management Programme.

11 Member Suggestions For Future Agenda Discussions (Pages 59 - 64)

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

12 Any Other Business the Chair Considers Urgent

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

13 Date of Next Meeting

Wednesday 17 July 2019 at 10.15am.

14 Exclusion of the 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.

15 Air Quality Management (Pages 65 - 74)

Exempt supplemental information relating to the item on Part 1 of the agenda.

Transport for London

Minutes of the Programmes and Investment Committee

**Committee Rooms 1 and 2, Palestra,
197 Blackfriars Road, London, SE1 8NJ
10.15am, Wednesday 6 March 2019**

Members Present

Professor Greg Clark CBE (Chair)
Dr Alice Maynard CBE
Dr Lynn Sloman
Ben Story

In Attendance

Executive Committee

Mike Brown MVO	Commissioner
Howard Carter	General Counsel
Michèle Dix	Managing Director Crossrail 2
Stuart Harvey	Director of Major Projects
Simon Kilonback	Chief Finance Officer
Gareth Powell	Managing Director Surface Transport
Shashi Verma	Director of Strategy & Chief Technology Officer

Other Staff

Glynn Barton	Director Network Management, Surface Transport (for minute 94/03/19)
Alexandra Batey	Head of Public Transport Sponsorship, Surface Transport (for minute 94/03/19 and 95/03/19)
Mark Bulle	Head of Transformation Portfolio – Networks, CCT (for minute 92/03/19 and 93/03/19)
Tanya Coff	Divisional Finance Director, London Underground
David Hughes	Investment Delivery Planning Director
Lorraine Humphrey	Head of TfL Project Assurance
Antony King	Finance Director, Major Projects Directorate
Rob Niven	Head of Major Projects Sponsorship, London Underground (for minute 97/03/19)
Allan Thomson	Head of LU Enhancements Sponsorship, London Underground (for minute 98/03/19 and 99/03/19)
Jamie Mordue	Secretariat

Crossrail Limited

Mark Wild	Chief Executive Officer, Crossrail Limited
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Independent Investment Programme Advisory Group (IIPAG) Attendance

Alison Munro	Chair, IIPAG
Jonathan Simcock	IIPAG Member

01/03/19 Apologies for Absence and Chair's Announcements

Apologies for absence were received from Dr Nelson Ogunshakin OBE (Vice Chair), Heidi Alexander, Ron Kalifa OBE, Mark Phillips and Dr Nina Skorupska CBE.

The Chair informed the Committee that he had agreed to accept an addendum to Item 23 on Part 2 of the agenda.

To reflect TfL's focus on safety, the Chair advised that Members should raise any safety issues in relation to items on the agenda or within the remit of the Programmes and Investment Committee at the start of the item or under Matters Arising. If there were any other safety issues then these could be discussed with General Counsel or an appropriate member of the Executive Committee after the meeting.

02/03/19 Declarations of Interests

Members confirmed that their declarations of interests, as published on tfl.gov.uk, were up to date.

03/03/19 Minutes of the meeting of the Committee held on 11 December 2018

The minutes of the meeting held on 11 December 2018 were approved as a correct record and signed by the Chair.

04/03/19 Matters Arising and Actions List

Howard Carter introduced the paper.

It was agreed that the action in minute 76/12/18, on the minutes of the meeting of the Committee of 11 December 2018, should specifically refer to the roadmap to achieve the Mayor's Transport Strategy 2050 Zero Carbon target.

The Committee noted the actions list.

05/03/19 Crossrail Update

The Chair invited Mark Wild, Chief Executive Officer, Crossrail Limited (CRL), to update the Committee.

Mark Wild told the Committee that there were seven high potential near misses across the project. Management was alert to the issues and was embedding a "nobody gets hurt" ethos.

Productivity had increased in December 2018 and good progress was being made across the project; 14 of 22 Tier 1 contractors had been demobilised and the wireless communications system had been installed in all tunnels. As part of the effort to control capital costs by increasing productivity, stand up meetings had increased in frequency from monthly and quarterly to daily and weekly. The desire to increase productivity would not get in the way of ensuring safety. There was good support from contractors and CRL was not experiencing barriers, culturally or commercially, to the change in ways of working.

Dynamic testing was underway, with one train running in each tunnel. The trains ran at full speed, with good stopping accuracy. Updated software had been installed the previous week and further updates were expected in the coming weeks; further updates would allow tests to be carried out, whilst running multiple trains. Multi train testing was vital because it would put the system under greater stress and allow engineers to identify issues that could potentially impact reliability.

CRL was working with Siemens and Bombardier on a system integration schedule. There was some potential risk ahead but CRL was in a relatively good position. The logical sequence had been completed and approved at the CRL board. It would then be presented to Sponsors and the production rate would be validated with suppliers to form a range of dates, which would be achievable but stretching.

The Committee noted that the recommendations set out in the independent KPMG reviews would be tracked by the Audit and Assurance Committee.

Mike Brown told the Committee that the positive effects of colocation at Endeavour Square were evident; particularly that it had encouraged dialogue and an exchange of ideas and resource.

Mark Wild invited the Committee to visit Crossrail offices. **[Action: Secretariat]**

The Committee noted the paper.

06/03/19 Investment Programme Report – Quarter 3 2018/19

Simon Kilonback introduced the paper and provided business planning context for the Investment Programme. The paper summarised progress against the Investment Programme in Quarter 3 2018/19. The Committee was told that it was a challenging environment for the Business Plan, particularly owing to the cost and loss of revenue from the Crossrail delay. TfL would prioritise the safety and reliability of existing assets, then those projects that were most aligned to Mayoral and Mayor's Transport Strategy outcomes and then those projects that were desirable but contingent on funding availability.

Stuart Harvey told the Committee that progress on reducing major injuries was good and that minor injuries were reducing in number. There was a focus on zero harm across all tiers and the Major Projects Directorate had released a "I am safe for" initiative, whereby staff were encouraged to share why they would be taking safety seriously, for example staying safe for their children.

The Committee noted that it was possible to walk from one end of the Northern Line Extension to the other and that a new railway cable management system would soon be installed. There had been teething problems in the mobilisation of the contract on the Barking Riverside Extension project but a remediation plan had been put in place and no impact on the critical path was expected. The Victoria station upgrade was due to be completed in summer 2019, including step free access to all platforms. Step free access had also been delivered at Finsbury Park station. The Committee commended the work that had gone into providing step free access at more stations across the network.

The Surface Transport directorate took part in the first TfL wide safety stand down and further work had been carried out with suppliers, particularly in relation to buried services in the road network. The main works on Old Street Roundabout were due to start in May 2019, which would improve safety and give it a greater sense of place. Mitigation work on 26 of the 73 most dangerous junctions had been completed; the remaining 47 junctions were going through design, with 15 scheduled for construction by spring 2020. Testing had begun on the potential components of the Bus Safety Standard, including emergency braking and measures to make bus interiors safer in the event of a passenger slip or fall.

From 8 April 2019, the central London Ultra Low Emission Zone (ULEZ) would replace the T-Charge and operate alongside the Congestion Charge. The ULEZ would operate 24 hours a day, seven days a week. Eighty-six per cent of buses had been retrofitted to be ULEZ compliant and the Mayor had announced a van scrappage scheme to help micro businesses and charities prepare for ULEZ. Stakeholder engagement had been increased to help those regularly driving in the ULEZ area, which included letters to owners of non-compliant vehicles and message signs.

Members asked whether the estimated final cost movement (EFC) could be provided over shorter periods as some of the projects spanned multiple budgets and business plans, and whether the internal rates of returns could be provided on projects. Simon Kilonback said the Programme Management Office had undertaken work to better link milestones, the budget and business plans to better understand what drove any variation in EFC.

The Committee noted the paper.

07/03/19 Independent Investment Programme Advisory Group – Quarterly Report

Lorraine Humphrey introduced the paper, which presented the Independent Investment Programme Advisory Group (IIPAG) quarterly report for Quarter 3 2018/19 and the TfL Management Response. Since the last meeting of the Committee, there had been no new un-agreed recommendations and the work was ongoing with the business teams to ensure that recommendations were realistic.

Alison Munro told the Committee that since the last meeting of the Committee, 16 reviews had been undertaken. TfL Assurance appeared generally to be good,

although some issues had been noted. IIPAG would focus its work programme for the coming year where it could add the most value.

Members asked what flexibility there was in engineering resources. Tanya Coff told the Committee that engineering leadership was working on a plan for the resource and that an independent review on the transformation of resource would be undertaken. Mike Brown told the Committee that cultural shifts, such as sharing engineering resource across TfL rather than directorates owning resource, would take longer to embed.

The Committee noted the Independent Investment Programme Advisory Group's Quarterly Report and the Management Response.

08/03/19 Use of Delegated Authority

Howard Carter introduced the paper, which provided an update on the use of Chair's Action and of Programme and Project Authority granted by the Commissioner and the Chief Finance Officer.

Since the last meeting of the Committee, the Chair, in consultation with available members of the Committee, had approved three items through Chair's Action, these related to the Barking Riverside Extension project, contractual arrangements with Bombardier Transportation UK Limited and the Track Delivery Partner Contract. The Chief Finance Officer had approved Procurement Authority in relation to four matters.

The Committee noted the paper.

09/03/19 Emergency Services Network and Telecommunications Commercialisation Projects

Shashi Verma introduced the paper, which provided an update on the progress of the Home Office funded Emergency Service Network (ESN) project, an update on the Telecommunications Commercialisation Project (TCP) and set out plans for the public pilot of the Public Cellular Network (PCN).

With regard to ESN, TfL had agreed with the Home Office that a further increment of enabling installation work was required to be brought forward into the Phase 1 scope. This would ensure that all cabling infrastructure in TfL's tunnels and a further 10 per cent of total stations cabling works could be completed. The Home Office had agreed and committed funding in principle.

Initial bid submissions for the TCP were expected in summer 2019, following an Invitation to Participate in Dialogue being released in May 2019.

It was proposed that TfL commence a pilot of PCN on the Waterloo & City line and Jubilee line extension, which would make available 4G services from multiple Mobile Network Operators (MNOs); all four MNOs would be invited to participate. Assets built could be adopted by a telecoms partner but there was a small risk a potential

partner may not adopt all of the assets. It was imperative that a decision be made as soon as possible.

The Committee noted the paper and the supplemental information on Part 2 of the agenda and:

- 1 endorsed exploring a change in Emergency Services Network (ESN) delivery approach to that approved by the Committee on 11 October 2018, to align the ESN project with the Telecommunications Commercialisation Project (subject to the Home Office formally agreeing to align delivery routes);**
- 2 approved Financial Authority and Programme and Project Authority, as set out in the paper on Part 2 of the agenda, for a further extension of the ESN Phase 1 infrastructure installation works (subject to full grant funding from the Home Office being agreed for that additional scope of £24.6m through to the end of 2019/20); and**
- 3 approved Programme and Project Authority, as set out in the paper on Part 2 of the agenda, for a project to deliver:**
 - (a) a public pilot of Public Cellular Network services on a section of the Underground which will make 4G services available from multiple Mobile Network Operators; and**
 - (b) the enabling works of additional cabling infrastructure required for PCN services in order to reduce the time between award of the TCP concession and commencement of the first production PCN services.**

10/03/19 Technology and Date Programme and Project Authority for Financial Years 2019/20 and 2020/21

Shashi Verma introduced the paper, which set out the Programme and Project Authority request for the Financial Years 2019/20 and 2020/21. The Authority requested would broadly be spent either on renewals, which is the refresh of assets and infrastructure, or enhancements, through innovation and transformation. Members noted that 68 per cent of the expenditure was planned for renewal of assets and that much of the enhancement expenditure was as a result of assets needing to be renewed.

It was felt that the Programme was not over-programmed and that the Authority request represented the new objectives of the Programme. Shashi Verma told the Committee that he was content that the Programme was in the right place to ensure that there was no maintenance backlog.

The request to defer the iBus programme by a year was largely related to procurement issues and it was not expected to cause issues for people with hearing or visual impairments.

Members supported the idea of the Digital Pocket Map app, which would be shared with the Committee, once a fully functioning version had been created.

[Action: Shashi Verma]

The Committee noted the paper and:

- 1 approved a reduction in Programme and Project Authority of £17.0m for Financial Year 2019/20 and additional £59.8m for Financial Year 2020/21, resulting in net Programme and Project Authority of £42.8m; and
- 2 noted that Procurement Authority for the various initiatives in the Technology and Data Investment Programme described in this paper will be sought at officer level in accordance with Standing Orders.

11/03/19 Surface Technology Programme 2019/20 and 2020/21

David Hughes introduced the item, which set out the strategic case for the creation of the new Surface Technology Programme (STP) within the Surface Transport directorate and the details of the planned investment for the programme in 2019/20.

The STP would be responsible for overseeing the governance of the strategically important technology projects that were being delivered for Surface Transport within the five year TfL Business Plan and, from April 2019, would provide the governance structure for all future technology projects being delivered by Surface Transport. The Committee noted that there were four key investment projects or sub-programmes planned for 2019/20:

- (a) Direct Vision Standard – this project would support the Mayor’s Transport Strategy by helping reduce the danger posed by heavy goods vehicles (HGVs). Any vehicle over 12 tonnes (Class N3) would be required to hold a Safety Permit 1 star rating in order to operate in the Greater London area from October 2020. Twenty-seven Member states of the European Union had approved the plans to adopt the standard earlier than in other European countries;
- (b) Cycle Hire Payment Systems – this project would seek to keep up the momentum of record cycle hire figures by making the software more user friendly by utilising features such as contactless payments. Data protection would also be upgraded;
- (c) Emirates Air Line – the first phase of this project would deliver an enhanced safety critical passenger communication system. The second phase of this project would deliver an on-board CCTV system, in-cabin monitoring and the exploitation of commercial opportunities to bring new revenue streams; and
- (d) Surface Intelligent Transport Systems (SITS) – this sub-programme would deliver the renewal and upgrade of TfL’s traffic management systems. This would unlock additional capacity on the network by reducing journey times and delays. SITS would support the Mayor’s Healthy Streets agenda by providing more signal green-time to sustainable transport modes, reducing emissions by improving traffic flow, improving bus journey time and efficiency, and reduce collisions through prioritisation of vulnerable transport modes.

Members asked whether the governance structure was too complex for a programme of this size. The Committee was assured that the governance structure would ensure that decisions could be made at the most appropriate level and that not all projects would go all the way through the chain of governance.

Jonathan Simcock told the Committee that IIPAG felt that the STP would support quality of sponsorship for the projects.

The Committee noted the paper, including the strategic case for the Surface Technology Programme, and:

- 1 approved Programme and Project Authority of £41.1m for the financial year 2019/20;**
- 2 approved Programme and Project Authority of £36m for the financial year 2020/21;**
- 3 approved Programme and Project Authority of £8.1m for committed financial spend; and**
- 4 noted that Procurement Authority for the various initiatives in the Investment Programme described in this paper will be sought at the appropriate level.**

12/03/19 Air Quality Management

David Hughes introduced the paper, which provided an update on the delivery of the Ultra Low Emission Zone (ULEZ) expansion project and set out the authorities necessary to take the project to design stage.

The Committee noted that the Air Quality Management (AQM) Programme would reduce the impact of transport on air quality and climate change, through the delivery of the ULEZ Central in 2019 and the ULEZ Expansion in 2021. From its implementation in October 2021, the expansion of the ULEZ to the North and South Circular would remove 4,360 tonnes of NO_x from Inner and Outer London by 2025.

The Authority request would allow the AQM Programme to progress to concept designs for Business Operations Services and Enforcements Operations Services, through to December 2019.

The Committee noted the paper and:

- 1 approved an additional £30m of Programme and Project Authority to enable the Air Quality Management Programme to progress to concept design and into detailed design;**
- 2 approved the additional Procurement Authority request for £10m, giving a total Procurement Authority of £234m, to enable the AQM Programme to progress through concept design and into detailed design; and**
- 3 approved the transfer of Programme and Project Authority of the Ultra Low Emission Zone Expansion 2021 into the new AQM Programme from the Air Quality and Environment portfolio.**

13/03/19 Crossrail 2

Michèle Dix introduced the paper, which set out the 2019/20 business plan for Crossrail 2 and sought an increase in Programme and Project Authority to support the development activities of £9.63m.

In his budget in November 2017, the Chancellor of the Exchequer endorsed an Independent Affordability Review (IAR) of the funding and financing of the scheme, which was concluded in July 2018. The Government was now considering the results of the IAR and would decide on the case for the project at the 2019 Spending Review.

In order to make efficient use of time until the 2019 Spending Review, the TfL Scheme Development team was working with Network Rail to produce an updated configured design, which would allow a re-estimated capital cost to be derived. The Integrated Project Team would pursue value engineering opportunities and undertake reactive design work to continue engagement with major stakeholders.

Members asked whether any issues had arisen owing to the safeguarding of land. Michèle Dix told the Committee that safeguarding land was sometimes problematic because land that should be safeguarded was not and vice versa. TfL was talking to the DfT regarding the issue.

The Committee noted the paper and approved a revised Programme and Project Authority of £117.27m for the Crossrail 2 Programme.

14/03/19 London Underground Major Stations Programme

David Hughes introduced the paper, which provided an update on the progress of the London Underground (LU) Major Stations Programme and requested an increase in Procurement Authority for the Bank Station Capacity Upgrade. The Chair told the Committee that he had accepted an addendum to the paper on Part 2 of the agenda, relating to additional Procurement Authority for Bond Street station, as the agreement on costs had been concluded with the contractor after the papers for the meeting had been issued.

The LU Major Stations Programme had been running for over 10 years and had successfully delivered upgrades at Tottenham Court Road, Bond Street, Victoria, Vauxhall and Bank stations. The Programme supported the Mayor's Transport Strategy objective to ensure a world-class experience by providing increased capacity, maintaining operational resilience at key interchanges and supporting local area regeneration. Overall, the Programme was on schedule to be delivered for £77m under its Programme and Project Authority, despite cost pressures on the Bank Station Capacity Upgrade project.

Victoria became the 75th station on the network to be completely step-free; customers were able to travel step-free between the mainline station, the street and the Victoria, Circle and District lines. Seven new lifts had been installed as part of works to double the size of the station and the final Underground station works would be completed in summer 2019.

A new dedicated entrance to the Waterloo & City line had opened at Bank Bloomberg Place, which has increased capacity at Bank station and reduced rush hour overcrowding. A number of risks had materialised on the Bank Station Capacity Upgrade project, including commercial contract risks, commitments with building owners and prolongation events. This resulted in the estimated final cost increasing from £607m to £655.7m. This had been accommodated within the existing Programme and Project Authority but an increase in Procurement Authority was requested in order to manage TfL's obligation under the delivery contract.

Step-free access to the Central line at Bank station had not been included in the original scope for the project, owing to concerns over the degree of technical and engineering challenges that would need to be overcome, including the curvature of the Central line platforms, and the proximity of other interchange stations in the City of London. A feasibility study had been commissioned to explore options for step-free access to the Central line. A viable technical option, for street to platform step-free access, had been identified but at an estimated cost of £30m. Members asked that further stakeholder engagement be carried out to determine whether step-free access to the Central line should be delivered. **[Action: Stuart Harvey]**

The Committee noted the paper and the supplementary paper and addendum on Part 2 of the agenda and approved the additional Procurement Authority for the Bank Station Capacity Upgrade as detailed in the paper and addendum on Part 2 of the agenda.

15/03/19 London Underground Renewals and Enhancements Signalling and Control

David Hughes introduced the paper, which set out a request for Programme and Project Authority for the London Underground Renewals and Enhancements Signalling and Control Programme in 2019/20. The paper represented a rethinking of signalling strategy, in light of decisions made on the Deep Tube Upgrade Programme.

Since the last authority request to the Committee in May 2018, the Piccadilly Line Interim Control System Upgrade project had successfully installed and commissioned the interim control system across half of the line. This would progressively transfer control of the line to the purpose refurbished TfL owned building in South Kensington. The Authority sought would enable commissioning of the remaining sections of the line, planned to be commissioned in July and September 2019, and allow assets, such as information displays on platforms and in ticket halls, to be brought back into use.

Signal lamps had begun to be replaced by LED units as part of the Piccadilly line life extension works, which would reduce the need for staff to access the track and improve safety.

Members noted that investment in signalling and controls was vital in ensuring the ongoing safety and operation of the lines.

The Committee noted the paper and approved additional Programme and Project Authority of £2.3m (Outturn including risk) for the London Underground Renewals and Enhancements Signalling and Control Programme in order to further improve safety and reliability.

16/03/19 London Underground Renewals and Enhancements Fleet

David Hughes introduced the paper, which set out a request for the Programme and Project Authority for the London Underground Renewals and Enhancements Fleet Programme in 2019/20. The Authority requested would allow TfL to maintain the performance of the fleet on the Bakerloo, Central and Waterloo & City lines; fund the Train Modification Unit workshop, modification of Central line passenger rolling stock; and to develop early stage propositions for engineering vehicles, which were core to the Programme.

The Committee noted the paper and approved additional Programme and Project Authority of £118.5m (Outturn including risk) for the London Underground Renewals and Enhancements Fleet Programme in order to further improve safety, reliability and accessibility.

17/03/19 Northern Line Extension

David Hughes and Stuart Harvey introduced the paper, which sought approval from the Committee to enter into a Deed of Variation (DOV2) to the Land and Works Agreement (LWA) and Common Terms Agreement (CTA) relating to the Northern Line Extension (NLE) project between TfL and Battersea Project Holding Company Limited (BPS).

TfL had entered into a suite of agreements with BPS and its associated companies in April 2014, including the LWA, which were based on BPS's over-site developments (OSD) scheme that had been approved by Wandsworth Council in 2012. Since 2014, the designs for the BPS OSD scheme and the Tube station beneath it had evolved and required a re-work of the designs. Discussions between TfL and BPS were ongoing, in relation to revising the worksites and associated rights to enable the revised designs to be delivered.

The Committee noted the paper and the related paper on Part 2 of the agenda and:

- 1 approved the entry into the Deed of Variation to the Common Terms Agreement and Land and Works Agreement with the developer of the Battersea Power Station (and/or its associated companies), substantially as described in the related paper on Part 2 of the agenda;**
- 2 approved the entry into an agreement with LUL's contractor to back-off the relevant obligations and impacts of the Deed of Variation under its Design and Build Contract;**

(together the "Revised Arrangements")

3 subject to the above approvals:

- (a) delegated to the TfL Officers and the Subsidiaries (as described below) the authority to agree and finalise the terms of the Revised Arrangements;**
- (b) authorised the agreement and execution (whether by deed or otherwise on behalf of TfL or any Subsidiary (as appropriate)) of any documentation to be entered into in connection with the completion and implementation of the Revised Arrangements; and**
- (c) authorised TfL Officers and Subsidiaries to do all such other things as they consider necessary or desirable to facilitate the execution and implementation of the Revised Arrangements and the matters referred to therein.**

4 The following Officers and Subsidiaries shall have delegated authority:

- (a) TfL Officers: the Commissioner, Chief Finance Officer, Managing Director London Underground and General Counsel; and**
- (b) Subsidiaries: Subsidiaries of TfL including Transport Trading Limited and any other subsidiary (whether existing presently or to be formed) of Transport Trading Limited and any of the directors of the relevant company shall be authorised to act for and on behalf of that company.**

18/03/19 Members Suggestions for Future Discussion Items

Howard Carter introduced the paper and the Committee's updated forward programme.

The Committee noted the paper.

19/03/19 Any other Business the Chair Considers Urgent

There was no urgent business.

20/03/19 Date of Next Meeting

The next scheduled meeting of the Committee would be held on Wednesday 15 May 2018 at 10.15am.

21/03/19 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:

Emergency Services Network; London Underground Major Stations Programme; and Northern Line Extension.

The meeting closed at 12.20pm

Chair: _____

Date: _____

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Programmes and Investment Committee



Date: 15 May 2019

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 Programmes and Investment Committee.

Contact Officer: Howard Carter, General Counsel

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Programmes and Investment Committee Action List (reported to the meeting on 15 May 2019)

Actions from the meeting of the Programmes and Investment Committee held on 6 March 2019

Minute No.	Description	Action By	Target Date	Status note
05/03/19	Crossrail Update Mark Wild invited the Committee to visit Crossrail offices.	Secretariat	May 2019	Briefing arranged. Additional dates being sought.
10/03/19	Technology and Data Programme and Project Authority for Financial Years 2019/20 and 2021/22 Members liked the idea of the Digital Pocket Map app and asked whether it could be shared, once a fully functioning version had been created.	Shashi Verma	July 2019	In progress.
14/03/19	London Underground Major Stations Programme Members asked that further stakeholder engagement be carried out to determine whether step-free access to the Central line [at Bank station] should be delivered.	Stuart Harvey	October 2019	In progress.

Actions from previous meetings of the Committee

Minute No.	Description	Action By	Target Date	Status note
76/12/18	<p>Air Quality and Environment Programme 2018/19 The Committee asked that consideration be given to how TfL, as a broader organisation, ensured that it reduced emissions in all areas of the business. An update on the milestones and how TfL was reducing emissions across the business and work towards the MTS 2050 Zero Carbon target would be provided in early 2019.</p>	David Hughes	May 2019	A paper has been submitted on this agenda, at Item 10.
38/07/18	<p>TfL Growth Fund The Committee requested that future updates include details on how projects and the benefits derived were monitored and evaluated.</p>	Alex Williams	March 2019	A paper on the Growth Fund is on the forward plan (July 2019).
45/07/18	<p>Member suggestions for future agenda discussions The Committee requested that the following information be provided at future Committee meetings:</p> <ul style="list-style-type: none"> (a) Information on the Northern and Bakerloo line extensions; (b) Oxford Street; (c) Rotherhithe to Canary Wharf Crossing; (d) The interactions between TfL and HS2 systems; (e) Potential issues arising from the expansion of Heathrow Airport, particularly unforeseen cost for Surface Transport; and (f) Information on the overall schedule of work for TfL to be included in the Investment Programme Report. 	Secretariat	Ongoing	<ul style="list-style-type: none"> (a) Complete. (b) On forward plan. (c) Complete. (d) On forward plan (July 2019). (e) On forward plan (July 2019) (f) Complete.

Minute No.	Description	Action By	Target Date	Status note
25/05/18	<p>London Underground Legacy Signalling and Information The Committee requested a future discussion on the use of innovative technology for signalling upgrade works, such as 5G.</p>	David Hughes	Ongoing	This work is being progressed with the development of future signalling strategies and upgrades. An update will be provided to a future meeting.
13/02/18	<p>Member suggestions for future agenda discussions Members were keen to better understand what mechanisms and procedures were in place to drive and demonstrate greater value in the delivery of its investment programme. TfL was undertaking an end to end review of project lifecycles to identify how it could identify opportunities and cultural changes to drive better value. An update would be provided to the Committee when this work was better developed.</p>	Stuart Harvey	Ongoing	In progress. An update will be provided to a future meeting.
19/03/17	<p>Member suggestions for future agenda discussions Members requested that officers consider how investment and cost profiles, and the funding for them, best be shared with Members going forward.</p>	David Hughes	Ongoing	Complete. This has been addressed through Business Plan discussions and regular deep dive briefings.

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Programmes and Investment Committee



Date: 15 May 2019

Item: Crossrail Update

This paper will be considered in public

1 Summary

- 1.1 On 25 April 2019, Crossrail Limited (CRL) announced a new plan to complete the outstanding works and bring the Elizabeth line into passenger service at the earliest possible date. A six-month delivery window with a midpoint at the end of 2020 was identified.
- 1.2 Once the central section opens, full services across the Elizabeth line from Reading and Heathrow in the west to Abbey Wood and Shenfield in the east, will commence as soon as possible.
- 1.3 CRL also announced that the central section works are expected to be delivered within the funding package agreed by the Mayor, Government and TfL in December 2018.
- 1.4 Under the terms of the Crossrail Project Development Agreement, CRL has issued Sponsors (Department for Transport and TfL) with a Change Notice to update the Stage 3 opening date within the Sponsors Requirements. On 27 March 2019, the Board delegated authority to the Committee to take decisions on matters reserved to the Board in relation to the Crossrail Project and this paper provides an overview of the change and invites the Committee to approve the change.
- 1.5 This paper provides an update on the status of the Crossrail Project and the readiness of the Infrastructure Managers, Rail for London Infrastructure Limited (RfLI) and London Underground (LU), for the operations and maintenance of the railway after handover from the Crossrail project.
- 1.6 In addition, the paper provides an update on the actions being taken by Crossrail Sponsors and CRL in response to two of the reviews undertaken for the Sponsors by KPMG.

2 Recommendation

- 2.1 **The Committee is asked to note the paper and, acting under the authority delegated by the Board, approve the change set out in this paper to the Sponsors Requirements in the Project Development Agreement providing for a new Stage 3 opening date of 'September 2020 to March 2021'.**

3 Change to Sponsors Requirements

- 3.1 On 25 April 2019, CRL announced a revised opening plan for the opening of Crossrail and commencement of Elizabeth line services. This plan replaces the December 2018 opening date affirmed in the Sponsors Requirements and is an update to the autumn 2019 opening date provisionally announced in August 2018.
- 3.2 The plan includes:
- (a) a six-month delivery window with a midpoint at the end of 2020;
 - (b) central section opening between Paddington and Abbey Wood initially operating at 12 trains per hour during the peak; and
 - (c) an expectation that all stations on the route will open except for Bond Street which is delayed because of design and delivery challenges.
- 3.3 In accordance with the requirements of the Project Development Agreement (PDA), CRL has issued Sponsors with a Change Notice to update the Sponsors Requirement in the PDA on the introduction of Crossrail services with this new Stage 3 opening date of 'September 2020 to March 2021' noting the delay in the opening of Bond Street station.
- 3.4 The change to Sponsors Requirements refers only to the Crossrail Stage 3 opening date and does not include changes to subsequent stage opening dates, handover and the Target Final Delivery Date (the date of Substantial Completion of the final Element). Further changes to the PDA are expected to be required under separate Change Notices following the development of Crossrail's detailed schedule and revised baseline.
- 3.5 Sponsors' representatives have considered the request for change and are content that it should proceed for approval as an amendment to the Sponsors Requirements.

4 Crossrail update

- 4.1 Health and safety performance remains within targets; however there has been an increase in the number of safety related incidents across the project in terms of near misses and accidents. Each of these incidents has been investigated with no single root cause identified. As a consequence, a communication campaign reinforcing the importance of adhering to safety processes and procedures has been developed. CRL is also planning a "Stepping Up Week", focusing on the key safety issues facing the project.
- 4.2 As the completion work proceeds, CRL will be providing Londoners with regular progress updates, and increasingly specific estimates of when the Elizabeth line will open. CRL has put in place a new visual management system to monitor progress by the contractors and the supply chain so that issues are addressed as quickly as possible.
- 4.3 There are four major tasks that must be completed:
- (a) building and testing the software to integrate the train operating system with three different signalling systems;
 - (b) installing and testing vital station systems;

- (c) completing the installation of the equipment in the tunnels and test communications systems; and
 - (d) trial running the trains over many thousands of miles on the completed railway to resolve any problems and ensure the highest levels of safety and reliability when passenger service begins.
- 4.4 CRL expects that the remaining fit-out and systems installation in the stations and tunnels will be completed this year. This will allow the new stations and rail infrastructure to be integrated with the rest of the railway. CRL also expects that Bombardier Transportation and Siemens will complete development of the train and signalling software this year allowing the train control system to be fully tested.
- 4.5 At many stations, work is underway to complete the final fit-out and testing of key systems. Each Elizabeth line station has over 50 km of communications cabling, 200 CCTV cameras, 66 information displays, 200 radio antennas, 750 loudspeakers and 50 help points. All this technology needs to be fully installed, tested and integrated.
- 4.6 Dynamic testing of the trains in the tunnels has continued with intensive work to increase the reliability of the train software to enable trains to successfully operate across the three signalling systems. Trains have been operating at line speed (100 kph / 62 mph) in the central section using the new automatic signalling system and close-headway multi-train testing, which was delayed due to software process issues from March 2019, should soon get underway.
- 4.7 The plans to deliver Stage 5A (a TfL Rail service between Paddington main line station and Reading) are progressing for commencement in December 2019. Network Rail has now appointed a contractor to install platform cameras and are finalising their schedule to deliver the platform extensions. The delivery of the full-length rolling stock on the western route is progressing and forms part of a reliability growth programme to prepare the fleet for operations in the central section.

5 Operational Readiness

- 5.1 The new Maintenance Management Centre at Plumstead will be ready for occupation in June 2019 and the RfLI teams have already located to interim facilities on-site to allow for familiarisation. Training and familiarisation continues although transfer of asset and maintenance information from contractors continues to be slower than planned. The Tunnel and Underground Construction Academy is being used for track asset training, as well as for RfLI maintenance teams to support Crossrail contractors to complete outstanding asset overhead lines and signalling work.
- 5.2 The training of RfLI Traffic Managers, Incident Response Managers and Service Infrastructure Managers continues by using signalling and power systems simulators and desk top exercises. More of the functionality of the systems is now available on the simulators but simulator reliability concerns remain and are being addressed. The RfLI managers are now starting to be engaged in support of the wider Dynamic Testing programme, including providing communication links on-board the trains and working with testers in the Romford Control Centre to observe and support train signalling.

- 5.3 The LU Revenue Service and Handover Readiness Plan includes route maps, processes and measures which enables LU to accept the five central section stations for which LU will become Infrastructure Manager. The plan is being updated to align with the revised approach to delivering the Elizabeth line recently announced by CRL, including the introduction of a Stage Completion milestone before handover.
- 5.4 A Maintenance Arrangement Protocol has been produced which documents the respective maintenance responsibilities of LU and CRL between Staged Completion and Handover. Seventy per cent of the required classroom-based training of maintenance staff was completed in 2018. Training for some of the new systems and for all aspects of Bond Street station has yet to be completed. On site familiarisation will be undertaken for four weeks leading up to Stage Completion. Plans are in the process of being developed for this and will be completed as part of the Maintenance Readiness Plan.
- 5.5 The LU resourcing plan for operational staff was paused in August 2018 following the delay announced by CRL and will be updated once the Stage Completion dates are known for each station.

6 KPMG update

- 6.1 Sponsors continue to work with CRL to implement the recommendations made by KPMG following the governance and finance/commercial reviews of the project.
- 6.2 Changes to the Crossrail Board and executive team are now in place as well as a new independent Sponsor Board member. A paper on appointments to the Crossrail Board is included as a separate item on the agenda for this meeting. CRL is taking further action to finalise its Integrated Assurance Framework. This will provide greater visibility of risks and provide confidence in delivering their revised schedule, in addition to facilitating early identification of issues.
- 6.3 Sponsors and CRL are now preparing a joint close-out report on the actions that have been taken following the reviews for presenting to the TfL Audit and Assurance Committee on the 10 June 2019.
- 6.4 Action has now been taken on 57 of 59 of the governance recommendations, and action has also been taken on 64 of 67 of the finance/commercial recommendations. Of the actions outstanding or partially complete, many are reliant upon the availability of Crossrail's revised schedule and cost baseline and are on target to be finalised or have full plans in place by the end of May 2019.

List of Appendices:

None

List of Background Papers:

Letter from Crossrail Limited to Sponsors, Change Notice to update the Stage 3 opening date within the Sponsors Requirements

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 Contact Officer: David Hughes, Investment Delivery Planning Director
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Programmes and Investment Committee



Date: 15 May 2019

Item: Crossrail Limited Board Appointments

This paper will be considered in public

1 Summary

- 1.1 On 27 March 2019, the Board delegated authority to the Programmes and Investment Committee to take decisions on matters reserved to the Board in relation to the Crossrail project, including the appointment of further non-executive directors.
- 1.2 This paper provides an update on the membership of the Crossrail Limited (CRL) Board, including the use of Chair's Action to appoint a further TfL nominated non-executive director and seeks approval to extend the appointment of two TfL Members as TfL nominated non-executive directors for a further year.

2 Recommendations

- 2.1 **The Committee is asked to note the paper and, under the authority delegated by the Board on 27 March 2019, to extend the appointments of Anne McMeel and Dr Nelson Ogunshakin OBE as TfL Sponsor nominated non-executive directors to the Crossrail Limited Board from 2 September 2019 to 2 September 2020.**

3 Crossrail Limited Board

- 3.1 CRL is a subsidiary of TfL, created to deliver the construction and upgrading of the railway infrastructure which we will operate and maintain as the Elizabeth line, as set out in the Crossrail Project Development Agreement.
- 3.2 The Sponsors Agreement between TfL and the Department for Transport (DfT), and the Shareholders Agreement between TfL, Transport Trading Limited and CRL each set out the requirement for an independent board until the Operations Commencement Date.
- 3.3 A number of changes were made to the CRL Board from 1 July 2018 to increase the number of Sponsor nominated non-executive directors in place of independent non-executive directors, whose terms of office had expired.

Appointments to the Crossrail Limited Board

- 3.4 On 23 May 2018, following discussion with the Mayor, the Board appointed Anne McMeel and Dr Nelson Ogunshakin OBE as TfL Sponsor non-executive directors to the CRL Board from 1 July until 1 September 2019.
- 3.5 Following the announcement by CRL on 31 August 2018 of the delay to the opening of the Elizabeth line, the governance of CRL has been strengthened including the appointments of a new leadership team and a new Chair and Deputy Chair. Other changes at Board level have included the re-establishment of the Audit Committee, with Anne McMeel as its Chair and the establishment of an Investment Committee with Dr Nelson Ogunshakin OBE as its Chair.
- 3.6 To provide both CRL and the TfL nominees with greater certainty, it is proposed that the appointments of Anne McMeel and Dr Nelson Ogunshakin OBE as TfL nominated non-executive directors to the Board of CRL be extended until 2 September 2020 (coterminous with their terms of office as TfL Board Members).
- 3.7 As reported in the paper on the Use of Delegated Authority elsewhere on the agenda, on 16 April 2019, the Chair of the Committee, following consultation with available Members of the Board, approved the appointment of Sarah Atkins as a further TfL nominated non-executive director of Crossrail Limited for the remainder of the Crossrail project.

Appendices to this paper

None

Background Papers

Paper to the Board on Board Appointments on 23 May 2018

Paper to the Board on Crossrail Limited on 27 March 2019

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Date: 15 May 2019

Item: Update on Major Projects and Sub-Programmes

This paper will be considered in public

1 Summary

- 1.1 This paper provides a summary of the key outputs of major projects and sub-programmes in the quarter, covering the period December 2018 to March 2019. This paper provides an update to the Committee on the progress of major projects and programmes, as the timing of the meeting is prior to the conclusion of the production and verification process for the full Quarter 4, 2018/19 Investment Programme Report.
- 1.2 The full Quarter 4, 2018/19 Investment Programme Report, which describes the quarterly progress and performance of a range of projects that will deliver world-class transport services to London, will be presented to the Committee on 17 July 2019.

2 Recommendation

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

3 Updates

Line upgrades

- 3.1 The first section of the new signalling system on the Four Lines Modernisation programme was successfully introduced earlier this year and is now operating between Hammersmith and Latimer Road, the first part of the network to benefit from the improvements. The performance since introduction has been better than predicted based on reliability recorded during systems testing.
- 3.2 The new signalling system will transform the oldest parts of the network into one of the most modern railways in the world, providing better customer information and making journeys quicker and more comfortable. When complete, the signalling system will lead to a capacity increase of a third on the four lines, equivalent to the space for an extra 36,500 customers during peak times.

Network extensions

- 3.3 We awarded the contract to a joint venture of Morgan Sindall Construction and VolkerFitzpatrick (MSVF) to extend the London Overground to Barking Riverside. The 4.5km extension of the Gospel Oak to Barking line, is an intrinsic part of the Barking Riverside Development, that will become home to one of London's most

significant housing developments. The delivery of the extension will support up to 10,800 new homes.

3.4 Under the contract, MSVF will deliver:

- (a) a 4.5km extension to Barking Riverside, from the Tilbury Loop Line between Barking and Dagenham Dock stations to Barking Riverside;
- (b) reconfiguration of Network Rail's Ripple Lane goods yard to allow the extension to connect to the Tilbury Loop;
- (c) construction of a viaduct over the Ripple Lane yard. This will require the viaduct to be built over the Tilbury Loop and foundations constructed between the HS1 tunnels;
- (d) continuation of the viaduct for a further 1.5km over Renwick Road and into the heart of Barking Riverside; and
- (e) construction of a new terminus station within the Barking Riverside town square. The station will have step-free access from street to train.

3.5 Following contract award, the focus has been on mobilisation of the joint venture team; completing environmental surveys, whilst securing planning approvals for the viaduct and new station and establishing structural monitoring on the High Speed 1 tunnels - which the new link will cross. We have removed redundant wagons from the site, undertaken initial ground works including test piling and laid 200m of new track. Readiness reviews are being undertaken to support the critical Network Rail possessions and blockade planned for later this year.

3.6 On the Northern Line Extension, installation of all running track is complete, enabling deliveries by engineering trains to be made further into the extension. The installation of the conductor rail and wider station fit-out is underway.

Major Stations

3.7 The modernisation of Bank Tube station reached a significant new milestone, with the first breakthrough between a new entrance on Cannon Street and the newly constructed Northern line tunnel. The breakthrough will make further construction work easier, helping to ensure the important upgrade is delivered by 2022.

3.8 Bank and Monument stations are interlinked, with an incredibly complex array of underground tunnels and surrounded by a number of historically important buildings above ground, making the upgrade work difficult and complicated. Engineering and construction teams have been working at two separate sites, 24 hours a day underground, since 2016 to excavate over 1000m of tunnels and build a new station entrance. An escalator will run through the tunnel that was broken through, enabling customers to enter and exit the station more easily. A new southbound tunnel has been constructed in order to convert the existing tunnel into a customer concourse.

- 3.9 The upgrade project will also deliver 12 new escalators, with a new link between the Central and Northern lines, as well as the DLR. Two new lifts will open, providing step-free access to the Northern line for the first time and improved step-free access to the DLR. Direct routes will be created between the Northern and Central lines, with two new moving walkways helping to cut journey times.
- 3.10 A new entrance to the Waterloo & City line on Walbrook is already easing congestion on the key route between the City and Waterloo station every morning.

London Underground – Stations

- 3.11 Finsbury Park Underground station became step-free in January 2019. The new lifts will provide step-free access to the Piccadilly and Victoria lines as well as to platforms in the Network Rail station. The Finsbury Park upgrade will also deliver a new, larger entrance on the western part of the station which will create a new, alternative step-free route when completed. New ticket gates and a larger staircase have already been installed.
- 3.12 South Woodford Underground station on the Central line became fully step-free in March 2019. Previously it was only step-free for customers using the eastbound entrance for services to Epping. With the installation of a new ramp at the westbound entrance, the station has become step-free for customers travelling into central London as well. South Woodford is the 78th Underground station to become step-free and the third of five stations on the eastern section of the Central line being made step-free by 2020.
- 3.13 As part of the fire strategy, we have provided an additional fire escape. We also upgraded the lighting system, installed improved signage and repaired the station building

Surface – Direct Vision Standard

- 3.14 In January, we launched the final public consultation on our world-first Direct Vision Standard proposals, which will tackle road danger at its source by eliminating Heavy Goods Vehicles' (HGVs') blind spots that are the cause of so many tragic deaths and life-changing injuries. The Direct Vision Standard, and associated Safety Permit for HGVs that have retrofitted a Safe System, will reduce road danger for people across the capital.
- 3.15 The European Commission has followed London's lead by including direct vision in the revised General Safety Regulation, which is the leading piece of EU road safety legislation.

Surface – Air Quality and Environment

- 3.16 April saw the launch of the central London Ultra Low Emission Zone (ULEZ). The ULEZ operates 24 hours a day, seven days a week across the current Congestion Charge Zone. There are two charge levels: £12.50 a day for cars, vans and motorbikes and £100 a day for lorries, buses and coaches.

- 3.17 Two weeks after the launch of the ULEZ in central London, further measures to reduce toxic air in the capital's most polluted areas have been taken by introducing three new Low Emission Bus Zones (LEBZ). The three zones, in Lewisham, Stratford and Edmonton, cover more than 1,330 buses across 79 different bus routes. Only buses that meet the cleanest emission standards operate within the new LEBZs, which have been delivered through a combination of new and retrofitted vehicles. This takes the total number of clean buses introduced as a result of the LEBZ to more than 3,000.

Post quarter news

- 3.18 In April 2019, Crossrail Limited (CRL) announced it had identified a six-month delivery window with a midpoint at the end of 2020.
- 3.19 The central section of the Elizabeth line will open between Paddington and Abbey Wood and link the West End, the City of London, Canary Wharf and southeast London with initially 12 trains per hour during the peak.
- 3.20 It is expected that all stations on the route will open except for Bond Street which is delayed because of design and delivery challenges. CRL is working closely with Costain Skanska Joint Venture to ensure the station is ready to open at the earliest opportunity.
- 3.21 Once the central section opens, full services across the Elizabeth line from Reading and Heathrow in the west to Abbey Wood and Shenfield in the east, will commence as soon as possible.

List of appendices to this report:

None

List of Background Papers:

None

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Programmes and Investment Committee



Date: 15 May 2019

Item: Independent Investment Programme Advisory Group –
2019/20 Workplan

This paper will be considered in public

1 Summary

- 1.1 This paper attaches the Independent Investment Programme Advisory Group (IIPAG) workplan for 2019/20 for the Committee's consideration, before it is submitted to the Audit and Assurance Committee for approval.

2 Recommendation

- 2.1 **The Committee is asked to note and provide comments on the Independent Investment Programme Advisory Group's 2019/20 workplan.**

3 Background

- 3.1 IIPAG's Terms of Reference require that IIPAG produce an annual workplan and this be reviewed twice per year by the Committee and the Audit and Assurance Committee. The workplan is approved by the Audit and Assurance Committee.
- 3.2 IIPAG's workplan for 2019/20 has been developed following discussions with TfL senior management and is attached as Appendix 1 for the Committee's consideration. The workplan is affordable and keeps within the IIPAG budget. It will be presented to the Audit and Assurance Committee for approval on 10 June 2019, along with any comments from this Committee.
- 3.3 Progress with delivery of the workplan will be reported quarterly to both Committees.

List of appendices to this report:

Appendix 1 – 2019/20 IIPAG Workplan

List of Background Papers:

IIPAG Terms of Reference

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IIPAG WORKPLAN 2019/20

1. Introduction

IIPAG's role is to provide third line assurance and strategic advice in the following areas of TfL's investment programme:

- Sub-programme (SP) reviews
- Project Assurance Reviews (PARs) for individual projects over £50m, either at key gate stages or as an annual check
- On-going scrutiny of the most significant major projects such as 4LM
- One-off or continuous reviews of strategic and systemic issues, including benchmarking.

IIPAG will prepare quarterly reports and attend the Programmes and Investment Committee and the Audit and Assurance Committee, and will attend most Executive governance meetings – Investment Committee, and the London Underground and Surface Transport Investment Boards. IIPAG's budget for 2019/20 is the same as in 2018/19, at £395,000. This broadly translates into 395 days' work.

2. Sub-programme and Project Reviews

In the past IIPAG has participated in reviews of all SPs and projects over £50m, alongside the PA team. For the coming year we propose to adopt a risk based approach so that IIPAG's input is focussed more on the higher risk SPs and projects, with the lower risk SPs and projects being subjected only to second line assurance through the Project Assurance (PA) team.

With advice from PA we have reviewed the riskiness of all SPs and projects. For SPs we have also considered whether our input is most valuable at the SP level or whether in some cases it would be more valuable for us to focus just on specific projects within the SP. As a result of this consideration our approach to SP reviews in 2019/20 will be as follows.

	Number of SPs
Total number of TfL SPs including HS2 and Growth Fund	24
Number of SPs which IIPAG will review at SP level	15
Number of SPs where IIPAG will undertake project level reviews	6
Number of SPs with no IIPAG input	3

A similar risk based approach is proposed for projects within SPs. In addition IIPAG will undertake reviews of Crossrail On Station Improvement Programme and Crossrail 2 which are not currently classified as SPs. Further details of proposed IIPAG reviews are provided in Appendix 1. We estimate standard reviews will consume around 155 days. In certain cases more in depth reviews may be needed, possibly requiring us to draw in external experts. We are reserving up to 45 days for deep dive work.

Risk categorisations will be kept under review, and should these change IIPAG will adapt its programme accordingly.

INDEPENDENT INVESTMENT PROGRAMME ADVISORY GROUP

3. Crosscutting Reviews and Continuous Assurance

We have identified a number of areas which we consider would benefit from consideration on a more cross-cutting basis. These are:

- Benchmarking
- Business planning
- Transformation including commercial transformation
- Commercial Development assurance processes
- Project initiation
- PMO - management reporting and effectiveness of PMO
- Value for money including TfL Standards
- Effectiveness of first and second lines of defence
- Cost performance

In some of these areas (such as PMO and cost estimating) TfL is already planning or undertaking work itself, and IIPAG's role may be provision of advice and continuous assurance. In other cases IIPAG will undertake a one-off/annual review (eg benchmarking).

In addition we have discussed the Internal Audit (IA) workplan with the Head of IA, and have noted a number of IAs which we will keep close to, in order to provide input where appropriate, or to inform our own work. These are:

- Procurement governance
- Risk Management Framework
- Management information reporting suite
- City Planning estimating and forecasting process
- Cost escalation in projects
- Engineering operating model

We are allocating c100 days for cross-cutting activities. The scope and nature of this work will be refined during the year.

4. Summary of Workplan

In summary, IIPAG expects to allocate its resources as follows:

	Planned days
SP and project reviews, standard	165
Deep dive SP and project reviews	45
Cross cutting issues	100
Attendance at meetings etc	50
Currently unallocated days (contingency)	35
Total	395

INDEPENDENT INVESTMENT PROGRAMME ADVISORY GROUP

Appendix I Standard IIPAG reviews

Sub-programme	Projects reviewed by IIPAG	Indicative Resource Estimate (days)
IIPAG Involved in Sub-Programme Reviews		
1. 4LM	4LM	10
2. Air Quality Management	ULEZ extension Pontoon	5
3. Healthy Streets	Borough Cycling (Central London Grid, Cycling Quietways, Mini Hollands) Cycling Future Routes Liveable Neighbourhoods Old Street roundabout Parliament Square Rotherhithe to Canary Wharf	30
4. LU Stations including Step Free Access programme	Asset Resilience Civils, Bridges, Structure Earth Structures Accessibility programme Elephant and Castle	10
5. Deep Tube Upgrade Programme	Piccadilly Line (PL) Rolling Stock PL Signal and Train Control PL Depots PL Operating Control System	5
6. Northern Line Extension	NLE	3
7. Silvertown Tunnel	Silvertown Tunnel	4
8. Surface Technology	IBus 2	3
9. DLR Rolling stock including depots	DLR Rolling Stock Replacement	3
10. Bakerloo Line Extension including signalling upgrade	BLE Upgrade and Extension	6
11. HS2	HS2 Euston Station works	6
12. Air Quality & Environment	ULEZ Central	3
13. Technology & Data	Emergency Services Network (ESN) Telecommunication Commercialisation	5
14. LU Lifts & Escalators	Lifts and Escalators Programme	2
15. Barking Riverside Extension	Main Works Contract	3
No IIPAG Sub-Programme review. Project reviews only.		
16. Surface Asset	Structures and Tunnels Infrastructure Programme (STIP) 2 – Rotherhithe Tunnel STIP 2 – Vauxhall Bridge	2

INDEPENDENT INVESTMENT PROGRAMME ADVISORY GROUP

17. Major Stations	Bank Upgrade Holborn (Paused) Camden (Paused subject to developer agreement)	6
18. Public Transport	Sutton Link Thamesmead Link	4
19. Renewals & Enhancements Fleet	Central Line Improvement Programme Train Maintenance Unit shed	5
20. LU Signalling & Control	Review signalling strategy	2
21. LU Track Renewals	Track and Drainage Programme - review through continuous assurance	2
Other projects being reviewed by IIPAG		
22. Crossrail (TfL)	ONSIP	2
23. Crossrail 2	Crossrail 2	4
No IIPAG Involvement		
24. TfL Growth Fund		0
25. World Class Capacity		0
26. LU Power		0
Total		125

Add estimated days for report writing: 40 days

Total days on sub-programme and project reviews c 165 days

Programmes and Investment Committee



Date: 15 May 2019

Item: Use of Delegated Authority

This paper will be considered in public

1 Summary

- 1.1 This is a standing item on the agenda to inform the Committee of any use of delegated authority since the last meeting of the Committee through Chair's Action or of Procurement Authority and Programme and Project Authority (in respect of matters within the Committee's remit) granted by the Commissioner and the Chief Finance Officer. This paper also provides information on Mayoral Directions to TfL within the Committee's remit.
- 1.2 Since the last meeting of the Committee, on 6 March 2019, the following authority has been exercised:
 - (a) one matter delegated by the Board was approved through Chair's Action in relation to an appointment to the Board of Crossrail Limited (CRL);
 - (b) the Chief Finance Officer approved Procurement Authority in relation to two contracts covering TfL IT hosting and Central Line Signal Life Extension; and
 - (c) a Mayoral Direction to TfL was published in relation to the London Vehicle Scrappage Scheme.
- 1.3 A similar report is submitted to the Finance Committee in respect of any use of delegated authority or Mayoral Directions within that Committee's remit.

2 Recommendation

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

3 Use of Chair's Action since 6 March 2019

- 3.1 Under Standing Order 114, in situations of urgency, the Board delegates to each of the Chair and the Chairs of any Committee or Panel the exercise of any functions of TfL on its behalf, including the appointment of Members to Committees and Panels. Any use of Chair's Action is reported to the next ordinary meeting.
- 3.2 There has been one use of Chair's Action since the last meeting of the Committee.
- 3.3 On 27 March 2019, the Board delegated authority to the Committee to take decisions on matters reserved to the Board in relation to the Crossrail project, including the appointment of further non-executive directors.
- 3.4 On 16 April 2019, the Chair of the Committee, following consultation with available Members of the Board, approved the appointment of Sarah Atkins as a further TfL

nominated non-executive director of Crossrail Limited for the remainder of the Crossrail project.

- 3.5 The use of Chair's Action was considered appropriate as a decision was needed as soon as possible, as part of the implementation of the KPMG recommendations on improving governance.

4 Programme and Project Authority Approvals since 6 March 2019

- 4.1 Programme and Project Authority is the authority to do spend money, receive income, incur a financial liability or to redistribute funds to relevant third parties in respect of a Programme, or any part of it, or any other Project.
- 4.2 Programme and Project Authority will normally be granted by the Committee for all programmes and projects as part of the defined Sub-Programmes within the overall Investment Programme. Where individual programmes or projects have a value in excess of £50m and have not already received full approval as part of a Sub-Programme, requests will be submitted to the Committee for consideration.
- 4.3 The Commissioner (and in his absence, the Chief Finance Officer) has delegated authority to approve Programme and Project Authority on programmes and projects up to a value of £50m that contain less than £25m of unbudgeted expenditure.
- 4.4 The Chief Finance Officer has delegated authority to approve Programme and Project Authority for programmes and projects under £25m that contain less than £10m of unbudgeted expenditure. Approval of authority for projects of less than £5m that contain less than £2m of unbudgeted expenditure is delegated to Chief Officers and is not reported here.
- 4.5 Where the main contract has not yet been awarded, the Financial Authority and Estimated Final Cost may not be stated because they are commercially confidential.

Approvals by the Commissioner

- 4.6 Since the last meeting of the Committee, the Commissioner has not approved Programme and Project Authority for any projects.

Approvals by the Chief Finance Officer

- 4.7 Since the last meeting of the Committee, the Chief Finance Officer has not approved Programme and Project Authority for any projects.

5 Procurement Approvals

- 5.1 Procurement Authority is the authority to make a binding or contractual commitment with a supplier for the purchase of goods, services, land or works or to receive income arising from TfL Group activities in the areas of goods, services, land or works.

- 5.2 The Commissioner (and in his absence, the Chief Finance Officer) has delegated authority to approve budgeted Procurement Authority up to a value of £100m.
- 5.3 The Chief Finance Officer has delegated authority to approve budgeted Procurement Authority up to a value of £25m.

Approvals by the Commissioner

- 5.4 Since the last meeting of the Committee, the Commissioner has not approved any Procurement Authority in respect of matters within the Committee's remit.

Approvals by the Chief Finance Officer

- 5.5 Since the last meeting of the Committee, the Chief Finance Officer has approved two Procurement Authority requests in respect of matters within the Committee's remit. Further details are provided in Appendix 1.

6 Mayoral Directions to TfL

- 6.1 The Greater London Authority Act 1999 (as amended), permits the Mayor to issue to TfL general directions as to the manner in which TfL is to exercise its functions or specific directions as to the exercise of its functions (or not to exercise a power specified in the direction). Directions are also often made in relation to the implementation of matters in respect of which the Mayor delegates statutory powers to TfL.
- 6.2 The Mayor makes Mayoral Directions through Mayoral Decisions. Papers for Mayoral Directions set out the financial and other implications. If those implications change over time, that will be reported to the GLA.
- 6.3 All Mayoral Decisions are issued in writing, with the information that is not exempt from publication included on the GLA's Decisions Database on its website: <https://www.london.gov.uk/about-us/governance-and-spending/good-governance/decisions?order=DESC>.

Mayoral Directions to TfL

- 6.4 Mayoral Directions fall into three broad categories: those addressing technical issues relating to statutory powers; those related to commercial development activities; and those related to projects and programmes. Mayoral Directions relating to TfL are reported to the Board's Committees for discussion as soon as possible after they are received by TfL or published. Regular reports will list the relevant Directions for as long as they are applicable.
- 6.5 Annually the Audit and Assurance Committee considers the list as part of its consideration of the annual audit plan to ensure that appropriate audit resource is applied to assurance on TfL's work in implementing Mayoral Directions. This will also be kept under review at each quarterly meeting of that Committee.
- 6.6 A summary of current Mayoral Directions to TfL is maintained on the "How we are governed" page on our website, with links to the relevant Mayoral Decisions: <https://tfl.gov.uk/corporate/about-tfl/how-we-work/how-we-are-governed>. That page will be updated as and when further Directions are made.

6.7 Mayoral Directions to TfL related to projects and programmes are reported to this Committee. Since the last meeting of the Committee, one Mayoral Direction to TfL has been published, as summarised below.

London Vehicle Scrappage Scheme MD2417 (15/02/19 published 08/04/19)

- 6.8 On 15 February 2019, the Mayor directed TfL to prepare, finance and implement the London Vehicle Scrappage Scheme (the Scheme), as described in the decision form and approved the GLA transferring £23m to TfL by means of a revenue grant to cover the costs of the Scheme.
- 6.9 The Scheme was established to incentivise microbusinesses and third sector organisations to scrap older, polluting vehicles, including by switching to vehicles that either met or go beyond the Ultra Low Emission Zone standards.

List of appendices to this report:

Appendix 1 – Summary of Procurement Authorities approved by the Chief Finance Officer

List of Background Papers:

None

Contact Officer: Howard Carter, General Counsel
Number: 020 3054 7832
Email: HowardCarter@tfl.gov.uk

Appendix 1: Summary of Procurement Authority Approvals

Approval Date	Contract / Project Name	Type	Total Value (£k)	Approval
03/04/2019	TfL IT hosting (Hyper Converged Infrastructure)	Contract award	15,066	Chief Financial Officer
29/03/2019	Central Line Signal Life Extension	Contract award	18,500	Chief Financial Officer

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Programmes and Investment Committee



Date: 15 May 2019

Item: Air Quality Management Programme

This paper will be considered in public

1 Summary

Air Quality Management Programme 2019/20				
Existing Financial Authority	EFC	Existing Programme and Project Authority	Additional Programme and Project Authority Requested	Total Authority
£ 163.6m*	As detailed in the paper in Part 2 of the agenda	£ 45.7m	As detailed in the paper in Part 2 of the agenda	As detailed in the paper in Part 2 of the agenda

*As based on the 2018 Business Plan, for ULEX, HSP (DVS), LEZ 2020 and Camera Refresh

Authority Approval: The Programmes and Investment Committee is asked to note the paper to support the delivery of the Air Quality Management (AQM) Programme and to approve Programme and Project Authority and Procurement Authority of the maximum amount detailed in the paper on Part 2 of the agenda.

Outputs and Schedule: The AQM Programme improves transport's impact on air quality and climate change through the delivery of ULEZ Expansion 2021 (ULEX), ensuring the integration of ULEX with new and existing charging schemes, and oversees the policy development and customer research that will enable evolution in emissions charging.

This submission covers an update on the progress of ULEX and a proposal to combine the Low Emission Zone (LEZ) 2020, HGV Safety Permit (HSP) (Direct Vision Standard (DVS)) and Camera Refresh schemes into the AQM Programme which would be integrated into the Air Quality and Environment (AQE) Programme.

It is recommended that ULEZ Expansion 2021 proceeds into concept design (Pathway Stage 3), where the project will complete negotiations on key delivery decisions to enter the detailed design phase. This work will scrutinise the approaches put forward by the suppliers with the view to making efficiencies for future value engineering targets.

Work to identify traffic pressures as a result of expanding the charging zone will commence during the next stage of modelling. Once this modelling work is complete TfL will review the areas of concern and propose mitigation measures to alleviate these problems.

- 1.1 This paper provides an update on the delivery of the ULEZ Expansion 2021 (ULEX) project, and requests the necessary Programme and Project Authority and Procurement Authority to continue negotiations with key suppliers and take the AQM projects forward to the design stages (Stage 3 and 4).
- 1.2 Approval is also required on the delivery approach for the systems required to facilitate ULEX.
- 1.3 This paper also requests £11.9m Programme and Project Authority for the Camera Refresh programme for the installation and upgrade of the existing camera network within the Congestion Charging Zone.
- 1.4 A paper is included on Part 2 of the agenda, which contains exempt supplementary information. The information is exempt 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 the meeting.

2 Recommendation

- 2.1 **The Committee is asked to note this paper and the paper on Part 2 of the agenda, and:**
 - (a) **approve the extension and variation of the contract with Siemens plc as described in this paper and the related paper on Part 2 of the agenda to enable the delivery of the Detection and Enforcement Infrastructure (D&EI) element of ULEX;**
 - (b) **grant additional Programme and Project Authority for ULEX and additional Procurement Authority to the maximum amount as detailed in the paper on Part 2 of the agenda in respect of the extension and variation of the D&EI contract with Siemens plc;**
 - (c) **note the update on the Business Operations (BOps) System element of ULEZ Expansion and the proposal to extend and vary the contract with Capita plc as described in this paper and the paper on Part 2 of the agenda to enable the delivery of ULEX;**
 - (d) **approve the following transfers of Financial Authority and Programme and Project Authority (as covered in Table 3 and 4) and remit of the following:**
 - i. **AQM Programme into the Air Quality and Environment Programme;**
 - ii. **Low Emission Zone (LEZ) 2020 into the AQM Programme;**
 - iii. **HGV Safety Permit Scheme (HSP) (Direct Vision Standard) into the AQM Programme;**
 - iv. **Camera Refresh scheme from the 'Other Operations' Portfolio into the AQM Programme; and**
 - (e) **approve £11.9m of Programme and Project Authority for the Camera Refresh scheme.**

3 Background

- 3.1 The Mayor has a legal responsibility under the Greater London Authority (GLA) Act 1999 to prepare an Air Quality Strategy for London as part of the London Environment Strategy (LES); and to lead on implementing measures in the city to achieve compliance with EU legal pollution emission 'limit values'. London is currently in breach of the legal limits for NO₂ concentrations. The LES and Mayor's Transport Strategy (MTS) contain measures that TfL will deliver to help achieve compliance.
- 3.2 As presented in the AQM paper to the Committee in March 2019, there are already a number of existing road user charging schemes in operation: Congestion Charging Zone (CC) in Central London covering all vehicles during congestion charging hours and the LEZ for heavy vehicles (all day, every day) across Greater London. The ULEZ recently commenced in Central London in April 2019 (ULEZ Central) and the Mayor has confirmed that ULEZ will be expanded to Inner London in October 2021 (ULEX), both of which are to improve air quality. This is set out in Proposal 24 of the MTS the Healthy Streets Approach and shown in Figure 1.
- 3.3 In addition to those schemes already in operation, there are a number also in development such as LEZ 2020 whereby emissions standards for LEZ will be tightened in October 2020 and the proposed HGV Safety Permit Scheme (HSP (Direct Vision Standard (DVS))) to improve HGV road safety¹, which will be enforced from the same date.

ULEZ Expansion 2021 (ULEX)

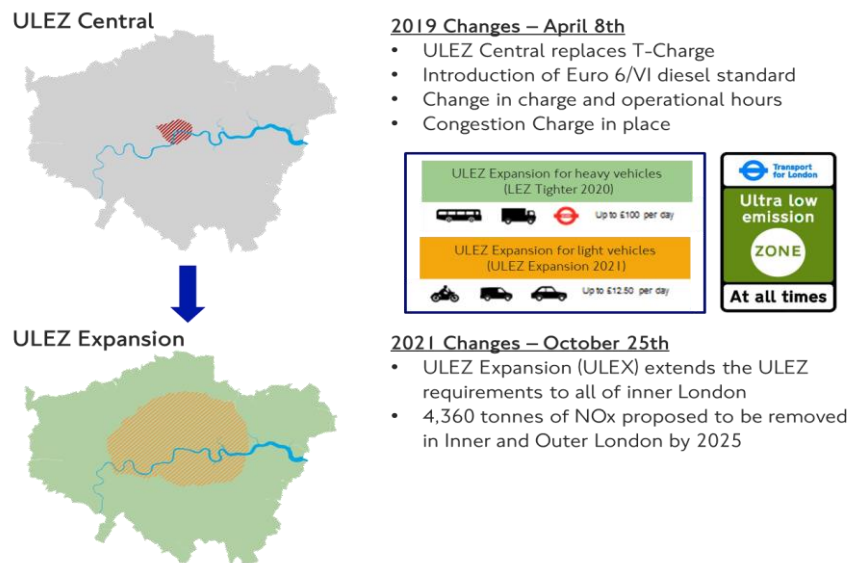


Figure 1 – ULEZ Expansion 2021

¹ Proposals for the HGV Safety Permit Scheme are subject to statutory and public consultation and related traffic order procedures.

3.4 The current operating model (Figure 2) is suitable for the schemes described in paragraphs 3.2 and 3.3, however the introduction of ULEX will generate around four times greater volumes of data than ULEZ Central, so the system will also need to manage the additional expected demand. In accordance with MTS Proposal 21, TfL is exploring a range of potential options to develop more sophisticated 'Next Generation Charging' (NGC) systems.

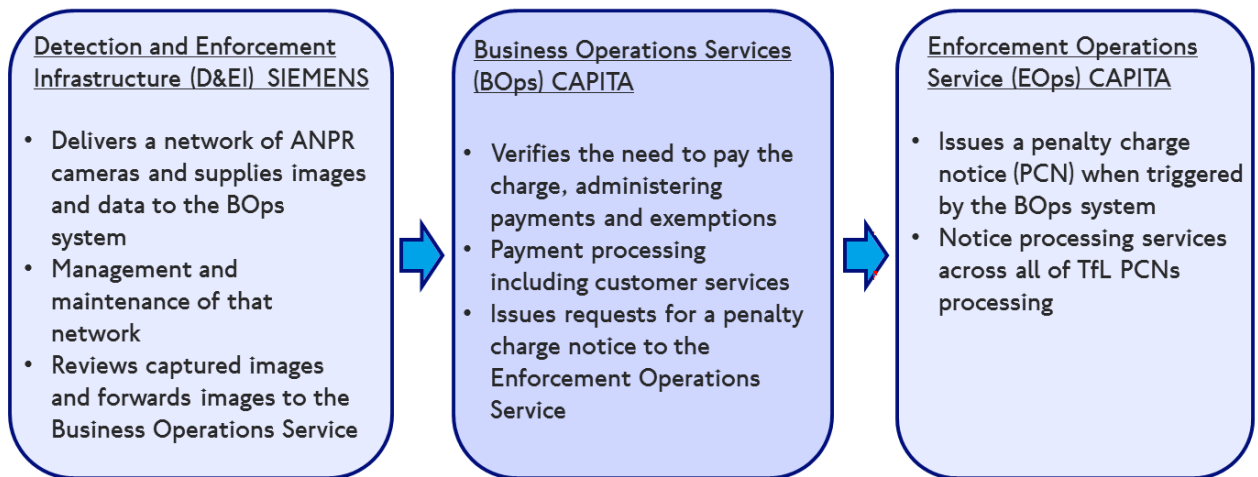


Figure 2 – Interaction between the ULEX Expansion elements

ULEX - Detection and Enforcement Infrastructure (D&EI)

3.5 The current operating model for D&EI utilises Siemens plc, who supply Automatic Number Plate Recognition (ANPR) cameras for TfL. Their current D&EI contract was awarded following an open market competition in 2014. The contract provided for a period of implementation and a subsequent period of operation for five years which ends on 20 September 2021 (the Initial Term). The contract also allows TfL to extend the contract beyond the Initial Term for periods of 12 months or more up to total of five years. Prices for such extensions were provided and evaluated as part of the procurement and embodied into the contract.

3.6 TfL has carried out further work on the D&EI element of ULEX, focusing on delivering the most cost effective solution, including considering whether the existing contract should be utilised, extended or re-procured. The Committee is asked to approve the delivery approach (subject to successful conclusion of the negotiations) as detailed in the paper in Part 2 of the agenda.

ULEX - Business Operations (BOps) System

3.7 A strategic decision is required as part of this project on whether TfL should:

- (a) take ownership of the system by building in-house now (make); or
- (b) continue to invest in the existing Capita plc system (buy); or
- (c) develop an alternative hybrid option to meet current and future needs (e.g. partnership, concession etc.).

3.8 As part of the paper to the Committee in March 2019, optioneering information was provided regarding whether TfL should continue with the existing operating model for the BOps system or deliver an in-house solution.

- 3.9 We have completed the optioneering review and a ‘deep dive’ on all proposals with independent assurers, to aid the decision making and proceed through into the design phase.
- 3.10 A detailed section on the outcomes of the BOps system solution for ULEX is included in the paper on Part 2 of the agenda.

ULEX - Enforcement Operations Service (EOps)

- 3.11 The current operating model for EOps utilises Capita plc, who supply the enforcement operations systems which issue Penalty Charge Notices (PCNs) when triggered by the BOps system; this system also undertakes the notice processing services across all of TfL’s PCNs. Capita plc was awarded the contract for operating the system after open market procurement in 2014 for five years, with an option to extend all or parts of the system for a further five years. TfL awarded this contract along with the BOps contract after Capita plc’s bid provided the most competitive combined value for money over the whole life of the contract.
- 3.12 We will be discussing options with Capita plc as part of the ongoing negotiations for ULEZ system elements. A submission will be made to the Committee in summer 2019 to request further Programme and Project Authority and Procurement Authority to facilitate contract award (subject to the conclusion of successful negotiations).

4 Transfer of Schemes

- 4.1 The Committee approved the transfer of ULEX from the Air Quality and Environment (AQE) Programme to AQM in March 2019 to provide a robust governance mechanism to give the project the attention required owing to its size and importance.
- 4.2 As shown in Table 1, the Road User Charging schemes that are being delivered in approximately similar timescales (LEZ, DVS and ULEX) are all reporting through different governance structures.

Scheme	Governance	Delivery	Go Live	Supplier
LEZ 2020	AQE Programme	PPD	Oct 2020	Capita / Siemens
HGV Safety Permit (DVS)	Technology Programme	PPD	Oct 2020	TBC / Siemens
ULEZ Expansion 2021	AQM Programme	PPD	Oct 2021	Capita / Siemens
Camera Refresh	Other Operations Programme	PPD	2021/2022	Siemens

Table 1 – Road User Charging related schemes

- 4.3 To improve efficiency and avoid the risk of inconsistency, it is proposed that these related schemes, which are being developed in parallel, are all managed within one Programme with the same governance as detailed in Section 7.

LEZ 2020

- 4.4 As part of the Mayor’s pledge to help improve air quality and health for all Londoners, LEZ Tighter 2020 (LEZ 2020) will strengthen the emission requirements for the existing LEZ.

- 4.5 LEZ 2020 is featured in Proposal 24 of the MTS, as well as in the London Environment Strategy. It is also included and modelled in the Air Quality Action Plan submitted by the Government to the European Commission outlining how London will be brought into compliance with legal limits by 2025 or sooner.
- 4.6 It is acknowledged that LEZ 2020 is also subject to a decision making process as to whether to extend the existing BOps and EOps service arrangements, currently contracted to Capita plc. The delivery approach for LEZ 2020 is currently under development and the project is expected to process through to Stage 3 in summer 2019.

HGV Safety Permit (HSP) Scheme - Direct Vision Standard

- 4.7 The MTS states 'The Mayor, through TfL, the boroughs and policing and enforcement partners, will seek to reduce danger posed by vehicles by working to ensure that vehicles driven on London's streets adhere to the highest safety standards, starting with a new Direct Vision Standard for HGVs'. The proposed HGV Safety Permit Scheme is London-wide and implements minimum DVS requirements for HGVs over 12 tonnes, which would involve (if confirmed) the issue of PCNs following the detection of non-compliant vehicles by the ANPR camera system.
- 4.8 It is acknowledged that the HSP Scheme is also subject to a decision making process as to whether to extend the existing BOps and EOps service arrangements, currently contracted to Capita plc. The delivery approach for the HSP Scheme is currently under development and the project is expected to proceed through to Stage 3 in summer 2019.
- 4.9 Statutory consultation on proposals for this project commenced in April 2019 and the permit registration launch for this scheme is proposed for October 2019, subject to statutory consultation and procedures, with scheme enforcement by PCN proposed for October 2020.

Camera Refresh Project

- 4.10 The Camera Refresh project is to deliver a refresh of our existing camera network in the congestion charging zone. This workstream will now be consolidated into the ULEX project as part of the wider strategy to update and introduce new cameras across ULEZ Central and expansion to the North and South circular roads.

5 Benefits and Value

- 5.1 The overall aim of this programme is to reduce air pollutant levels by reducing emissions from road transport and improve safety, which it will achieve through the following objectives as detailed in Table 2:

Objectives	Main benefits
Promote the uptake of cleaner and safer vehicles	<ul style="list-style-type: none"> • Improvements in air quality for the benefit of the general public, including visitors and residents of Greater London, resulting in improved health and quality of life and increased life expectancy.² Particularly beneficial for more vulnerable groups such as children, older people and those suffering from chronic respiratory conditions • Reduced burden on the NHS and social care • Increasing London's compliance with European limit values for NO₂ and with the WHO's PM recommendation. • Reducing the number of incidents where people are killed and seriously injured on our roads especially for vulnerable road user groups
Encourage a switch from private vehicles to cleaner, safer, alternative modes of transport	
Successful and timely delivery of ULEZ Expansion by 2021 to meet TfL's obligations under the road user charging Scheme Order, EU air quality directive and domestic law	
Reduce air pollutant emissions from road transport, particularly those with greatest health impacts, to support Mayoral strategies and contribute to achieving compliance with EU limit values	
Adaptability and flexibility within the system and its operation to support delivery of any schemes	
Improve the safety, health and wellbeing of Londoners	

Table 2 – AQM Programme key benefits

5.2 The Outcome Scoring contained in Appendix 1 summarises the current status of the AQM Programme based on the MTS Outcomes. This confirms how the schemes have the potential to increase active travel and improved public transport connectivity, whilst reducing air quality pollution and improving safety.

6 Delivery of Preferred Option

6.1 TfL's Surface Investment Delivery Planning Directorate is sponsoring the Air Quality Management Programme with delivery through Projects & Programme Delivery. Operational delivery will be provided by the Licensing, Regulation and Charging team. This model will be replicated for all projects within the AQM Programme.

6.2 A high-level programme plan covering the period 2019/20 to 2023/24 has been completed outlining delivery milestones for AQM projects and is included in Appendix 2.

² In 2016, 6.4% of all deaths in London were attributable to particulate air pollution - substantially higher than England overall (5.3%) reflecting higher pollution levels in the Capital. [Public Health Outcomes Framework](#)

7 Management Case

- 7.1 As described in the paper to the Committee in March 2019, a governance structure was put in place for the AQM programme, which provides the strategic overview for road user charging schemes and visibility of project controls at a senior business level for the decision making period.
- 7.2 This submission requests the approval of the Committee to transfer all relevant schemes (as detailed in section 4 above) into the AQM Programme under the Air Quality and Environment (AQE) Programme to provide appropriate governance across the schemes which utilise the same suppliers. This will allow for:
- economies of scale to be developed with suppliers, instead of pricing for separate schemes;
 - the same meeting Chair to make decision on Procurement Authority with the same supplier; and
 - reduced duplication of work and pressure on internal resources.

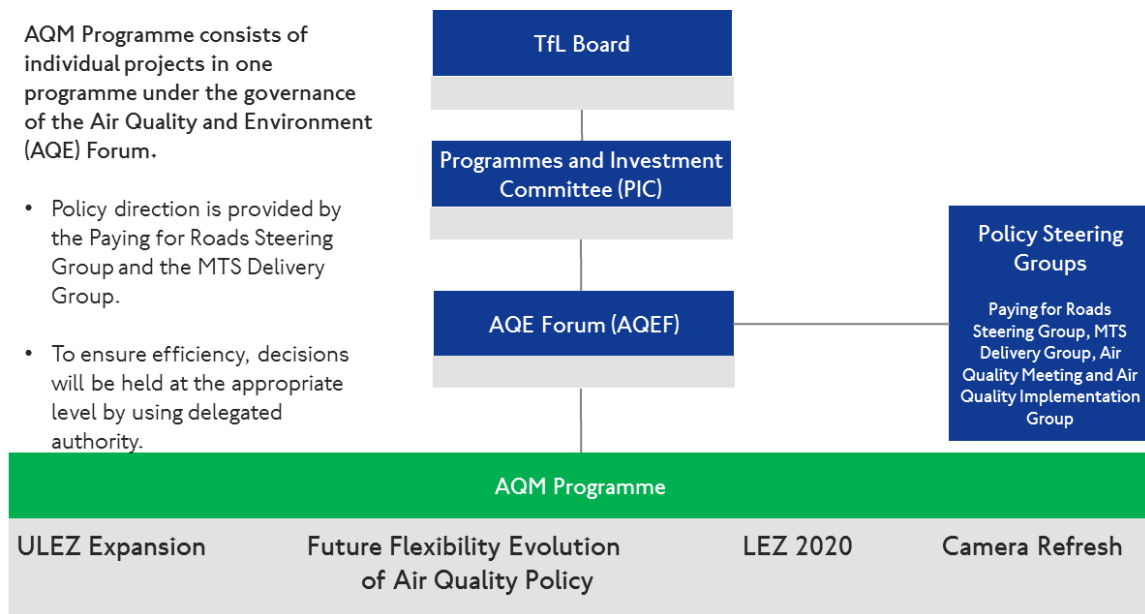


Figure 3 - AQM Governance Structure

- 7.3 To achieve successful delivery, a robust governance and delivery model is essential. Tight control and visibility is required through programme management oversight to ensure the project is on track whilst ensuring good decision making. All areas will report into the established governance process to ensure the project is controlled and being delivered against requirements, cost and time. An established series of meetings provides oversight of progress, risks and change requests; including periodic Project Forum meetings.

8 Legal and Equalities impacts

- 8.1 All relevant public bodies (including TfL) are under a legal duty to take appropriate action to achieve compliance with legal limit values for NO₂ concentrations, and reduce exposure to unlawful concentrations, as soon as feasibly possible. They must use those measures at their disposal that are most likely to succeed in this

objective. This duty has been recognised by the courts as an imperative that outweighs other concerns not primarily concerned with securing the earliest feasible compliance date, including the level of public expenditure, value for money and operational considerations.

- 8.2 The implementation dates of October 2020 and October 2021 for LEZ 2020 and ULEX are fixed in the road user charging Scheme Order, which would have to be varied (following public and stakeholder consultation) if materially changed. They are also modelled and included as key measures (alongside others) in the UK Government's Action Plan, which models London becoming compliant by 2025 or sooner.
- 8.3 The Programme will be delivered in accordance with the Equality Act 2010. Equality Impact Assessments are considered on all strategies, policies, business plans, change programmes or projects, having regard to our obligations under the public sector equality duty throughout the delivery of the Programme.
- 8.4 As projects progress through feasibility and design, consideration will be given to the need for an Equality Impact Assessment for each one. Possible effects on people with protected characteristics under the Equality Act 2010 (such as age, race, sex and disability), and mitigations of and countervailing considerations in respect of any adverse effects, will be considered and recorded. Consideration will also be given to the requirement under the Equality Act 2010 advance equality of opportunity and fostering good relations between people who share a relevant protected characteristic and people who do not.

9 Financial Implications

ULEX

- 9.1 £121m of capital costs for ULEX have been included within the 2018/19 TfL Business Plan.
- 9.2 The project currently has £35.3m of Programme and Project Authority:
 - (a) £5.3m was approved by the Committee in August 2018 to progress with the feasibility study for ULEX; and
 - (b) £30m was approved by the Committee in March 2019 to take the ULEX project forward to concept design and detailed design.

LEZ 2020

- 9.3 In December 2018, the Committee approved £6.2m of Programme and Project Authority for the delivery of LEZ in 2020 under the Air Quality and Environment Programme, which is now proposed to be transferred into the AQM Programme.

HGV Safety Permit (HSP) Scheme - Direct Vision Standard

- 9.4 In December 2018, the Committee approved £4.4m of Programme and Project Authority for the delivery of the proposed HSP Scheme under the Surface Technology Programme, which is now proposed to be transferred into the AQM Programme.

Camera Refresh Scheme

- 9.5 The Committee is asked to approve £11.9m in Programme and Project authority to enable the camera refresh of the camera network in co-ordination with the delivery of ULEX.

Financial Summary for the AQM Programme

- 9.6 £144.5m of capital costs for the AQM Programme were included within the 2018/19 TfL Business Plan.

Financial Impact (Outturn £m)	Prior Years	2018/19	2019/20	2020/21	2021/22	TOTAL
ULEZ Expansion 2021	0.5	7.3	24.2	54.4	34.5	121.0
LEZ 2020	0.0	0.1	3.4	2.7	0.0	6.2
HGV Safety Permit (DVS)	0.0	0.9	3.6	0.8	0.0	5.3
Camera Refresh	0.0	0.0	0.0	0.3	11.6	11.9
Total	0.5	7.4	31.2	58.2	46.1	144.5

Table 3 – AQM Financial Summary (updated Budget figures included in Part 2 of the agenda)

	Programme and Project Authority (£m)
ULEZ Expansion 2021	35.3
LEZ 2020	6.2
HGV Safety Permit (DVS)	4.4
Camera Refresh	0.0
Total	45.9

Table 4 – AQM Programme and Project Authority Summary

- 9.7 An updated cost estimate will be available following key delivery and commercial decisions across all AQM projects. Value engineering and risk management will be used to refine the costs to ensure an affordable EFC is achieved.
- 9.8 A submission will be made to the Committee in summer 2019 to request further Programme and Project Authority and Procurement Authority to extend and vary the contract with Capita plc as described in this paper and the paper on Part 2 of the agenda to enable the delivery of ULEX.

10 Assurance

- 10.1 Following the recommendation from the Committee in March 2019, additional work has been carried out to support and provide further assurance to the Business through fourth and fifth line assurance. The outcomes from these are highlighted in Part 2 of the Agenda. Project Assurance and the Independent Investment Programme Advisory Group have reviewed this paper and support the proposed approach.
- 10.2 A further Integrated Assurance Review (IAR) and IIPAG Review of the ULEX project will be undertaken in summer 2019 to support the continued development of options through concept and detailed design for ULEX and the proposed HSP Scheme.

- 10.3 The LEZ 2020 project is due to complete an IAR in May 2019 and will be submitting an authority request to Air Quality and Environment Portfolio Forum to draw down the project and programme authority that was approved by the Committee in December 2018.
- 10.4 A combined Integrated Assurance Plan will be developed for the entire AQM Programme to reflect the changes to the Programme.

List of appendices to this paper:

Appendix 1 – MTS Outcome Scoring
Appendix 2 – Air Quality Programme Timeline

List of background papers:

Paper on Air Quality Management submitted to the Committee on 6 March 2019
Paper on Surface Technology submitted to the Committee on 6 March 2019
Paper on Air Quality and Environment Programme submitted to the Committee on 11 December 2019
IIPAG and PMO Reports
Management response to IIPAG and PMO Reports

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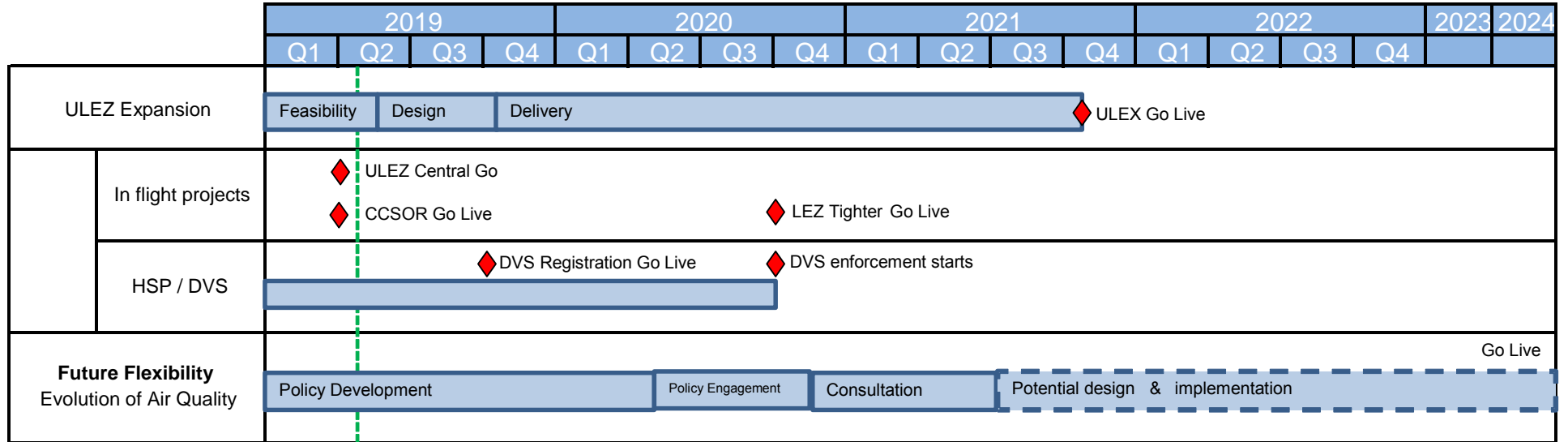
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Appendix 1: MTS Outcome Scoring

AREA OUTCOME SCORING	Transport Outcomes		Score	Importance Description	V Low	Low	Medium	High	V High
	Active	Active travel, current & potential cycling & walking levels	+ High	High ped & cycling demand and/or potential	█	█	█	█	
	Safe	Road casualties & crime levels	+ Medium	Low collision and/or crime incidence	█	█	█		
	Green	Air Quality (NO2, PM10)	+V High	Highest pollution level	█	█	█	█	
	Space Efficient	Freight flow levels & car dependency	+ Medium	Average vehicle flows and local car ownership	█	█	█		
	Connected Public Transport	Improved connectivity	+V Low	Highest PT accessibility index	█	█			
	Accessible Public Transport	Access inequality	+ High	Poor accessibility	█	█	█	█	
	Quality Public Transport	Bus performance, demand and provision	+ High	Low perf. High demand & provision	█	█	█		
	Sustainable, Active Travel Developments	Car dependency & poor connectivity	+ Low	Low car dep. & high connectivity	█	█			
	Unlocking Development	Forecast popn. and employment growth	+ High	High popn. & emp. growth	█	█	█		

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Appendix 2: Air Quality Programme Timeline



◆ Fixed contractual/ project milestone

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Programmes and Investment Committee



Date: 15 May 2019

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

This paper will be considered in public

1 Summary

1.1 This paper presents the current forward programme for the Committee and explains how this is put together. Members are invited to suggest additional future discussion items for the forward plan. Members are also invited to suggest items for the Committee's induction session and for future informal briefings.

2 Recommendation

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

3 Forward Plan Development

3.1 The Board and its Committees and Panels have forward plans. The content of the plans arise from a number of sources:

- (a) Standing items for each meeting: Minutes; Matters Arising and Actions List; and any regular quarterly reports. For this Committee these are the quarterly Investment Programme Report, the regular Project Monitoring Report and the regular report on the Crossrail project.
- (b) Programmes and Projects at a level requiring Committee approval. These include the annual review of the 20 sub-programmes in the Investment Programme and other approvals sought following advice from the operating businesses.
- (c) Items requested by Members: The Deputy Chair of TfL and the Chairs of all of the Committees and Panels 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 plan is attached as 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 – Programmes and Investment Committee Forward Plan

List of Background Papers:

None

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Programmes and Investment Committee Forward Planner 2019/20

Membership: Prof Greg Clark CBE (Chair), Dr Nelson Ogunshakin OBE (Vice Chair), Heidi Alexander, Ron Kalifa OBE, Dr Alice Maynard CBE, Mark Phillips, Dr Nina Skorupska CBE, Dr Lynn Sloman and Ben Story

Abbreviations: Managing Director (MD), Customer, Communication and Technology (CCT), London Underground (LU), Surface Transport (ST), CFO (Chief Finance Officer) and D (Director)

17 July 2019		
Use of Delegated Authority	General Counsel	Standing item
Quarterly Programmes and Investment Report	MD LU, MD ST and D Major Projects	To note high-level progress update against the 20 grouped Investment Programme and Major Project items and any specific approvals required in relation to programmes not on the deep-dive list for that meeting.
Second line Assurance Activities	Project Assurance	Standing item
IIPAG Quarterly Report	Project Assurance	Standing Item
Healthy Streets	MD ST	Annual Approval
LU Stations (SFA, LU Crossrail)	MD LU	Regular update on progress
LU Track and Drainage	MD LU	Annual Approval
Deep Tube Programme	MD LU	To note
Crossrail Update	MD LU	Regular update on progress
HS2	MD LU, MD ST D City Planning	To note the impact and opportunities for TfL.
Growth Fund	D City Planning	To note
DLR Housing Infrastructure Fund (HIF)	MD ST	Approve Authority
Strategic Risk SR16 Opening of Elizabeth Line	CFO	To note
Heathrow Expansion Impact on TfL	MDs LU & ST	Member request for discussion

Programmes and Investment Committee Forward Planner 2019/20

23 October 2019		
Use of Delegated Authority	General Counsel	Standing item
Quarterly Programmes and Investment Report	MD LU, MD ST and D Major Projects	To note high-level progress update against the 20 grouped Investment Programme and Major Project items and any specific approvals required in relation to programmes not on the deep-dive list for that meeting.
Second line Assurance Activities	Project Assurance	Standing item
IIPAG Quarterly Report	Project Assurance	Standing Item
LU Lifts & Escalators	MD LU	Annual approval
Power, Cooling & Energy	MD LU	Annual Approval
Four Lines Modernisation	MD LU	Approval
World Class Capacity Programme	MD LU	Approval
Crossrail Update	MD LU	Regular update on progress

18 December 2019		
Use of Delegated Authority	General Counsel	Standing item
Quarterly Programmes and Investment Report	MD LU, MD ST and D Major Projects	To note high-level progress update against the 20 grouped Investment Programme and Major Project items and any specific approvals required in relation to programmes not on the deep-dive list for that meeting.
Second line Assurance Activities	Project Assurance	Standing item
IIPAG Quarterly Report	Project Assurance	Standing Item
Crossrail Update	MD LU	Regular update on progress
Fiveways Croydon	MD ST	Approval

Programmes and Investment Committee Forward Planner 2019/20

5 March 2020		
Use of Delegated Authority	General Counsel	Standing item
Quarterly Programmes and Investment Report	MD LU, MD ST and D Major Projects	To note high-level progress update against the 20 grouped Investment Programme and Major Project items and any specific approvals required in relation to programmes not on the deep-dive list for that meeting.
Second line Assurance Activities	Project Assurance	Standing item
IIPAG Quarterly Report	Project Assurance	Standing Item
LU Major Stations (HS2)	MD LU	Approval
Rolling Stock Renewals	MD LU	Annual approval
LU Signals and Control	MD LU	Annual Approval
Crossrail Update	MD LU	Regular update on progress

Regular items:

- Use of delegated authority by Chair, Commissioner and CFO.
- Quarterly Monitoring Report – to include:
 - high-level progress update against the 20 grouped Investment Programme and Major Project items;
 - specific approvals required in relation to programmes not on the deep-dive list for that meeting;
 - identification of programmes about to issue tenders so Members can input;
- Second Line Assurance Activities
- IIPAG Quarterly Report
- 4/5 deep dive papers each meeting from the rolling programme of Investment Programme / Major Project items. Papers to seek annual approval for the programme.
- Crossrail 2 – updates and authorities (if kept separate from the Major Project list).
- Crossrail updates

Items to be scheduled:

- Piccadilly line upgrade and signalling
- London Overground future planning
- Bakerloo line extension (City Planning and LU)

As at 7 May 2019

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