

# Evidencing the value of the Elizabeth line

An update on the outcomes of London's transformational railway

May 2022 to May 2024

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Transforming travel in London for millions of people



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# Evidencing the value

Transforming journeys through London for millions of customers

The Elizabeth line is the most significant addition to London's transport network in a generation. Since opening in May 2022, it has not only transformed how we travel across London and the South East, but has improved our customers' experience and helped attract people back onto public transport and into the capital.


To monitor the success of the line, we have gathered evidence from a range of sources to show the benefits that have been generated from the investment. These activities include tracking indicators to draw an early picture of how well the railway is performing against our expectations.

Our approach, as outlined in our [benefits framework](#), includes benefits management activities and impact evaluation studies. The emerging picture shows how the outcomes of the investment in the new railway are being realised. We must continue our activities to understand and document the full picture of what the benefits are against what the project set out to achieve. We will provide further updates as our understanding develops.



 **40%**  
increase in demand  
between June 2022 and  
October 2023

**350m**   
journeys made since  
the line opened in  
May 2022

 **8%**  
increase in  
passenger journeys  
expected in 2024/25

**55,000**   
new homes already  
developed through the  
impact of the railway

 **60%**  
of Greater London's  
employment growth  
between 2015 and 2022  
within one kilometre of  
an Elizabeth line station



# Our expectations

We are focused on documenting the benefits against the expectations of our sponsors' requirements and business case

The business case analyses the value for money of the investment in the Crossrail project over a 60-year period from the opening of the line. While we can comment on some of the components, others will need to be monitored over a longer period before we can assess the implemented value for money.

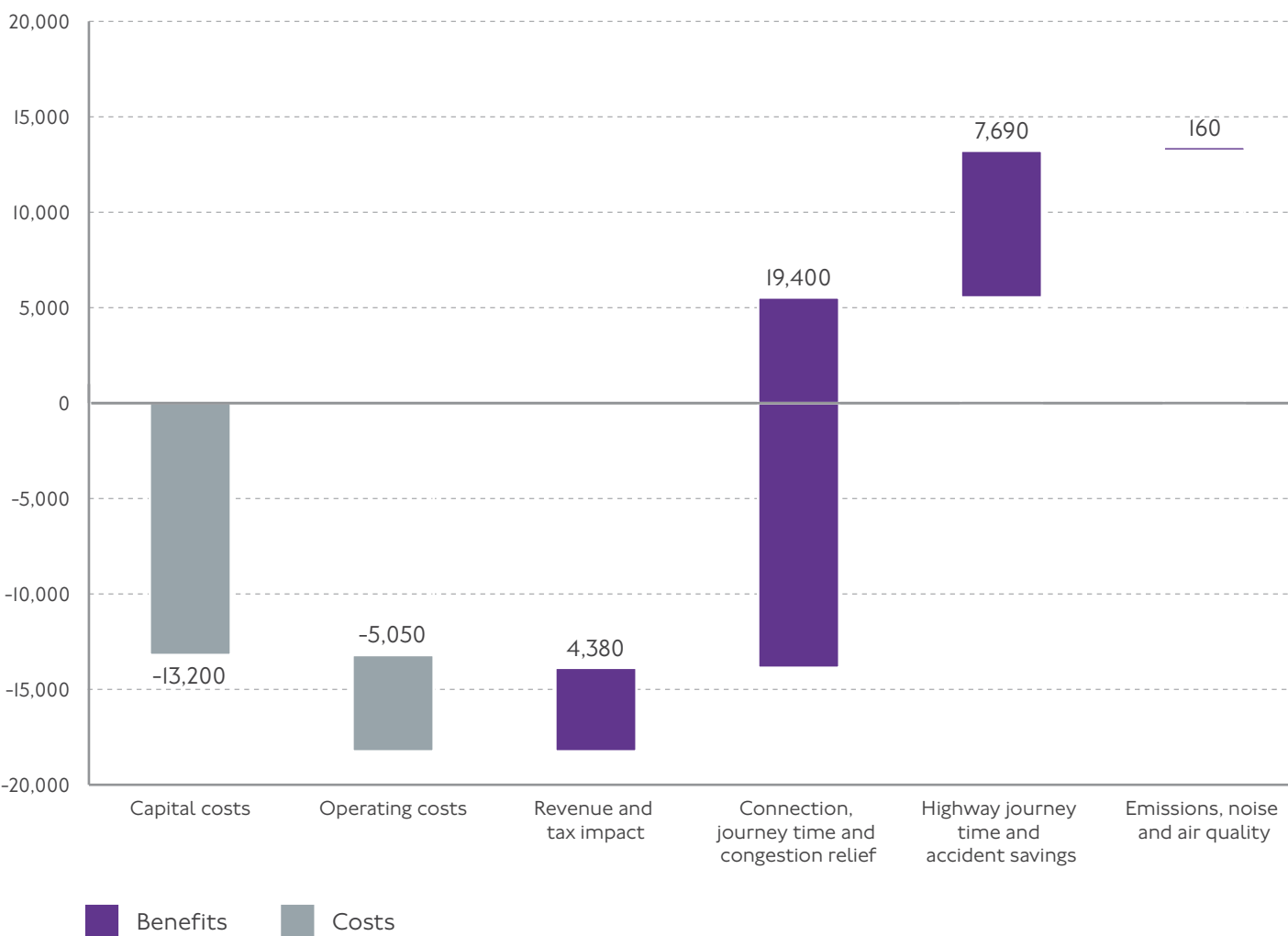
We are confident that the final capital costs will be within the available funding and that the revenue forecasts are reliable. We are also keeping the operation and maintenance activities under review to ensure costs remain affordable. We expect demand to continue to grow now that the full service has been introduced.

Saving time and relieving congestion form most of the monetised benefits. These are primarily driven by the number of journeys that include the Elizabeth line and changes to how journeys are made on the transport network. These are also key components of how we calculate the other monetised benefits, so guide on how well we are doing against the overall forecasts.



**1.9 to 1**  
benefits-to-cost ratio

Components of the benefits-to-cost ratio for 2021 estimates based on 2010 prices (£m)



Note: Business case analysis shown does not include estimate of wider benefits including new homes and jobs.


## Our sponsor's requirements


Together with the Department for Transport, we set the required features of the railway



**24**  
trains per hour in the central section during peak hours

**20**  
trains per hour in the central section during off-peak hours





**4**  
passengers per square metre capacity on trains

**95%**  
score in public performance measure





**30**  
minute timeframe to recover service from an unplanned closure



# Our objectives

Status of our benefits management activities across our three objectives

## Demonstrating value for money

Understanding the benefits and outcomes of Crossrail and the Elizabeth line will enable us to build evidence on the economic and social impacts of transport investments and showcase to customers and funders what their money has delivered for London, the South East and across the UK.

### Status update

- Demand is aligned with our expectations and growing, with more than 350 million journeys since the line opened
- The Elizabeth line is encouraging more people to travel on public transport

### Further activities

We will continue to track demand and the source of our customers so that we can identify any opportunities for future growth, including on similar routes where we have impacted demand.



## Maximising return on investment

We continuously manage the areas we have direct control of and work with our partners to optimise the railway's operation and services.

### Status update

- We continue to monitor our performance through our operations team
- We have made customer and operator improvements following feedback

### Further activities

We will continue to sustain and improve our performance, working with our partners across the industry.



## Learning important lessons

It is important that, together with other stakeholders, we understand the wider learnings from the Crossrail investment.

### Status update

- We have made the Crossrail Learning Legacy available to the major projects industry and other transport authorities, through case studies and technical papers
- The Department for Transport and Infrastructure and Projects Authority have [published a report](#) on how the Crossrail experience has been for sponsoring major projects

### Further activities

We will collaborate with our teams to embed the lessons, share and discuss these widely. We will also identify opportunities to use the knowledge we have gained.







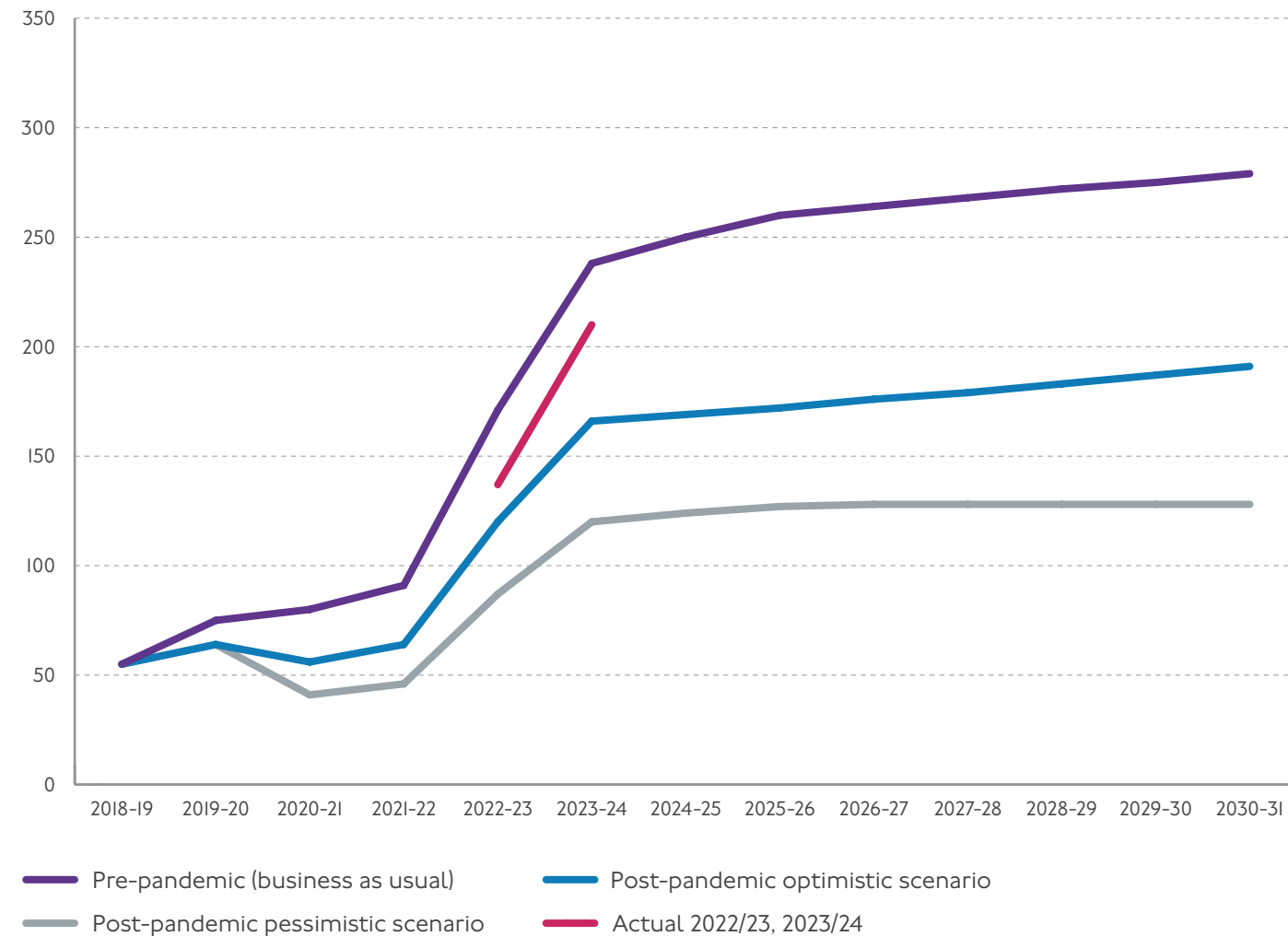
## Demonstrating value for money

Actual demand is tracking closest to our pre-pandemic business-as-usual scenario and is above the post-pandemic optimistic scenario for the end of the decade. It is expected to increase even more now that the full end-to-end service has been introduced, with an eight per cent increase expected in 2024/25 to 226 million journeys.

The introduction of the Elizabeth line has shifted journeys from London Underground, DLR and National Rail, which accounts for around 35 per cent of Elizabeth line demand. As demand increases, trips on parallel routes have fallen. This may reduce crowding and improve the experience on other lines.

On the Elizabeth line, 38 per cent of demand didn't exist before or came from a previous source that cannot currently be allocated. This suggests that areas served by the Elizabeth line have had a quicker recovery from the pandemic. It also suggests that some people have shifted from non-public transport. Our analysis cannot separate trip generation and mode shift from road, bus and active travel, owing to data limitations. Further analysis will be done as part of the post-opening evaluation study.

Demand forecast and actual number of passenger journeys (millions)



**↑ 52%**  
increase in journeys,  
from 138 million in 2022/23  
to 210 million in 2023/24

**200%**  
growth in demand at  
Farringdon, an interchange  
station, from 2022

**80%**  
increase in demand  
between Reading and  
Hayes & Harlington  
since through-running  
services launched

**14%**  
of customers surveyed  
say they would travel  
less if the Elizabeth line  
hadn't opened





## Maximising return on investment

We are responsible for managing the railway and business performance, and the relationships with the operator and fleet maintainer. We have a team that is responsible for maintaining and renewing the central section. This team works closely with London Underground and Network Rail as the other infrastructure managers.

We have introduced several operational and customer-focused interventions in response to feedback and observations since the line opened.

### Operations

We have built relationships and worked closely with the Network Rail western route, particularly at Didcot and Swindon. We have regular exchanges of personnel in different centres to help understand the challenges and differences at each location.

### Fleet

We continuously improve our operational performance through software updates, bug fixes and patches. These improvements deliver step changes in performance with each software release.

### Timetable

We reviewed passenger demand following the introduction of full peak end-to-end timetable in May 2023 and identified targeted improvements, which were introduced in December 2023. These include more services into the central section and additional calls on some services at Acton Main Line during morning peak hours.

### Customer

We trialled new displays in 2023 to gather customer, stakeholder and accessibility user feedback. The displays feature text-only designs with larger text and higher colour contrasts and have now been rolled out to all screens in the central operating section.



## Learning important lessons

As well as learning lessons throughout the construction and launch of the Elizabeth line, we have a number of projects that look at the wider considerations and impacts of the railway.

These include the lessons from the funding and financing arrangements, the opportunities to reduce operational carbon and optimise our green assets, the need to protect benefits from committed and future third-party developments, the economic impacts including the impact on housing and jobs, and the regeneration of local areas. We will continue to collaborate, share and discuss our lessons and knowledge to shape how we work.

### Opportunities to learn lessons

The Crossrail Learning Legacy is available for other major projects and transport authorities through case studies and technical papers.

Crossrail held a one-day [conference](#) on 5 April 2023 to share learnings from the project and the introduction of the Elizabeth line.

The Association for Project Management used the Crossrail Learning Legacy to produce a [special-edition journal](#).

The Department for Transport and Infrastructure and Projects Authority commissioned a [review](#) of the lessons from sponsoring a major project based on the Crossrail experience.



# Our transport outcomes

We are focused on six transport outcomes of the line and identifying early evidence for economic, environmental and social outcomes

Our post-opening evaluation study focuses on early evidence of the transport outcomes of the Elizabeth line and gathering baseline information on wider socio-economic impacts.

We have published an interim post-opening evaluation study, which builds on findings from our [Travel in London publications](#). We expect to publish the full report in early 2025.

It will take several years to understand the wider impacts of the Elizabeth line and these will be investigated in future evaluation studies. Together with the Department for Transport, we will develop the scope of this study later in 2024.



Key

- Outcome being realised
- Continue to monitor data
- Monitor improvements

Quotes are from our travel survey, autumn 2023 (6,279 responses)





01

## Reducing journey times

### ● Monitor improvements

#### Reducing journey times

The expectation is that it will be quicker to travel into, and around, central London, as well as travelling across London. This is measured by using the generalised journey time, taking account of delays, wait time and crowding.

#### Status update

The full peak timetable was introduced on 22 May 2023. We are currently working to improve reliability and growth, and have identified activities to improve performance.

Future actions include:

- Improving and sustaining performance
- Identifying and implementing initiatives from across operations, fleet, infrastructure, Network Rail and our operator. There are significant resources in place to ensure the plans are integrated across the operating boundaries



‘Willingness to travel more often, as the travel times [have] reduced’

‘Shorter journey times and quicker access to more places – I also see some friends and family more often’



29

minutes quicker journeys from Abbey Wood to Tottenham Court Road



17

minutes quicker journeys from Heathrow Airport to Tottenham Court Road



16

minutes quicker between Slough and Tottenham Court Road



26.4

minute target for journey time metric in 2023-24, which has been bettered since the full timetable launched

91.2%



public performance measure target achieved in 2023/24, with activities identified to improve





## 02

### Relieving congestion

#### ● Continue to monitor data

The expectation is that more journeys will be made using public transport, therefore fewer people use private vehicles. The line will also relieve pressure on existing public transport services. This is measured by the level of crowding and congestion on the Tube, National Rail network in London and the South East, and roads in affected areas.

#### Levels of demand

The Elizabeth line is well-used and busy, with no major crowding issues apart from very specific links and times. The busiest times are between 07:00 and 10:00 on Tuesdays, Wednesdays and Thursdays.

Demand builds up quickly from Abbey Wood, reaching more than three people per square metre on average after Canary Wharf. From Shenfield, seats are usually available until Romford and demand grows steadily until after Ilford, reaching about three passengers per square metre on average.

Demand builds up slowly eastward of Reading on the approach to Paddington, and there are usually seats available as far as Burnham. After Ealing Broadway, there are less than three passengers per square metre on average.

#### Status update

By October 2023, one in every eight TfL journeys, excluding buses, was made on the Elizabeth line, with trends suggesting further growth is possible.

Future actions include:

- Continuing to monitor crowding on the Elizabeth line, other TfL modes and National Rail network in London and the South East to identify opportunities to relieve areas of pressure
- Assessing the opportunity to upgrade Elizabeth line frequency as demand continues to grow
- Assessing the generation of new trips and the shift from non-public transport options

‘London Overground and Elizabeth line are nicer trains to travel on. They might be crowded at times, but they are less noisy, more spacious and cleaner’

‘The seating is better for more people to board the train, plus it enables people to notice my Please offer me a seat badge more’





03

## Improving connections

### ● Outcome being realised

We expect the line to provide better cross-London and cross-river connectivity, reducing commuter times and providing better connections to Heathrow Airport. This is measured by the increase in capacity and the number of people who live within a 45-minute commute of central London.

#### Status update

The full end-to-end railway increased rail capacity in London and the South East by 10 per cent and increased the number of people who live within a 45-minute commute of central London by 1.5 million. The railway has also increased transport connectivity across the whole of London and improved cross-river connections, particularly around the Abbey Wood branch.

Future actions include:

- Investigating the further changes to passenger journeys to identify opportunities to optimise the transport network



'The area of east London I live in seems more connected and I have seen a change in the number of people using this route to commute'

'Some parts of London that were less well connected are now quicker and easier to reach'

62%

of passengers surveyed feel the line positively impacted their access to employment opportunities

70%

positive impact for surveyed customers between Southall and Acton Main Line stations

71%

positive impacts for customers surveyed between Stratford and Shenfield

73%

positive impact for customers surveyed between Abbey Wood and Canary Wharf







04

## Public transport experience

### ● Outcome being realised

The expectation is that trains will have air conditioning, live travel information and walk-through carriages.

The service will reduce crowding and make public transport more pleasant. This is measured through customers feedback around accessibility, comfort, safety and quality of customer information.

#### Positive response

The Elizabeth line scores highest of all our modes for journey time, train comfort, cleanliness and information provided.

From our survey, passengers suggested improvements to provision of car parking, accessibility ramps and bus services to connect the rest of the network.

'I have found the Elizabeth line to be fast, comfortable, clean and efficient'

#### Status update

The service has the highest customer satisfaction score across all our modes, consistently scoring more than 80 per cent compared with between 74 and 79 per cent for other modes. This is driven by faster and more direct journeys, as well as the reduced crowding and better comfort and conditions.

Future actions include:

- Continuing to monitor feedback from operators and customers to identify any improvements that can be made

'Makes me feel better on the arrival at destination because travel is a more comfortable experience with air conditioning, space, relative quiet and faster travel'





05

## Improved inclusion

### ● Outcome being realised

Our expectation is that each station will have increased accessibility for those needing step-free access. This is measured through the proportion of the network that is step-free, the reduction in journey time penalty for those with accessibility needs, and customer feedback.

#### Status update

All Elizabeth line stations are staffed from the first to last train, with a 'turn up and go' service offered to anyone needing assistance. Step-free access is in place from street to train at all Elizabeth line stations between Paddington and Woolwich, and from street to platform at all the other stations.

Future actions include:

- Continuing to monitor feedback from operators and customers to identify improvements

↑ Elizabeth line

'I now notice how helpful staff are to wheelchair users. The train is more open, so visibility is better'

'Being mobility impaired, it opens up parts of London that have been difficult or impossible to access. It's made a major difference to my experience of travelling'

52.7%

of our network has step-free access following the Elizabeth line launch, a 3.7 percentage point increase

11%

reduction in the time it takes to make a step-free journey, based on average public transport journeys





‘Much easier to use with anxiety disorder as [the line has] better air conditioning, more space and increased safety achieved by means of the glass doors separating the platform and the train’

‘The new platforms are much more pleasant, open, and safer. It is easy to get on and off the trains’



## 06

### Safety and security

● Continue to monitor data

The expectations are that the line encourages a shift to a safer mode of transport and creates a safe environment for customers. This is measured through the number of crimes and anti-social behaviour incidents on trains and in stations, as well as road danger in associated areas.

#### Status update

The overall customer satisfaction score for personal safety in stations and on trains is around 80 per cent. This is higher than our other transport modes, which have scores of between 74 and 76 per cent, excluding buses.

Further activities include:

- Continuing to monitor feedback from operator and customers to identify improvements
- Exploring the benefits on the road network and identifying any impact from introduction of the Elizabeth line



# Economic, environmental and social outcomes

We are seeing positive impacts in new homes, employment and regeneration, with the greatest change near Elizabeth line stations

The expectations are that the Elizabeth line will support good growth and help us achieve financial sustainability.

This is measured by regeneration and opportunity, new homes and jobs, social and health impacts, and sustainable growth and development.

'I wouldn't have taken my job if it hadn't been for the Elizabeth line. It has had a very positive effect on my enjoyment of travelling to and from work'

'I meet friends (who live in West London) for socialising more often. We go out to Farringdon and Liverpool Street, which we never used to do'

## Status update

People are changing their home, work, or other travel destinations, and there are more employment opportunities, business growth and housing developments. Our surveys show 65 per cent of respondents have seen an impact on how often and where they travel for leisure, work, study or to live. More than 90 per cent of respondents said the Elizabeth line has had a positive impact in the area. To fully realise the expected benefits will require more time.

Further activities include:

- ♦ Developing the scope for a further post-opening evaluation study, with a focus on wider benefits

 14%

higher housing growth in East London and 8% in West London within one kilometre of an Elizabeth line station between 2017 and 2022, compared to a three kilometre area



