



# Governance arrangements to complete the Crossrail project

# 1 Introduction

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The opening of the Elizabeth line on 24 May 2022 was a significant achievement for everyone involved in the delivery of Crossrail, including the Joint Sponsor team who oversaw the governance arrangements that supported the project through development, construction, commissioning and the successful transition into operations.

The Joint Sponsor team was established with staff from both sponsor organisations, the Department for Transport (DfT) and Transport for London (TfL), and was responsible for interfacing with the Crossrail project on behalf of the sponsors.

In this paper, as current members of the sponsor teams in DfT and TfL, we reflect on the changes made to the governance arrangements as the project progressed through recovery, completing the railway and project close, and describe the impacts of these changes.

We have identified lessons that we feel are beneficial for other major government-funded infrastructure projects, including High Speed 2, East West Rail, the Lower Thames Crossing and future investments including the Bakerloo line extension and Crossrail 2.

The paper includes the following sections.

- Section 2 provides an overview of the project, sponsorship and governance arrangements. The project governance of Crossrail Ltd, the delivery body, is not included in detail.
- Section 3 describes the recommendations for change that were made in 2018–2019.
- Section 4 explains the key governance changes in 2018–2019 and the impacts of these changes.
- Section 5 identifies further governance changes in 2020, driven by the operational pull to complete the railway.
- Section 6 describes the remaining priorities following the successful launch of the railway in May 2022 as we look to close the project.
- Section 7 identifies lessons learned from these changes that may be applicable to current and future infrastructure projects and programmes. A list of other relevant learning legacy papers and published good practice is also included.

In addition to the Joint Sponsors' perspective included in this paper, DfT and the Infrastructure and Projects Authority (IPA) have commissioned an independent lessons-learned review on the sponsorship of Crossrail. This follows from the 2019 report, *Lessons from transport for the sponsorship of major projects* (link: <https://www.gov.uk/government/publications/lessons-from-transport-for-the-sponsorship-of-major-projects>) Publication is expected later this year.

# 2 Project overview and sponsorship

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## The Elizabeth line

The Elizabeth line is the most significant addition to London's transport network in a generation. The new railway has transformed life and travel in London and the south east: it has reduced journey times, created additional capacity and transformed accessibility.

On 24 May 2022, the Elizabeth line opened with services between Paddington and Abbey Wood, along with existing services linking Reading and Heathrow with Paddington, and Shenfield with Liverpool Street, being rebranded as the Elizabeth line. On 6 November 2022, direct Elizabeth line services into central London from Reading, Heathrow and Shenfield were introduced, and the full end-to-end timetable is set to be introduced in May 2023.

The Elizabeth line runs for more than 100km – from Shenfield and Abbey Wood in the east through central London to Reading and Heathrow in the west. With a total of 41 stations, including 10 major new stations, the Elizabeth line connects London's main employment centres, and supports new journeys through central London out to Essex, Buckinghamshire and Berkshire.

The Elizabeth line is part of the TfL and national rail network, has interchanges with the London Underground, Docklands Light Railway, London Overground and National Rail services, and has increased central London's rail capacity by 10%.

The Elizabeth line is crucial to London's recovery from the pandemic, helping avoid a car-led recovery by providing new journey options, supporting regeneration across the capital, and adding an estimated £42bn to the UK economy. London is paying for most of the Elizabeth line, with nearly 70% of the total funding paid by London – made up of 30% from London's farepayers and around 40% from London's businesses – combined with 30% from government.

## The Crossrail project

Crossrail Ltd is a subsidiary of TfL and is responsible for delivering the Elizabeth line railway, including the new tunnels, stations and rail systems. Crossrail Ltd was established in 2001 with its own Board to hold the Executive to account. Construction of the new railway began in 2009.

The Crossrail project is hugely complex, and it has been immensely challenging to deliver a railway of this scale that is safe and reliable for passengers, as well as fully integrated with the existing transport network at both the strategic and local levels. Crossrail Ltd has worked closely with industry partners, including Network Rail, responsible for delivering the sections of route to the west and east that were part of the existing rail network, and Heathrow Airport Limited, as well as other key stakeholders. The new railway is regulated by the Office of Rail and Road.

## Crossrail sponsorship

The sponsors of the Crossrail project are TfL and DfT, the organisations accountable for making the case for investment, securing funding, specifying the project's requirements, and ensuring that the project benefits and outcomes are realised. They are also accountable for ensuring that the project is governed effectively.

The interests of the sponsors were brought together through a comprehensive and detailed sponsors Agreement, which was negotiated and agreed in 2008. This sets out the overall management, ownership and governance of the project, including the roles and responsibilities of each sponsor, the risks to be managed by each and how things are managed over time. The role of DfT as sponsor alongside TfL meant that central government would have oversight of delivery, as well as sufficient influence on the project objectives and outcomes, to ensure that DfT outcomes were balanced with those of London.

For the delivery phase of Crossrail, the sponsors established a governing body in the form of a Sponsor Board.

The Sponsor Board was established by the sponsors as a forum to co-operate to procure the development and implementation of the Crossrail project with specific responsibility for making decisions in consultation with the respective sponsor organisations as needed on matters relating to the Crossrail project, including:

- approving any changes to the Sponsors Requirements
- approving any amendments to the Project Development Agreement
- approving the appointment of independent Non-Executive Directors and the executive Chair, Non-Executive Chair and Chief Executive Officer of Crossrail Ltd
- approving the final versions (prior to their execution) of principal project documents
- issuing review notices following each project review

The Sponsor Board was also a strategic forum for sponsors to engage with the Crossrail Ltd Executive, the Project Representative, and others as appropriate to stay informed on project progress and risks, and support the delivery where possible.

Sponsors Requirements were agreed and included in the Project Development Agreement agreed with Crossrail Ltd in 2008. Crossrail Ltd adapted these into functional requirements used to specify the outputs for the railway.

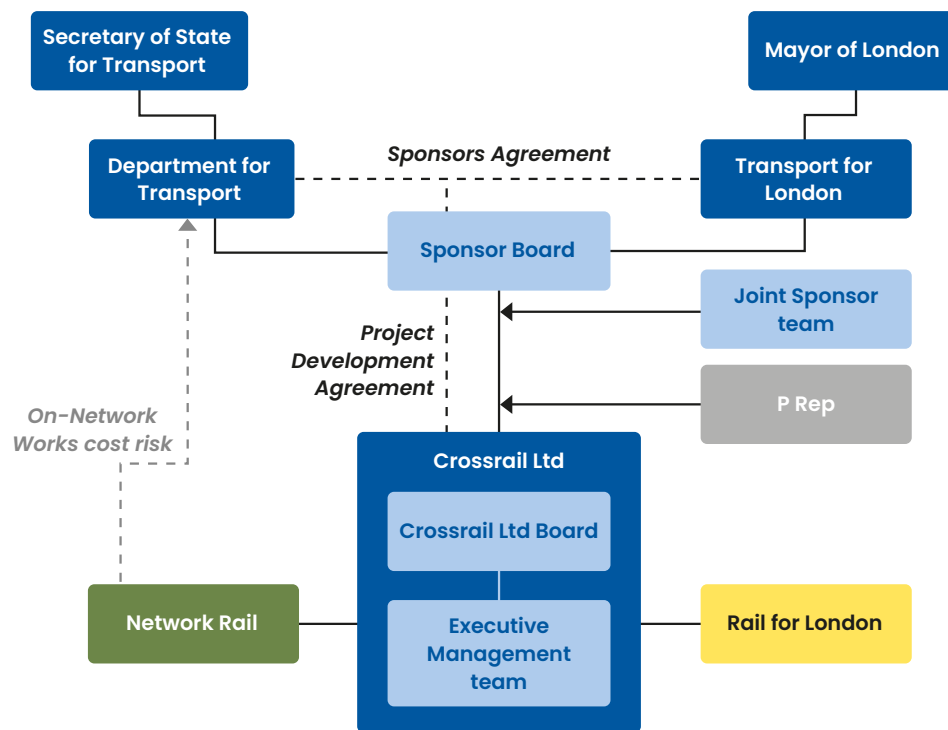
The purpose of the Sponsors Requirements was to:

- establish and describe the sponsors' high-level requirements and objectives for the Crossrail project
- provide a basis for Crossrail Ltd and the sponsors to consider and resolve how developing, competing or subjective requirements were to be interpreted
- set out the minimum requirements that the Crossrail services must achieve
- provide the baseline for the sponsor-level change control mechanism
- provide the basis for monitoring Crossrail Ltd's role as programme manager and integrator as defined in the Project Development Agreement

The sponsors commissioned a Project Representative (P Rep) to provide independent advice on project progress, risks, changes in scope, reporting outputs and resource capability.

The P Rep was responsible for ensuring that the sponsors were adequately informed of the progress of the implementation of the Crossrail project, including:

- advising on risks of a funding shortfall
- providing independent, informed advice on progress against time, cost and quality
- providing oversight and analysis on changes in scope
- monitoring Crossrail Ltd's compliance with its environmental and sustainability commitments
- reviewing Crossrail Ltd's reports and undertaking audits and reviews
- advising on the capability and resources deployed by Crossrail Ltd



**Figure 1** Crossrail governance arrangements pre-October 2020

## Governance arrangements during construction

In 2014, the National Audit Office's (NAO) review of Crossrail governance found that the governance structures were in good stead and set a strong foundation for delivery. It concluded that DfT worked together with TfL and Crossrail Ltd to create effective oversight and the project was making good progress.<sup>1</sup> An overview of the governance arrangements is outlined in the NAO report.

An overview of the governance arrangements is also included in the 2016 Learning Legacy paper, *Lessons learned from structuring and governance arrangements: Perspectives at the construction stage of Crossrail*.<sup>2</sup> The 2016 paper found that the independence and autonomy delegated to Crossrail Ltd by sponsors, separating it from the delivery body, had provided an effective solution to support the realisation of project outcomes. This was enabled by governance arrangements and project agreements that appropriately allocated responsibilities and management of risk.

The paper's assessment reflects the suitability of the governance arrangements as the tunnelling and other construction activities were coming to an end. Looking forward to the responsibilities and risks that were emerging as the project evolved to focus on systems integration and railway commissioning may have led to a different conclusion. In hindsight, a warning sign that the governance arrangements may not have remained suitable was that although sponsors raised concerns and commissioned independent reviews to investigate the cost and schedule, the Crossrail Ltd Board continued to provide assurance to sponsors that everything was in place for a timely and stable opening in December 2018, despite the reporting of increased costs and risks and Crossrail Ltd replanning activities while maintaining key schedule milestones.

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<sup>1</sup> <https://www.nao.org.uk/wp-content/uploads/2014/01/Crossrail.pdf>

<sup>2</sup> <https://learninglegacy.crossrail.co.uk/documents/lessons-learned-from-structuring-and-governance-arrangements-perspectives-at-the-construction-stage-of-crossrail/>

# 3 Recommendations for change

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After prolonged reassurances that the project was on time, Crossrail Ltd announced in August 2018 that a revised schedule was needed to complete the final infrastructure and the extensive testing required to ensure the Elizabeth line opened as a safe and reliable railway. This announcement was disappointing and raised the question about the suitability of the governance arrangements that gave Crossrail Ltd high levels of autonomy.

Sponsors agreed that there was no other realistic prospect than to get the project finished. Pausing the project was not considered a realistic option, as the project costs would increase and benefits for passengers would be delayed. Sponsors accepted that the governance arrangements in place had not captured the most pertinent risks to the project as it progressed. Crossrail Ltd had failed to fully understand the complexity of the work to integrate the elements of the new railway. Therefore it was agreed that changes were needed to the governance to improve project delivery and oversight.

In September 2018, sponsors commissioned an independent review into Crossrail Ltd's governance and financial and commercial arrangements.

- KPMG (2019) *Independent review of Crossrail – Finance and Commercial* and *Independent review of Crossrail – Governance* (link: <https://tfl.gov.uk/corporate/publications-and-reports/crossrail-project-updates>)

The review identified that the governance arrangements did not sufficiently address the evolving needs of the project from the changing balance between construction, systems, integration and operational readiness activities. The review made recommendations for changes to align the governance arrangements to the expected project needs through to completion and to facilitate more effective oversights from the sponsors. Given the life cycle stage and complexity of the remaining work, a completely new governance structure was not considered appropriate as it would potentially introduce significant risk to the project.

The themes below summarise the recommendations identified from the independent review of Crossrail. The Sponsors considered these themes when identifying and implementing changes in response to the project challenges.

Themes	Description
 <p><b>Accountability</b></p>	<p>Roles, responsibilities and accountabilities between the sponsor organisations and the delivery body need to be clearly defined at all levels to avoid confusion and define the level of autonomy granted to deliver the project.</p>
 <p><b>Behaviours and relationships</b></p>	<p>Poor behaviours and decisions are harder to pick up than problems with plans or processes.</p> <p>It is important that strong relationships and trust are built up both within and across stakeholders, without having a culture of blame when issues emerge.</p>
 <p><b>Openness and transparency</b></p>	<p>Governance structures should promote transparency and openness to ensure the risks and issues are reported in a timely and sufficiently clear manner.</p>
 <p><b>Skills and capability</b></p>	<p>Governance arrangements need the appropriate expertise and skills in the right place for successful project completion.</p>
 <p><b>Project controls</b></p>	<p>Project controls and assurance must be appropriate for the stage of the project.</p> <p>Project reporting must be timely, realistic and insightful.</p>



# 4 Governance changes and impacts

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The changes implemented in response to the review recommendations are summarised in the table below along with the effects of these changes on the continued delivery of the project.



While a new governance structure was not implemented at this time, the aim of the changes was to align Crossrail governance with the status of the project and enable more effective sponsorship oversight.

The main changes included:

- **Changes to the composition of the Crossrail Ltd Board** to increase its effectiveness and set out priorities and expectations with the Chair and Deputy Chair for the remainder of the project.
- **Strengthening the Executive team** by appointing a new Chief Executive and Chief Financial Officer. Further project changes included appointing an experienced Programme Director, Technical Director and Project Controls Director.
- **Strengthening the P Rep** by bringing in new skills and capabilities, setting out expectations and agreeing a revised approach for more proactive and inclusive challenge of Crossrail Ltd and reporting to sponsors.

At this time, the sponsors focused on increasing levels of oversight and transparency on the project. The changes resulted in greater scrutiny and challenge around decision making and an increase in the level of assurance provided. The governance changes also strengthened the oversight of the project, bringing the sponsors and Crossrail Ltd (including the Crossrail Ltd Board) closer together, while allowing Crossrail Ltd to maintain autonomy to focus on delivery and integration of the railway systems.

Themes	Changes implemented in 2018 and 2019	Impacts of changes
 <p><b>Accountability</b></p>	<ul style="list-style-type: none"> <li>Appointed a new Crossrail Ltd Board Chair with the remit to “ensure Crossrail Ltd takes accountability and responsibility for the delivery and integration of all aspects of the project required for an end-to-end railway”.</li> <li>Appointed a new Chief Executive Officer with extensive knowledge and experience of delivering major signalling and systems integration projects to lead the hugely complex project through its final phases, including Trial Running, Trial Operations and the opening of the Central Section.</li> <li>Re-established the priorities and expectations of the Crossrail Ltd Board and Sponsor Board.</li> </ul>	<ul style="list-style-type: none"> <li>The appointment of new people into leadership roles and the reassertion of accountabilities enabled the project to move forward despite challenges.</li> <li>Existing arrangements were strengthened rather than changed, which provided stability to the project.</li> </ul>
 <p><b>Behaviours and relationships</b></p>	<ul style="list-style-type: none"> <li>Set cadence and relationship between governance meetings (Crossrail Ltd Board and Sponsor Board arranged with the target of no more than five working days between meetings).</li> <li>Established sponsor debriefs at Crossrail Ltd Board and ‘open door’ approach to management meetings including visualisation meetings.</li> <li>Enabled direct engagement between P Rep and Crossrail Ltd’s leadership.</li> </ul>	<ul style="list-style-type: none"> <li>Trust and confidence between the sponsors and Crossrail Ltd were rebuilt.</li> <li>Risks and issues were dealt with more effectively due to informed and timely decision making.</li> <li>Expectations set with leadership were cascaded through the delivery organisation.</li> <li>The rebuilding of Crossrail Ltd relied on the secondment of TfL staff and meant that TfL ways of working were adopted to complete the project.</li> <li>The closer working relationship between sponsors and Crossrail Ltd enabled sponsors to support and influence engagement with the supply chain.</li> </ul>
 <p><b>Openness and transparency</b></p>	<ul style="list-style-type: none"> <li>Crossrail Ltd introduced a visual management process (to track progress with delivery) and ‘war room’ (to provide strategic oversight).</li> <li>Crossrail Ltd began to share the weekly dashboard with sponsors and key stakeholders and meet regularly with the TfL Commissioner, the Deputy Mayor for Transport (every two weeks) and the Mayor of London (every six weeks).</li> <li>Crossrail Ltd Board and Sponsor Board minutes were published.</li> <li>P Rep reports and scrutiny reports were published.</li> <li>Regular engagement with London Assembly Transport Committee and Public Accounts Committee was established.</li> <li>Stakeholders representing key organisational interfaces were invited to attend Sponsor Board when required.</li> </ul>	<ul style="list-style-type: none"> <li>Sponsors had enhanced project oversight while maintaining separation between them and Crossrail Ltd.</li> <li>Providing sponsors with visibility of the management information ensured consistency and timeliness of messages while minimising the reporting burden on Crossrail Ltd, as bespoke reports were not required.</li> <li>Information was communicated in a detailed and timely manner.</li> <li>Sponsors had greater visibility of project progress and risks.</li> <li>Crossrail Ltd had greater access to decision-makers, and sponsors had greater access to source information.</li> <li>Crossrail Ltd developed a more open approach with the public and the sponsors.</li> <li>Opportunity for robust challenge by P Rep and sponsors.</li> </ul>

Themes	Changes implemented in 2018 and 2019	Impacts of changes
 <p>Skills and capability</p>	<ul style="list-style-type: none"> <li>Sponsors appointed an independent Sponsor Board member and a Technical Advisor.</li> <li>New and additional Independent Non-Executive Directors, with relevant expertise, were appointed to the Crossrail Ltd Board.</li> <li>P Rep was strengthened with the expectation that they: voice their concerns; support sponsors in challenging Crossrail Ltd; and express their view of possible schedule and cost outturn when key project risks were identified.</li> </ul>	<ul style="list-style-type: none"> <li>The sponsors had the confidence that the Crossrail Ltd Board and leadership had the right skills and capability in place to drive delivery and deal with the complexity of the project.</li> <li>Reviews of project performance and status were more realistic.</li> </ul>
 <p>Project controls</p>	<ul style="list-style-type: none"> <li>Crossrail Ltd established a 'Three Lines of Defence' model of assurance consisting of: 1) programme delivery controls; 2) objective programme assurance; and 3) independent assurance, forming the basis of its Independent Audit and Assurance Plan.</li> <li>Crossrail Ltd reinstated risk, planning and control functions and identified appropriate independent advisors.</li> <li>Crossrail Ltd identified an enhanced reporting approach that included the Crossrail Ltd Board report (four-weekly), dashboards (weekly) and the visual management process (daily to weekly). This approach allowed the available material to be adapted as needed for the target audience, and used as a tool for both management and engagement.</li> <li>The schedule baseline was rebuilt with a focus on the Earliest Opening Programme that identified a six-month opening window. This was informed by engaging with the supply chain in a collaborative manner, undertaking deep dives to ensure remaining scope was fully understood.</li> </ul>	<ul style="list-style-type: none"> <li>Reporting of cost and schedule forecasts was more realistic and timelier.</li> <li>The identification, management and reporting of risks, issues and mitigations was improved.</li> <li>Open engagement on status of programme.</li> </ul>

Following the implementation of the changes, the project was subjected to extensive external scrutiny, including:

- National Audit Office (NAO) (2019) *Completing Crossrail* (link: <https://www.nao.org.uk/reports/crossrail>)
- Public Accounts Committee (PAC) (2019) (link: <https://committees.parliament.uk/work/1304/crossrail-a-progress-update/>)
- London Assembly Transport Committee (LATC) (2019) *Derailed: Getting Crossrail back on track* (link: <https://www.london.gov.uk/about-us/london-assembly/london-assembly-publications/crossrail-delay-report>)

DfT and IPA also published a report titled *Lessons from transport for the sponsorship of major projects* (link: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/796294/dft-review-of-lessons.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/796294/dft-review-of-lessons.pdf)) that identified 24 lessons from major programmes. The review was conducted in response to issues encountered in major projects sponsored by DfT, including the 2018 delays announced on Crossrail.

The findings and recommendations from these reviews covered the same themes identified above, and provided reassurance that the interventions to the governance arrangements were required to complete the Crossrail project and deliver a safe and reliable railway.

The reviews also reinforced the need to keep governance arrangements under review so that they remain fit for purpose throughout the project life cycle to recognise the evolving needs and priorities. For example, the remaining delivery stage of the Crossrail project included significant construction activities before progressing through testing, Trial Running and Trial Operations between 2018 and opening the railway to the public in May 2022.

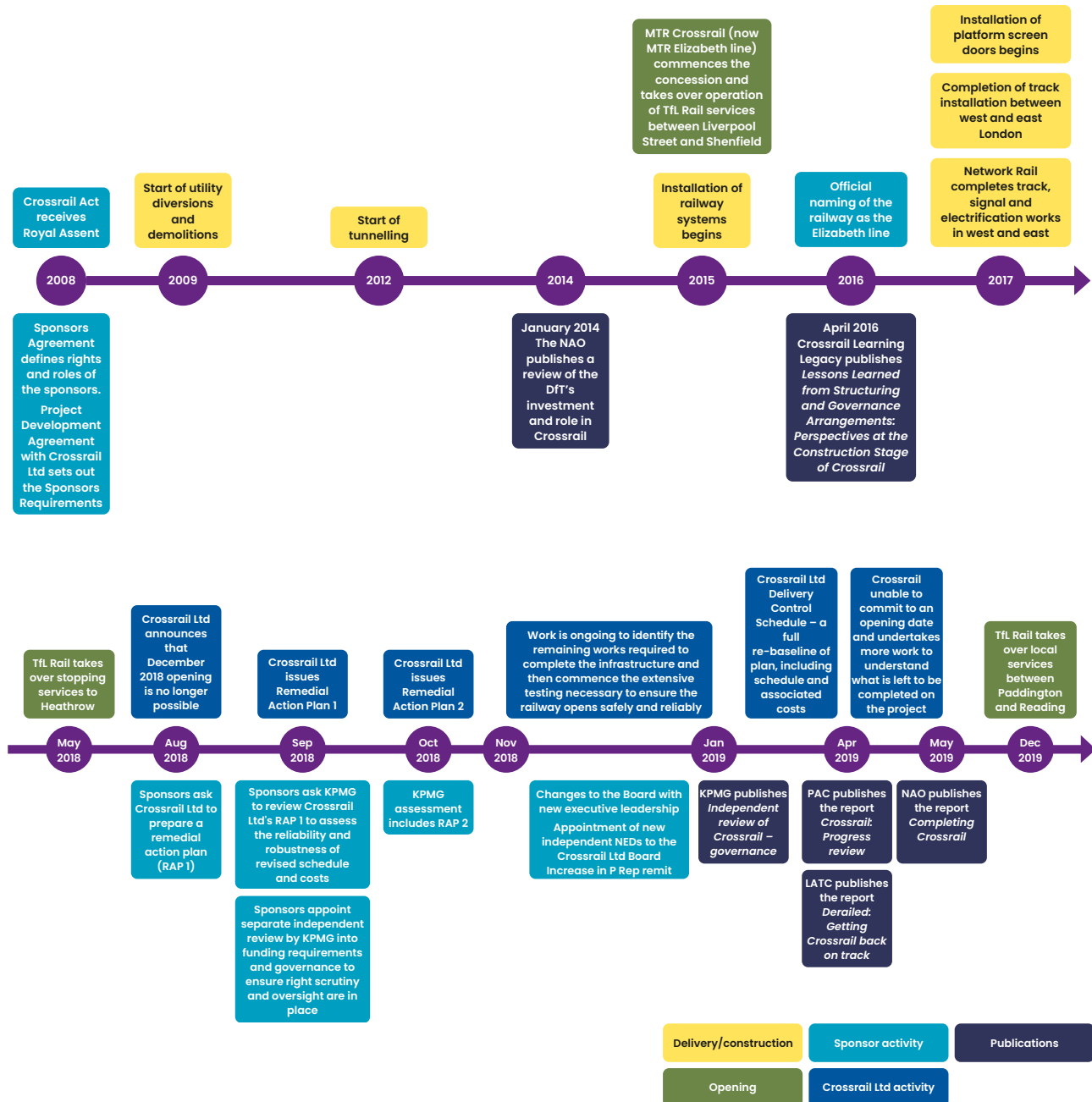


Figure 2 Crossrail timeline 2008–2019

# 5 Operational pull – further governance changes

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In early 2020 the project was focused on commencing intensive operational testing of the integrated railway, having made good progress on finishing the tunnel and track works, and with most stations nearing completion. To support the transition from project delivery into operational readiness, the sponsors identified the need to develop a plan to evolve and adapt the governance arrangements.

As the changes to governance were being considered, Crossrail Ltd identified, in summer 2020, that more time would be needed to deliver the full railway and that the Central Section between Paddington and Abbey Wood would be ready to open in the first half of 2022. There was a strong desire to avoid further delays and ensure appropriate support during the COVID-19 pandemic. Plans were developed to support the delivery and ‘pull’ the railway into operations. This involved the transition of the governance of the Crossrail project to TfL – the owner and long-term operator of Elizabeth line services, which was in the best position to consider the trade-offs and drive progress to bring the railway into operation. These changes ensured that the governance arrangements remained fit for purpose and became an integral part of the operating organisation.

The three key changes resulting from the governance transition in 2020 were:

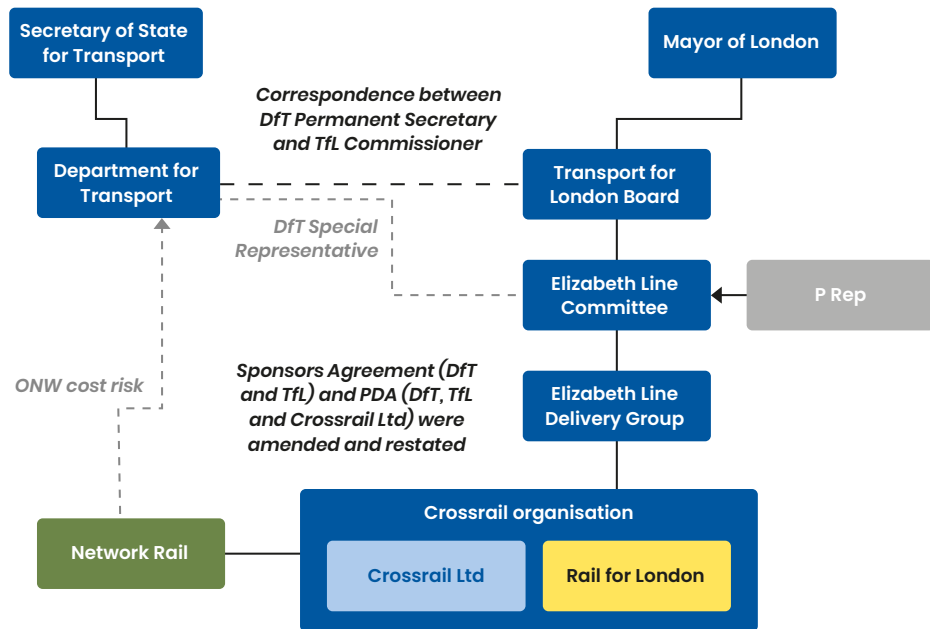
- Crossrail Ltd Board replaced by the Elizabeth Line Committee, a newly established Special Purpose Committee of the TfL Board chaired by a TfL Board member, to provide high-level oversight of the Crossrail project, and which DfT attended.
- The Sponsor Board and Elizabeth Line Readiness Group replaced by the Elizabeth Line Delivery Group, to bring together the key TfL executives responsible for bringing the Elizabeth line into operation.
- The separate Crossrail Ltd Remuneration, Audit and Investment committees removed and aligned with those that existed within TfL.

The sponsors also reflected on the respective interests of TfL and DfT when identifying appropriate governance arrangements including a shared interest in cost stability and control.

TfL interests	DfT interests
<ul style="list-style-type: none"> <li>• Opening a safe and reliable railway as soon as possible</li> <li>• Receiving operatable and maintainable systems and assets</li> <li>• Reputation to deliver major infrastructure</li> <li>• Financial sustainability</li> <li>• Benefits realisation and evaluation of impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Observing obligations in Sponsors Agreement and Project Development Agreement</li> <li>• Delivery against Sponsors Requirements</li> <li>• Protecting public investment</li> <li>• Service integration with National Rail Network</li> <li>• Impact on areas outside London and across the UK</li> <li>• Benefits realisation and evaluation of impacts</li> </ul>

The main purpose of the governance transition was to simplify the decision-making process at the executive layer and Board level with no fundamental changes imposed to the project management layers. The changes also ensured that decision making would be fully aligned during the critical final phases of the project as operational testing was undertaken, and the remaining parts of the railway were completed and transferred to operational teams.

Following the governance transition, DfT retained joint decision-making authority for changes to the high-level objectives of the project, as well as accountability for the delivery and realisation of the wider benefits. DfT's role in funding the project, including funding the works being delivered by Network Rail, remained unchanged. While DfT continued to be updated on changes to scope, schedule and cost, and had accountability for reporting progress to ministers, the TfL Commissioner took personal accountability for the delivery of the railway. The TfL Commissioner publicly committed to no further slippage and no further need for public funding beyond what had previously been set by the outgoing Crossrail Ltd Board.






**Figure 3** Crossrail governance arrangements post-October 2020

At the time, further external reviews were carried out, following on from the previous enquiries that provided further recommendations to consider:



- NAO (2021) *Crossrail – a progress update* (link: <https://www.nao.org.uk/reports/crossrail-progress-update/>)
- PAC (2021) *Crossrail: A progress update* (link: <https://committees.parliament.uk/work/1304/crossrail-a-progress-update/>)
- LATC (2021) *Crossrail: Light at the end of the tunnel?* (link: <https://www.london.gov.uk/about-us/london-assembly/london-assembly-publications/forensic-focus-needed-get-crossrail-track>)

The NAO review reinforced that it was appropriate for sponsors to amend the governance and oversight arrangements to reflect the stage of the project, and that the changes would help support the project to completion by ensuring that the eventual operators and maintainers of the Elizabeth line worked more closely with Crossrail Ltd. The review also emphasised that to work effectively, particularly as the pressure to open the line increased, roles and responsibilities and how the organisations work together needed to be clear and supported with robust management information and a culture of transparency. Clear roles and responsibilities were also emphasised in the LATC review along with the need to continue to adapt the governance arrangements as the project evolved and transitioned to a fully operational line.

The changes and impacts are summarised in the following table against the themes previously identified:

Themes	Changes implemented in 2020	Impacts of changes
 <p><b>Accountability</b></p>	<ul style="list-style-type: none"> <li>• DfT wrote to the TfL Commissioner to formally set out the agreed governance changes and clarify accountabilities, roles and responsibilities, and new ways of working.</li> <li>• The TfL Commissioner was made formally accountable for the delivery of the railway.</li> <li>• Crossrail Ltd's Chief Executive Officer (CEO) began to report directly to the TfL Commissioner on regular day-to-day management of the project's cost and schedule.</li> <li>• The Crossrail Ltd Board, Sponsor Board and Elizabeth Line Readiness Group were replaced by: <ul style="list-style-type: none"> <li>• Elizabeth Line Committee (ELC) (committee of the TfL Board) to simplify decision making and provide assurance and oversight for the TfL Board on the completion and close-out of the Crossrail project and the opening of the Elizabeth line.</li> <li>• Elizabeth Line Delivery Group (ELDG) to deliver the earliest safe, cost-effective opening date for the Elizabeth line and to take whatever proactive and remedial action was necessary to achieve that goal.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• TfL was able to provide more effective management focus and effort, to 'pull' the Elizabeth line into operation.</li> <li>• TfL, as the long-term operator of the railway, had greater control over the project to bring the line into operation as quickly as possible.</li> <li>• DfT approval remained on matters relating to the core agreements and Sponsors Requirements.</li> </ul>
 <p><b>Behaviours and relationships</b></p>	<ul style="list-style-type: none"> <li>• Visibility of the Crossrail leadership team became a key priority of the TfL Commissioner with daily calls (including over the weekend) between the TfL Commissioner and Crossrail Ltd's CEO, with the Chief Operating Officer, Chief Maintenance Officer, Project Delivery Chief and Programme Manager included as appropriate.</li> <li>• Close relationships between the respective TfL and DfT sponsor teams were maintained, and appropriate processes identified to ensure updates could be provided and risks escalated.</li> <li>• There was a commitment to close engagement with the leadership of key train and signalling suppliers.</li> </ul>	<ul style="list-style-type: none"> <li>• A culture of transparency and openness was encouraged and sustained at all levels of the Crossrail organisation.</li> <li>• TfL was able to pivot towards prioritising the completion of the Elizabeth line with support from across the organisation.</li> <li>• As decision-makers were working together side by side, it was easier to agree trade-offs and drive the railway to completion.</li> </ul>
 <p><b>Openness and transparency</b></p>	<ul style="list-style-type: none"> <li>• Commitment to a high level of transparency was maintained including: <ul style="list-style-type: none"> <li>• Publication of ELC papers and ELDG minutes.</li> <li>• ELC meetings held in public.</li> <li>• DfT given visibility of all ELC and ELDG material with a special representative attending ELC and regular updates to DfT Investment Committees.</li> <li>• Monthly updates to the London Assembly Transport Committee and twice-yearly updates to the Public Accounts Committee.</li> <li>• Continued publication of P Rep reports and the responses from the Crossrail organisation.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• The establishment of trust allowed the project team to focus on delivery (establish processes and then stick with them) and protect against abundant review, a variety of inputs and unnecessary intrusion.</li> <li>• Collaborative meetings were held across organisations, including supply chain forums, and integrated schedule and cost reviews held on a periodic basis for full transparency.</li> </ul>



Themes	Changes implemented in 2020	Impacts of changes
 <p data-bbox="257 543 377 602"><b>Skills and capability</b></p>	<ul data-bbox="440 284 1043 649" style="list-style-type: none"> <li>• Membership of ELC and ELDG was regularly reviewed to ensure appropriate representation and skills.</li> <li>• P Rep was retained and provided updates as required while continuing to report to sponsors.</li> <li>• Independent advisors were identified to provide assurance during the remaining stages of the project.</li> <li>• Many of the professional services required to complete the project were transferred into TfL with an ongoing role to support operations.</li> </ul>	<ul data-bbox="1072 284 1479 696" style="list-style-type: none"> <li>• TfL was able to work more autonomously to make the necessary decisions to drive the project towards opening an operational railway.</li> <li>• A working culture was developed that balanced optimism, to keep the project team motivated, against pragmatism, with more reliable communication of risk, productivity and project performance.</li> </ul>
 <p data-bbox="223 1091 406 1119"><b>Project controls</b></p>	<ul data-bbox="440 731 1043 1307" style="list-style-type: none"> <li>• The Operations team increased its contribution to management reports and governance reports.</li> <li>• The TfL Commissioner was asked (along with the Mayor of London, when invited) to attend performance meetings with ministers to report on progress on the Crossrail project.</li> <li>• The TfL Commissioner was asked to attend the DfT Investment, Portfolio and Delivery Committee on a quarterly basis to provide updates on progress.</li> <li>• The Crossrail organisation produced weekly dashboard reports to provide updates on key aspects and metrics of project delivery.</li> <li>• Countdown tactical meetings began to be held every week with the Crossrail leadership team, for concerns to be raised and corrective action taken as necessary.</li> </ul>	<ul data-bbox="1072 731 1462 954" style="list-style-type: none"> <li>• More consistent, clear, speedy and effective decision making supported the completion of the Elizabeth line.</li> <li>• An increased level of support allowed for quick and more transparent escalations.</li> </ul>

# 6 Looking to close

Following the governance transition in 2020, key testing, commissioning and handover milestones were met, and on 24 May 2022 the Elizabeth line was successfully opened within the established opening window of the first half of 2022. As planned, Bond Street station opened later in the year on 24 October 2022 and on 6 November 2022, direct Elizabeth line services into central London from Reading, Heathrow and Shenfield were introduced, and the full end-to-end timetable is set to be introduced in May 2023.

To support the remaining activities to deliver the full end-to-end railway and close the project, we are reviewing how to transition the project governance arrangements as risks continue to be retired and the established TfL operational and maintenance processes become more applicable for the management of the railway.

Significant delivery risks were retired with the opening of the Central Section of the railway in May 2022 and the introduction of through services between the Central Section and the eastern and western routes in November 2022. In response, the P Rep was demobilised in June 2022 and remains on a call-off arrangement to provide advice as required and support sponsor-led reviews where appropriate. Project and independent assurance have continued to be provided by the project and independent assurance teams.

We anticipate that the remit of ELC and ELDG will naturally scale back with an eventual end and transferring of residual functions to existing established committees of the TfL Board.

Ongoing sponsor activities that remain for both DfT and TfL include contributing to the benefits management and post-opening evaluation workstreams that are outlined in TfL's benefits framework (*Elizabeth line: Evidencing the value*, link: <https://tfl.gov.uk/corporate/publications-and-reports/elizabeth-line-benefits-framework>).



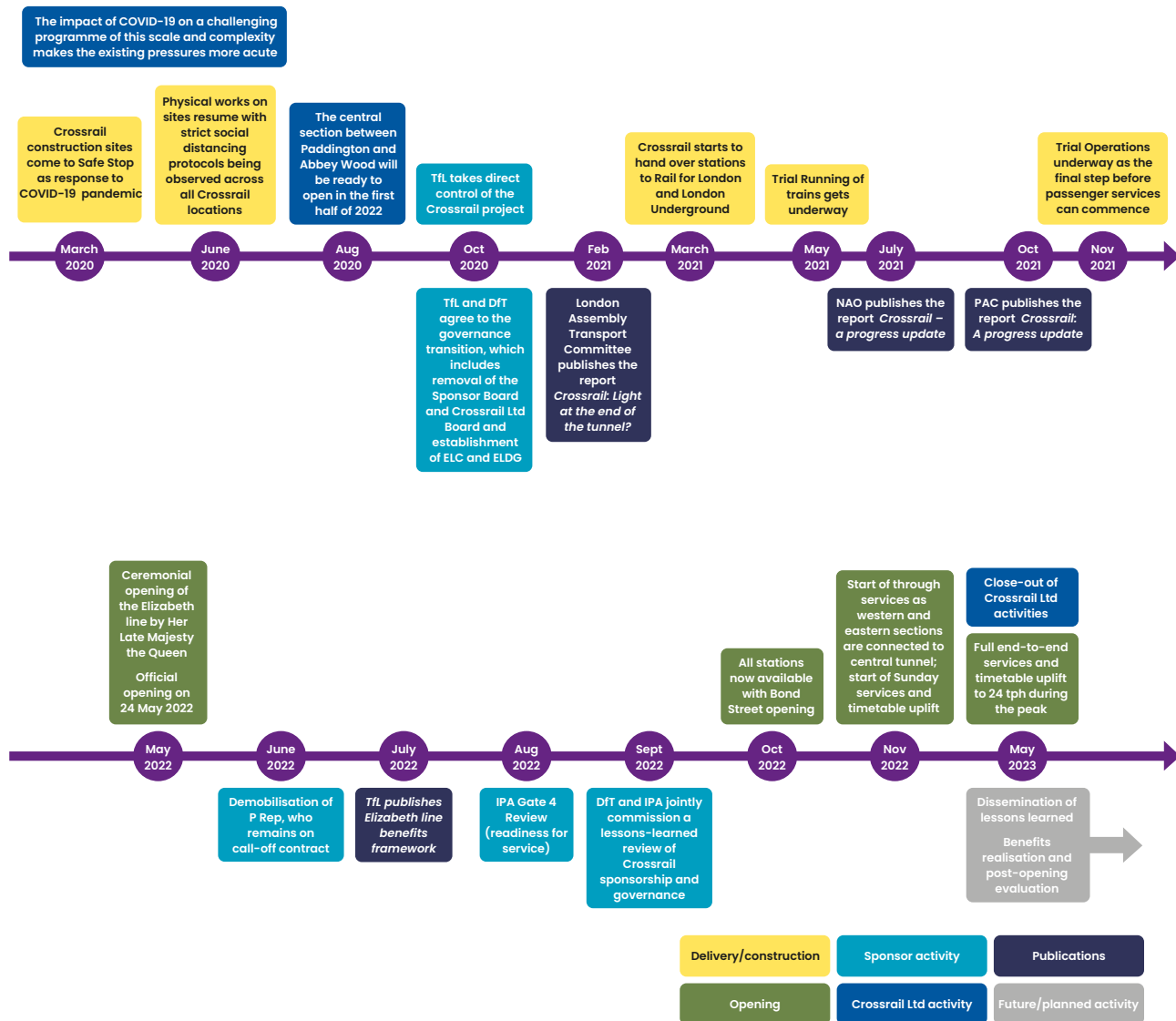


Figure 4 Crossrail timeline 2020–2023+

# 7 Lessons learned

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Reflecting on the key themes and the changes made to the governance arrangements of the Crossrail project from 2018, we have identified the following lessons that may be applicable to other infrastructure projects and programmes with many organisational interfaces over a long period of time.

## **1. Consider adapting processes and relationships before changing existing governance arrangements.**

A key theme from the recommendations has been to ensure that governance arrangements remain fit for purpose as the project progresses. The sponsors kept this in mind and were careful to avoid adding additional pressure to the project when introducing change. Sponsor support for a project includes protecting the delivery environment from unnecessary change and distraction.

Focusing on the desired impacts of aligning processes and behaviours was initially successful in 2019 to reset the project and refresh priorities and behaviours. This provided stability at an uncertain time by maintaining separation between the sponsor and delivery organisations. It preserved the autonomy of Crossrail Ltd, allowing it to rebuild its approach to delivering the remaining activities to introduce the end-to-end railway as soon as possible, while enhancing sponsors' support and oversight to provide confidence in the new delivery team.

On major projects and programmes, governance arrangements will be established early on and codified to reflect assumptions about how the project or programme will unfold. Sponsors cannot predict the future and need to be open to reflect how their interpretation may need to evolve over the delivery life cycle. This evolution does not mean that the governance arrangements need to be replaced – rather that jointly the parties agree to revise processes and relationships, or refresh membership and terms of reference of existing meetings to reflect current risks, challenges and priorities.

Governance arrangements were not structurally changed until interests significantly evolved and accountabilities needed to be refreshed. The arrangements to modify the sponsorship model and bring TfL and Crossrail Ltd closer together were not implemented until TfL could support the remaining delivery of the project and DfT was content transferring control to the TfL Commissioner.

## **2. Identify desired impacts of governance changes to align arrangement with the sponsor's interests in addition to the needs of the project.**

Changes to the governance arrangements should be identified on the basis of the desired impacts the changes will achieve, and monitored to ensure that the intervention was appropriate and check whether further adjustment is required.

The changes should be identified to align with the interests of the sponsor and reflect the risks applicable to the sponsor organisation(s). This will ensure that there is appropriate oversight aligned to the priorities of the accountable organisation(s) to provide confidence that risks are being managed to meet delivery and cost commitments and ultimately deliver the intended outcomes of the investment.

The needs of the project should also be considered to ensure that the governance arrangements support rather than burden the delivery teams. A common purpose should be established where both sponsor and delivery teams benefit from the material produced to support the discussions at the meetings. It is a collaboration between teams, not a hierarchy. Encouraging a culture of transparency will avoid separate management and sponsor reports, and ensure consistency and timeliness in delivering key messages. For the Crossrail organisation, this removed some duplication of tasks and freed up management and administrative time.

Giving sponsors more direct access into the delivery organisation helped to rebuild trust in the delivery team, and over time actually provided more freedom and space for the teams to deliver as sponsor confidence increased. The enhanced access to information also meant that sponsors were in more of an informed position to support the project with escalations with the supply chain and stakeholders.

The need for changes can be considered based on event triggers or time triggers, and either may be appropriate given the situation of the project. What is important is that governance arrangements are kept current, fit for purpose and applicable to both sponsor and delivery teams/organisations.

### ***3. The operation of a joint sponsorship model requires review and adjustment as working arrangements and interests change.***

A joint sponsorship model was identified for the Crossrail project to ensure that the interests of the main sponsoring and funding organisations were reflected in the development of the project. A Joint Sponsor team was created to service the needs of both TfL and DfT and to work collaboratively across organisations to meet the needs of both. As organisational interests evolved with the delivery of the project and the completion of the railway approaching, the joint sponsorship model was challenged as different priorities emerged.

Although the joint sponsorship model was replaced in 2020 with two separate sponsorship teams, strong relationships remained to ensure visibility of priorities, interests and risks. Sponsors focused on instilling the right behaviours and culture within and between the two organisations and recognised that with the closure of the Sponsor Board, there was a need to find a new way to work together to support the remaining delivery of the project.

Common areas were identified where the two sponsorship teams could continue to support each other, including public engagement, assurance reviews, completion certificates, lessons learned and benefits management. Where interests were different, additional effort was required to clearly communicate respective priorities so that engagement occurred at the appropriate levels in the organisation and processes were implemented to ensure that needs were met.

Trust between sponsorship teams was important to establish and maintain, as was regular engagement between the organisational counterparts.

The sponsors were also careful to maintain consistency in approach as changes in personnel occurred, both within the project delivery teams and within the sponsorship organisations. In some instances, as teams have become smaller, roles have been combined, and being flexible with available resources has been important given the challenges of recruiting at the tail end of a project.

Sharing knowledge across the teams and having the right culture and behaviours in place was helpful for individuals to respond and support workstreams outside their own area. This remains essential to ensure the remaining delivery scope and project close-out activities can be completed successfully and in a timely way.

## Relevant learning legacy papers

- Lessons learned from structuring and governance arrangements perspectives at the construction stage of Crossrail (link: <https://learninglegacy.crossrail.co.uk/documents/lessons-learned-from-structuring-and-governance-arrangements-perspectives-at-the-construction-stage-of-crossrail/>)
- Crossrail programme organisation management delivering London's Elizabeth line (link: <https://learninglegacy.crossrail.co.uk/documents/crossrail-programme-organisation-management-delivering-londons-elizabeth-line/>)
- Crossrail programme governance (link: <https://learninglegacy.crossrail.co.uk/documents/crossrail-programme-governance/>)

## Relevant published good practice

- IPA Project Routemap – Governance module (link: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1080238/Governance\\_-\\_FINAL.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1080238/Governance_-_FINAL.pdf))
- APM Governance of Co-Owned Projects (link: <https://www.apm.org.uk/book-shop/governance-of-co-owned-projects/>)

