



House of Commons
Committee of Public Accounts

**Crossrail: A progress
update**

**Twenty-Fourth Report of Session
2021–22**

*Report, together with formal minutes relating
to the report*

*Ordered by the House of Commons
to be printed 25 October 2021*

HC 184

Published on 29 October 2021
by authority of the House of Commons

The Committee of Public Accounts

The Committee of Public Accounts is appointed by the House of Commons to examine “the accounts showing the appropriation of the sums granted by Parliament to meet the public expenditure, and of such other accounts laid before Parliament as the committee may think fit” (Standing Order No. 148).

Current membership

[Dame Meg Hillier MP](#) (*Labour (Co-op), Hackney South and Shoreditch*) (Chair)

[Mr Gareth Bacon MP](#) (*Conservative, Orpington*)

[Kemi Badenoch MP](#) (*Conservative, Saffron Walden*)

[Shaun Bailey MP](#) (*Conservative, West Bromwich West*)

[Dan Carden MP](#) (*Labour, Liverpool, Walton*)

[Sir Geoffrey Clifton-Brown MP](#) (*Conservative, The Cotswolds*)

[Rt Hon Mark Francois MP](#) (*Conservative, Rayleigh and Wickford*)

[Barry Gardiner MP](#) (*Labour, Brent North*)

[Peter Grant MP](#) (*Scottish National Party, Glenrothes*)

[Antony Higginbotham MP](#) (*Conservative, Burnley*)

[Mr Richard Holden MP](#) (*Conservative, North West Durham*)

[Craig Mackinlay MP](#) (*Conservative, Thanet*)

[Sarah Olney MP](#) (*Liberal Democrat, Richmond Park*)

[Kate Osamor MP](#) (*Labour (Co-op), Edmonton*)

[Nick Smith MP](#) (*Labour, Blaenau Gwent*)

[James Wild MP](#) (*Conservative, North West Norfolk*)

Powers

Powers of the Committee of Public Accounts are set out in House of Commons Standing Orders, principally in SO No. 148. These are available on the Internet via www.parliament.uk.

Publication

© Parliamentary Copyright House of Commons 2021. This publication may be reproduced under the terms of the Open Parliament Licence, which is published at <https://www.parliament.uk/site-information/copyright-parliament/>.

Committee reports are published on the [Committee's website](#) and in print by Order of the House.

Committee staff

The current staff of the Committee are Jessica Bridges-Palmer (Media Officer), Ameet Chudasama (Committee Operations Manager), Richard Cooke (Clerk), Rose Leach (Committee Operations Officer), Ben Rayner (Second Clerk), Ben Shave (Chair Liaison).

Contacts

All correspondence should be addressed to the Clerk of the Committee of Public Accounts, House of Commons, London SW1A 0AA. The telephone number for general enquiries is 020 7219 5776; the Committee's email address is pubaccom@parliament.uk.

You can follow the Committee on Twitter using [@CommonsPAC](#).

Contents

Summary	3
Introduction	4
Conclusions and recommendations	5
1 Schedule risks, cost and funding	8
Schedule risks and costs	8
Funding	10
Opening the Elizabeth line	11
2 Benefits and lessons learned from the programme	13
Achieving the benefits	13
Learning lessons	14
Formal minutes	16
Witnesses	17
List of Reports from the Committee during the current Parliament	18

Summary

Crossrail is a complex major programme to run new, direct rail services (the Elizabeth line) between Reading and Heathrow Airport at the western ends of the railway and to Shenfield in Essex and Abbey Wood in south-east London at the eastern ends. It is the world's first truly digital railway of its size and scale that will have no peers in the world. Since the Committee last reported on the Crossrail programme in July 2019, the forecast cost has increased by a further £1.9 billion to £18.9 billion. The opening date for the central section of the Elizabeth line has also been subsequently delayed by between 10 and 20 months, with the Department for Transport (the Department) and Transport for London (TfL) now expecting it to open between February 2022 and June 2022. Full east-west services are scheduled to begin in either December 2022 or May 2023.

Critical work remains to complete the Elizabeth line, including an important software update planned for later this year which will enable Crossrail Ltd to provide more certainty about the expected opening dates, and completing all remaining works, particularly on the stations. Introducing new services onto the national rail network, and running the planned 24 trains an hour along the central section of the Elizabeth line, will also be challenging. However, there are encouraging signs that the programme costs are under better control with a clearer understanding of the scale of work remaining, although that is the very least to be expected considering that Crossrail Ltd estimates passengers could be using the line as early as February 2022. There is also a clearer sense of ownership, responsibility, and determination to complete the programme. Completing the railway within the new timeline will require ongoing effort from all those involved and our previous experience is that even confident predictions have been over optimistic.

By the time passengers can travel from one end of the Elizabeth line to the other, some £19 billion will have been invested in Crossrail. Passenger demand for the line will be difficult to predict, particularly given the uncertainty surrounding COVID:19 and the possible future changes in people's working patterns. It is therefore critical that the Department and TfL focus on how to achieve all of the benefits of the line, particularly encouraging passengers to use the line and enabling wider, economic regeneration. There are many lessons to be learnt from the Crossrail experience, and it is vital that the Department and other government departments make practical and tangible changes to their delivery of major projects. We continue to monitor progress closely and will hold the new Crossrail leadership to account as they approach these final critical months.

Introduction

Crossrail is a complex major programme to run new, direct rail services between Reading and Heathrow Airport at the western ends of the railway, to Shenfield in Essex and Abbey Wood in south-east London at the eastern ends. It is the world's first truly digital railway of its size and scale that will have no peers in the world. Construction work on the programme started in 2009 and tunnelling began in 2012. The majority of major construction work is complete and Crossrail Ltd is now transferring assets, such as stations, to Rail for London Infrastructure (RfLi) and London Underground who, along with Network Rail, will maintain and operate different parts of the railway. When complete, the railway will be around 73 miles (118 kilometres) long, stopping at 41 stations, including 10 new stations and 26 miles (42 kilometres) of new tunnels. Once Crossrail is open, it will become part of Transport for London's (TfL's) underground and overground rail network and be known as the Elizabeth line. The Department for Transport (the Department) and Transport for London (TfL) are jointly sponsoring the programme. Crossrail Ltd is an arm's-length body specifically created to deliver the programme and is wholly-owned by TfL.

This is the fourth time the Committee has reported on the Crossrail programme. The last two reports followed significant cost and schedule increases in 2018. When we last reported in July 2019, programme funding had increased by £2.8 billion to £17.6 billion, and Crossrail Ltd expected the central section of the railway to open between October 2020 and March 2021. Since then, Crossrail Ltd's estimate of the cost to complete the Elizabeth line has increased to £18.9 billion, 28% more than the £14.8 billion budget set in 2010. It expects to open the central section between February and June 2022, with full east-west services beginning either December 2022 or May 2023 to align with National Rail timetable changes.

Conclusions and recommendations

1. **Risks remain to cost and schedule before the railway opens to the public.** Twelve trains an hour are now running through the central section of Crossrail as part of the first stage of operational testing, known as Trial Running. This is an important period of testing to uncover any issues before the Elizabeth line enters service. A significant software update is needed for the final stage of testing, Trial Operations, which will allow up to 24 trains an hour to run. Crossrail Ltd expected this update to have been completed in Summer 2021 but it was delayed by up to eight weeks. Any unexpected issues may take time to fix. Completing the stations is on the critical path to opening the railway to passengers. Five of the nine central section stations have been handed over to the eventual infrastructure maintainer - Rail for London Infrastructure (RfLi) or London Underground, but Canary Wharf and Bond Street have had significant issues in the past and are yet to be completed. The NAO reported that the programme was spending approximately £56 million a month in the six months to March 2021, so any delay to the programme remains a significant risk to the eventual cost of the Elizabeth line. Crossrail Ltd must end the expensive Tier 1 contracts as soon as possible. By July 2021, Crossrail Ltd expected to have updated its plans to reflect progress and risks remaining, which would inform its range of potential opening dates and costs. This has been delayed by up to two months.

Recommendation: *Alongside the Treasury Minute response to this report, Crossrail Ltd should update the Committee on the latest programme plan and the revised forecast cost for the whole programme, and opening date for the central section and the entire railway. For clarity, Crossrail Ltd should provide this information in a similar format to that presented in Figure 11 of the NAO report.*

2. **The collapse in passenger numbers owing to the pandemic, and subsequent bailout to TfL, has complicated how and when TfL and the Greater London Authority will be able to repay the taxpayer loans for Crossrail.** To date, the taxpayer has provided nearly £2.9 billion in loans to TfL and the Greater London Authority (GLA) to fund Crossrail Ltd's costs on the programme: £750 million to TfL in December 2018; £1,300 million to the GLA in December 2018; and an additional £825 million to the GLA in December 2020. However, this funding may still not be enough, with Crossrail Ltd's middle estimate cost of the programme in July 2021 (£15,940) coming in £150 million above its current available funding, thus potentially creating a shortfall. The Department expects the £750 million loan to TfL for Crossrail to be financed and repaid from TfL's own revenues. This loan is separate from over £4 billion of loans from government to support TfL during COVID. Fare revenue is critical to TfL's finances. Prior to the pandemic, TfL said it received 72% of its income from fares however passenger numbers were plateauing before the pandemic, and have since collapsed. There may be long-term changes to travel patterns, with TfL estimating an 18% drop in demand for rail by 2031 compared with what was expected before the pandemic. Government lending to TfL during the pandemic includes a target to become financially self-sufficient within two years, meaning TfL must identify new revenue streams. The GLA loans are expected to be paid back via London's Business Rate Supplement (BRS) and Mayoral Community Infrastructure Levy (MCIL), with the Commissioner telling us it could take up to 2043 for full repayment.

Recommendation: *The Department and TfL should write to the Committee by the end of November setting out TfL's revenue forecast scenarios, and what they mean for whether the loans for Crossrail will be fully repaid and when.*

3. **It is not clear to passengers and businesses when the Elizabeth line will open or what services will be available.** The Elizabeth line services will open in stages. Services have been running on the eastern and western ends of the line (under the brand name 'TfL Rail') since June 2017 and May 2018, respectively. Opening of the central section, known as stage 3, is expected in the first half of 2022. It will operate a shuttle service between Abbey Wood and Paddington. Commuters must change to other Elizabeth line services to continue their journeys on the eastern and western ends. Full east-west services, without an interchange, are not expected until December 2022 or May 2023 as these need to be aligned with National Rail timetable changes which occur in May and December each year. However increased services, such as from the eastern ends through the central section and terminating at Paddington, may open by September 2022. Crossrail Ltd has not yet publicly announced an exact opening date. However, with the opening of central section potentially as soon as February 2022, and the staged opening of different routes, commuters and businesses will need increased certainty to better plan for Crossrail opening.

Recommendation: *Crossrail Ltd, TfL and the Department should develop a clear communication strategy to the public to explain when and what Elizabeth line services will be open.*

4. **We are concerned that TfL and the Department do not have a plan to maximise the long-term, wider economic benefits of Crossrail.** When open, the Elizabeth line should increase capacity in central London by around 10%, reduce journey times, improve connectivity and be a fully accessible railway. TfL expects the Elizabeth line to contribute towards its net zero objectives by getting cars off the road. Since 2010, the Department and TfL have referred to Crossrail resulting in £42 billion of benefits to the economy. Crossrail has delivered some benefits during the build phase, such as apprenticeships, and the Department and TfL have commissioned work to examine how the programme has affected property and regeneration along the route, and on establishing a baseline to measure some benefits. The Elizabeth line could be open to passengers in as early as February 2022, some seven months from the date of our evidence session. Achieving economic growth and regeneration requires sustained effort and vision—in this case, effort and vision shared by local authorities and boroughs, and businesses. It is surprising therefore, particularly considering how travel patterns were already changing before the pandemic, that there is still no strategy or plan for how to achieve the wider benefits of the Elizabeth line.

Recommendation: *TfL and the Department should publish a detailed plan before the central section opens for setting out how they intend to maximise the long-term, wider economic benefits of Crossrail, including:*

- *What the benefits are;*
- *Who is responsible for delivering them;*

- *The levers or support that TfL and the Department require to deliver these benefits; and*
 - *How these benefits will be monitored and reported over time.*
5. **The Department has still not demonstrated that it is embedding lessons learned into its major programmes.** This Committee has examined many major transport programmes, such as HS2, Great Western route modernisation and Thameslink, many of which have had significant problems in their delivery. We have told the Department many times that it needs to learn lessons, from Crossrail and from other major transport projects, so that it does not repeat the same mistakes. In our evidence session, the Department told us again about the report it produced with the Infrastructure and Projects Authority, the innovative approach to delivering railway systems in HS2, and its project delivery improvement plan. While these are welcome developments, with the exception of the approach to delivering railway systems on HS2, the Department has not explained to us in practical terms what it is doing differently, nor the real-world impact its changes have had on delivering major programmes.

Recommendation: *The Department should write to the Committee by the end of November detailing what it has changed in its approach to delivering major programmes with its arms-length bodies, giving examples of tangible improvements or impacts on specific projects where possible.*

1 Schedule risks, cost and funding

1. On the basis of a report by the Comptroller and Auditor General, we took evidence from the Department for Transport (the Department), Transport for London (TfL) and Crossrail Ltd on progress with the Crossrail programme.¹

2. Crossrail is a complex major programme to run new, direct rail services between Reading and Heathrow Airport at the western ends of the railway, to Shenfield in Essex and Abbey Wood in south-east London at the eastern ends. It is the world's first truly digital railway of its size and scale that will have no peers in the world. When complete, the railway will be around 73 miles (118 kilometres) long, stopping at 41 stations, including 10 new stations and 26 miles (42 kilometres) of new tunnels. Once Crossrail is open, it will become part of Transport for London's (TfL's) underground and overground rail network and be known as the Elizabeth line.²

3. The Department and TfL are jointly sponsoring the programme. Crossrail Ltd is an arm's-length body specifically created to deliver the programme and is wholly-owned by TfL. The Committee has previously reported on Crossrail three times—in July 2014, April 2019 and July 2019.³ The last two reports followed significant cost and schedule increases in 2018. Our 2019 reports found that funding for Crossrail had increased by £2.8 billion to £17.6 billion, and at that time, Crossrail Ltd expected the central section of the railway to open between October 2020 and March 2021.

4. Since then, Crossrail Ltd's estimate of the cost to complete the Elizabeth line has increased to £18.9 billion, 28% more than the £14.8 billion budget set in 2010.⁴ Crossrail Ltd expects to open the central section in the first half of 2022, which is 10 to 20 months later than the expected opening date reported in 2019.⁵ Crossrail Ltd expects full east-west services to start in December 2022 or May 2023, aligned to National Rail timetables changes which occur in May and December each year.⁶

Schedule risks and costs

5. On 10 May 2021 the Crossrail programme began the first stage of operational testing, known as Trial Running.⁷ The objective of Trial Running is to uncover any issues with the system and, as part of this phase, Crossrail Ltd is now running a 12 trains an hour test timetable through the central section.⁸ The second and final stage of operational testing is Trial Operations. Trial Operations tests how the trains and stations operate in real-world conditions, including staff familiarisation and evacuation training. Once this stage is complete, the railway will be ready to begin services.⁹

1 C&AG's Report, [Crossrail – a progress update](#), Session 2021–22, HC 299, 9 July 2021

2 C&AG's Report, para 1

3 Committee of Public Accounts, [Crossrail](#), Eight report of session 2014–15, HC 574, 23 July 2014; Committee of Public Accounts, [Crossrail: Progress review](#), Ninety-second report of session 2017–19, HC 2004, 3 April 2019; Committee of Public Accounts, [Completing Crossrail](#), One Hundred and Ninth Report of Session 2017–19, HC 2127, 19 July 2019

4 C&AG's report, Key Facts

5 C&AG's Report, para 2.2; Committee of Public Accounts, [Completing Crossrail](#), One Hundred and Ninth Report of Session 2017–19, HC 2127, 19 July 2019.

6 C&AG's Report, figures 2, 11

7 C&AG's Report, paras 10, 3.3

8 Q 7; C&AG's Report, paras 3.3, 3.7

9 C&AG's Report, paras 3.4, 10

6. A significant software update is needed to begin Trial Operations, which will allow up to 24 trains an hour to run through the central section.¹⁰ Any unexpected issues with software may take time to fix and we have reported on previous challenges with software in our Completing Crossrail report.¹¹ The update was expected in Summer 2021 but has been delayed by up to 8 weeks.¹² The earliest Trial Operations can start is November 2021.¹³

7. Crossrail Ltd is constructing stations along the central section which are then handed over to the eventual infrastructure maintainer - Rail for London Infrastructure (RfLi) or London Underground. TfL told us that completing the stations is on the critical path to opening the central section to passengers.¹⁴ Crossrail Ltd told us that five of the nine central section stations have now been handed over, and that Paddington and Whitechapel would be handed over in the summer.¹⁵ Crossrail Ltd told us that Canary Wharf and Bond Street will be the final stations to be handed over.¹⁶ The NAO reported that Crossrail Ltd expects all stations, except Bond Street, to be handed over before Trial Operations begins. Bond Street will instead be completed to a safety standard that will allow Trial Operations to start. The NAO report also highlighted a risk that Bond Street may not be ready for the start of passenger services.¹⁷

8. The estimated cost of Crossrail has increased by £1.9 billion since we last reported and now stands at £18.9 billion.¹⁸ This excludes the £1.1 billion cost of the new trains and the depot at Old Oak Common which have historically been reported separately.¹⁹ The estimated cost has increased because the programme was further from being complete than anyone understood when the revised cost and schedule was set in April 2019.²⁰

Figure 1 – Cost increases in the Crossrail programme (excluding trains and depot)²¹

	Estimated cost at April 2019	Estimated cost at May 2021	Cost increase
Crossrail Ltd costs	£14.4 billion	£15.9 billion	£1,510 million
Network Rail costs	£2.6 billion	£3.0 billion	£390 million
Total programme costs	£17 billion	£18.9 billion	£1.9 billion

Source: National Audit Office

9. The £1.9 billion estimated cost increase consisted of £1,510 million of Crossrail Ltd costs, and £390 million of Network Rail costs. Schedule delay was the largest category of cost increase of Crossrail Ltd costs, accounting for £934 million. This was followed by £228 million of COVID-19-related costs.²² However, Crossrail Ltd told us that COVID-19

10 C&AG's Report, para 3.17

11 C&AG's Report, para 19, 3.17; Committee of Public Accounts, [Completing Crossrail](#), One Hundred and Ninth Report of Session 2017–19, HC 2127, 19 July 2019

12 C&AG's Report, para 3.17

13 Q 8

14 Q 28

15 Abbey Wood was not included in this list of central section stations as it is being delivered by Network Rail.

16 Q 7

17 C&AG's Report, para 3.14

18 Committee of Public Accounts, [Completing Crossrail](#), One Hundred and Ninth Report of Session 2017–19, HC 2127, 19 July 2019; Q 19

19 Q 19–22

20 C&AG's Report, para 11

21 Values have been rounded and are in cash prices

22 C&AG's Report, figure 8

did not impact on the programme schedule as it was able to recover the lost time.²³ The Department told us the £390 million increase in Network Rail costs was due to historical issues, such as adding previously missing scope; impacts of the Carillion liquidation which took time and money to re-tender contracts; and lower than expected productivity of contractors.²⁴

10. At May 2021, Crossrail Ltd estimated that its cost to complete the programme would be between £15,820 million and £16,008 million, with a middle value of £15,910 million. This was between £30 million and £218 million above the current funding of £15,790 million. The middle estimate was £15,910 million which was £120 million more than funding.²⁵ In July 2021, Crossrail Ltd reported that costs had increased and were now £150 million above funding. Crossrail Ltd told us that this latest increase was to top up a “management reserve” which could be used for any “unknown unknowns” in the programme and that one of the lessons learned from the past was that the Crossrail programme had not previously had such a reserve.²⁶ TfL and Crossrail Ltd told us that much of the difference between estimated cost and current funding was to mitigate prolongation risk and the inclusion of a management reserve for any unexpected costs. Crossrail Ltd must end the expensive Tier 1 contracts as soon as possible to control costs.²⁷ The programme spent approximately £56 million a month between October 2020 and March 2021, so any delay to the programme remains a significant risk to the eventual cost of the Elizabeth line.²⁸

11. TfL told us that further funding may not be needed if the railway is opened earlier and everything goes to plan.²⁹ By July 2021, Crossrail Ltd expected to have updated its plans to reflect progress and risks remaining, which would inform its range of potential opening dates and costs.³⁰ This has been delayed by up to two months.³¹

Funding

12. In August 2020, Crossrail Ltd announced that up to £1.1 billion of further funding would be needed to complete the programme. In December 2020, the government agreed to loan the Greater London Assembly (GLA) £825 million to complete the programme, which represented the limit of what the GLA could prudently borrow.³² This additional funding brought total funding for Crossrail Ltd to £15,790 million.³³ To date, the Department has provided £2,875 million of loans to Crossrail Ltd to complete the Crossrail programme. These loans are: £750 million to TfL in December 2018; £1,300 million to the GLA in December 2018; and an additional £825 million to GLA in December 2020. The GLA loans are expected to be paid back via London’s Business Rate Supplement (BRS) and Mayoral Community Infrastructure Levy (MCIL) with the Commissioner telling us it

23 Q 11

24 Q 14

25 C&AG’s Report, figure 11

26 Q 12

27 Qq 26, 45

28 Q26; C&AG’s Report, para 3.23

29 Qq 12, 27

30 C&AG’s Report, para 3.19

31 [Elizabeth Line Committee](#), 15 July 2021, page 30, para 4.7

32 C&AG’s report, Appendix 3 para 3

33 Funding for Network Rail costs is agreed separately to funding for Crossrail Ltd. Total funding for the Crossrail programme is currently £18.8 billion – £15,790 million to Crossrail Ltd and £2,980 million to Network Rail. Total funding excludes the cost of new trains and depot.

could take up to 2043 for full repayment.³⁴ The TfL loan is to be financed and repaid from TfL's own revenues.³⁵ The government has separately provided over £4 billion of loans to TfL during the COVID pandemic to support the continued running of services.³⁶

13. TfL told us that it is over-reliant on income through the farebox which accounts for 72% of TfL income. TfL compared this to New York City Transit which received 38% of its income from fares.³⁷ It told us that COVID had caused revenues to collapse because ridership had collapsed. At the start of 2021, TfL's long-term demand planning indicated an 18% drop in demand for rail as of 2031 in the most likely scenario, compared with what was expected before the COVID pandemic.³⁸ TfL told us that the government lending it had received during the pandemic included a target to become financially self-sufficient within two years.³⁹ TfL told us it must diversify its income and identify new revenue streams of around £500 million a year.⁴⁰

Opening the Elizabeth line

14. The Elizabeth line services will open in stages as different part of the line are completed. Services have been running on the eastern and western ends of the line (under the brand name 'TfL Rail') since June 2017 and May 2018, respectively.⁴¹ Crossrail Ltd expects the central tunnelled section to open between February and June 2022 and will operate a shuttle service between Abbey Wood and Paddington.⁴²

15. Once the central section opens, commuters must still change to other Elizabeth line services to continue their journeys on the eastern and western ends. The opening of full east-west services must align with national rail timetable changes which take place in May and December each year. TfL told us it was reviewing the staged opening approach inherited from the previous Crossrail Board in order to deliver more services sooner. TfL told us there is potential to operate services, for example, from Shenfield in the east, through the central section to Paddington, or Heathrow through to Canary Wharf, as soon as September 2022. Crossrail Ltd told us that this approach would deliver the majority of passenger benefits by September 2022. TfL told us that it does not expect to run full east-west services, without an interchange, until December 2022. The Department told us that it expected the final Elizabeth line timetable of services to run from May 2023.⁴³ We have previously reported on the challenges and risk of disruption following the introduction of timetable changes and new services onto the National Rail network. In our Rail management and timetabling report we found that the Department did not ensure, as it should have done, that those responsible for the railway were clear about their roles and that they worked together effectively, contributing to major disruption and misery for passengers.⁴⁴

34 Qq66, 67

35 Mayoral Decision [MD2702](#), *Additional funding for Crossrail*, November 2020, para 1.6

36 [Government agrees conditions-based £1.08 billion funding deal with Transport for London - GOV.UK \(www.gov.uk\)](#)

37 Q 18

38 Transport for London, [Financial Sustainability Plan](#), January 2021.

39 Q 18

40 Q 48

41 C&AG's report, para 10

42 Q 16

43 Q 32–35

44 Committee of Public Accounts, [Rail management and timetabling](#), Eighty-first Report of Session 2017–19, HC 1793, 27 February 2019

16. In April 2019 we reported that the Department, TfL and the previous Crossrail Ltd management team had focussed on a fixed delivery date of December 2018, which led to warning signs that programme was in trouble being missed or ignored.⁴⁵ The Department told us that it was not falling into the trap of past behaviours which is why it is presenting the opening date as a range.⁴⁶ However, with the expected opening window of services fast approaching, passengers and businesses will need clarity on what Elizabeth line services will be available and when they will start in order to adequately prepare.

45 Committee of Public Accounts, [Crossrail: progress review](#), Ninety second Report of Session 2017–19, HC 2004, 3 April 2019

46 Q 25

2 Benefits and lessons learned from the programme

Achieving the benefits

17. Construction work on the programme started in 2009 and tunnelling began in 2012.⁴⁷ The majority of major construction work is complete and Crossrail Ltd is now transferring assets, such as stations, to Rail for London Infrastructure (RfLi) and London Underground who, along with Network Rail, will maintain and operate different parts of the railway.⁴⁸ Crossrail Ltd estimates that the central section of the Elizabeth line will be open to passengers between February 2022 and June 2022.⁴⁹ Our evidence session was in July 2021, some seven months before the earliest opening date.

18. The Department and TfL told us that, when the Elizabeth line opens, they expect it to increase rail capacity in central London by around 10%, reduce journey times, and be fully accessible.⁵⁰ These were the transport benefits set out in the last published business case in 2011.⁵¹ TfL explained that the extra capacity would be useful as we emerge from the pandemic as the large stations and spacious trains would enable social distancing. Journey times to key destinations would significantly reduce, for example, the journey time from London Heathrow Airport to the City of London would reduce from 55 to 34 minutes. The line would bring 1.5 million more people within a 45-minute commute of existing major employment centres. All stations are fully accessible for passengers. Crossrail Ltd told us that there is “£42 billion of agglomerated business and personal benefit” to come from the Elizabeth line.⁵² TfL also told us that the Elizabeth line would contribute towards its plans to be net zero by getting cars off the road.⁵³

19. The Department and Crossrail Ltd told us about the benefits Crossrail has achieved during construction. Crossrail Ltd told us that Crossrail had “overreached” on its apprenticeship targets, achieving 1,000 apprenticeships. Many of the 1,000 were in civil engineering in the Tier 1 contractors, and Crossrail Ltd does not know where they work now. There are a further 100 to 200 apprenticeships on the Elizabeth line at the moment. The tunnelling academy is now a training centre for TfL.⁵⁴

20. The Department told us that Crossrail had completed a property and regeneration study looking at 2008 to 2016 which identified some 90,000 homes and four million square feet of office space resulting from Crossrail. It also noted plans in place for 12 major developments around the Elizabeth line stations and Crossrail sites, such as 3,700 new homes at the Royal Arsenal site in Woolwich. The Department said it would do formal evaluations of Crossrail at two year and five year stages, and has set a baseline against which to measure some benefits.⁵⁵

47 C&AG’s Report, [Crossrail](#), Session 2013–14, HC 965, 24 January 2014, Figure 2

48 C&AG’s Report, para 10

49 Qq 10, 16

50 Q 75

51 C&AG’s Report, paras 4.2, 4.13.

52 Q 75

53 Q 72

54 Q 70

55 Q 74

21. The NAO report sets out what it would expect to see in place to achieve benefits. It reported that the Department and TfL did not have a clear overarching benefits management strategy or plan for the Elizabeth line, but had started work on one since its fieldwork.⁵⁶ Local economic growth and regeneration requires sustained effort and vision over a long period, as well as buy in from local stakeholders.⁵⁷ The Department told us that TfL was developing a full strategy which would be published in the summer, setting out the actions to help realise those benefits.⁵⁸ Crossrail Ltd told us that the Elizabeth line has a 120 year design life and so there is “plenty of time and opportunity for people to come back to the Elizabeth line”.⁵⁹

Learning lessons

22. We have examined many major transport programmes over the years, including modernising the Great Western railway, the Sheffield to Rotherham tram-train, the Thameslink programme, the A303 Stonehenge tunnel, High Speed Two and Crossrail. We have seen common issues around programmes not keeping to cost or schedule, a lack of transparency about how programmes are progressing, and weaknesses in leadership and governance.⁶⁰

23. We have asked the Department for the lessons it has learned from these experiences on several different occasions and we asked again at this session in July. The Department referred again to the report it had produced with the Infrastructure and Projects Authority, following the announcement of delays and cost increases on the Crossrail programme in July 2018: *Lessons learned from transport for the sponsorship of major projects*.⁶¹ The Department repeated that as well as the lessons learned report, it has run an “extensive project development improvement plan” across the Department. It told us that the plan aims to strengthen the Department’s capability, governance, culture and transparency. It also said that it had shared its plan with colleagues across government through an infrastructure steering group.⁶²

24. The Department also referred to the lessons it and HS2 Ltd have learnt from the difficulties Crossrail had in integrating the 36 main works contracts and ensuring that they work together. Informed by the Crossrail experience, at our June 2021 session on HS2, HS2 Ltd and the Department told us of their different approach to contracting for railway systems, which involves an alliance approach.⁶³ However, the Department has not demonstrated to us in practical terms what it is doing differently in its management and oversight of major projects, what tangible improvements it has seen, nor the real-

56 C&AG’s report, paras 4.14, 4.16

57 C&AG’s report, para 4.17

58 Q 74

59 Q 76

60 Committee of Public Accounts, *Modernising the Great Western Railway*, 44th Report of Session 2016–17, 22 February 2017; Committee of Public Accounts, *Sheffield to Rotherham tram-trains*, 9th Report of Session 2017–19, 11 December 2017; Committee of Public Accounts, *Update on the Thameslink Programme*, 20th Report of Session 2017–19, 5 February 2018; Committee of Public Accounts, *High Speed 2: Spring 2020 Update*, 3rd Report of Session 2019–21, 6 May 2020; Committee of Public Accounts, *Transport infrastructure in the South West*, 104th Report of Session 2017–19, 24 June 2019.

61 Q 78; *Lessons learned from transport for the sponsorship of major projects*, Department for Transport and the Infrastructure and Projects Authority, April 2019.

62 Q 78

63 Q 78; Committee of Public Accounts, Oral evidence: High Speed 2, HC 329, Qs 22–23

world impact its changes have had. Without this information, we cannot be assured that the Department has embedded lessons throughout the Department and its arms-length bodies.

Formal minutes

Monday 25 October 2021

Members present:

Dame Meg Hillier, in the Chair

Shaun Bailey

Mr Mark Francois

Barry Gardiner

Antony Higginbotham

Mr Richard Holden

Craig Mackinlay

Kate Osamor

James Wild

Crossrail – A progress update

Draft Report (*Crossrail – A progress update*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 24 read and agreed to.

Summary agreed to.

Introduction agreed to.

Conclusions and recommendations agreed to.

Resolved, That the Report be the Twenty-fourth of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Adjournment

[Adjourned till Thursday 28 October at 9:30am]

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Monday 19 July 2021

Bernadette Kelly CB, Permanent Secretary, Department for Transport; **Matt Lodge**, Director Rail Infrastructure South, Department for Transport; **Andy Byford**, Commissioner, Transport for London; **Mark Wild**, CEO, Crossrail Ltd

[Q1-86](#)

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website.

Session 2021–22

Number	Title	Reference
1st	Low emission cars	HC 186
2nd	BBC strategic financial management	HC 187
3rd	COVID-19: Support for children's education	HC 240
4th	COVID-19: Local government finance	HC 239
5th	COVID-19: Government Support for Charities	HC 250
6th	Public Sector Pensions	HC 289
7th	Adult Social Care Markets	HC 252
8th	COVID 19: Culture Recovery Fund	HC 340
9th	Fraud and Error	HC 253
10th	Overview of the English rail system	HC 170
11th	Local auditor reporting on local government in England	HC 171
12th	COVID 19: Cost Tracker Update	HC 173
13th	Initial lessons from the government's response to the COVID-19 pandemic	HC 175
14th	Windrush Compensation Scheme	HC 174
15th	DWP Employment support	HC 177
16th	Principles of effective regulation	HC 176
17th	High Speed 2: Progress at Summer 2021	HC 329
18th	Government's delivery through arm's-length bodies	HC 181
19th	Protecting consumers from unsafe products	HC 180
20th	Optimising the defence estate	HC 179
21st	School Funding	HC 183
23rd	Test and Trace update	HC 182
1st Special Report	Fifth Annual Report of the Chair of the Committee of Public Accounts	HC 222

Session 2019–21

Number	Title	Reference
1st	Support for children with special educational needs and disabilities	HC 85

Number	Title	Reference
2nd	Defence Nuclear Infrastructure	HC 86
3rd	High Speed 2: Spring 2020 Update	HC 84
4th	EU Exit: Get ready for Brexit Campaign	HC 131
5th	University technical colleges	HC 87
6th	Excess votes 2018–19	HC 243
7th	Gambling regulation: problem gambling and protecting vulnerable people	HC 134
8th	NHS capital expenditure and financial management	HC 344
9th	Water supply and demand management	HC 378
10th	Defence capability and the Equipment Plan	HC 247
11th	Local authority investment in commercial property	HC 312
12th	Management of tax reliefs	HC 379
13th	Whole of Government Response to COVID-19	HC 404
14th	Readying the NHS and social care for the COVID-19 peak	HC 405
15th	Improving the prison estate	HC 244
16th	Progress in remediating dangerous cladding	HC 406
17th	Immigration enforcement	HC 407
18th	NHS nursing workforce	HC 408
19th	Restoration and renewal of the Palace of Westminster	HC 549
20th	Tackling the tax gap	HC 650
21st	Government support for UK exporters	HC 679
22nd	Digital transformation in the NHS	HC 680
23rd	Delivering carrier strike	HC 684
24th	Selecting towns for the Towns Fund	HC 651
25th	Asylum accommodation and support transformation programme	HC 683
26th	Department of Work and Pensions Accounts 2019–20	HC 681
27th	Covid-19: Supply of ventilators	HC 685
28th	The Nuclear Decommissioning Authority's management of the Magnox contract	HC 653
29th	Whitehall preparations for EU Exit	HC 682
30th	The production and distribution of cash	HC 654
31st	Starter Homes	HC 88
32nd	Specialist Skills in the civil service	HC 686
33rd	Covid-19: Bounce Back Loan Scheme	HC 687
34th	Covid-19: Support for jobs	HC 920
35th	Improving Broadband	HC 688

Number	Title	Reference
36th	HMRC performance 2019–20	HC 690
37th	Whole of Government Accounts 2018–19	HC 655
38th	Managing colleges' financial sustainability	HC 692
39th	Lessons from major projects and programmes	HC 694
40th	Achieving government's long-term environmental goals	HC 927
41st	COVID 19: the free school meals voucher scheme	HC 689
42nd	COVID-19: Government procurement and supply of Personal Protective Equipment	HC 928
43rd	COVID-19: Planning for a vaccine Part 1	HC 930
44th	Excess Votes 2019–20	HC 1205
45th	Managing flood risk	HC 931
46th	Achieving Net Zero	HC 935
47th	COVID-19: Test, track and trace (part 1)	HC 932
48th	Digital Services at the Border	HC 936
49th	COVID-19: housing people sleeping rough	HC 934
50th	Defence Equipment Plan 2020–2030	HC 693
51st	Managing the expiry of PFI contracts	HC 1114
52nd	Key challenges facing the Ministry of Justice	HC 1190
53rd	Covid 19: supporting the vulnerable during lockdown	HC 938
54th	Improving single living accommodation for service personnel	HC 940
55th	Environmental tax measures	HC 937
56th	Industrial Strategy Challenge Fund	HC 941