The Silvertown Tunnel

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LONDONASSEMBLY

Research Unit

Overview

This paper provides an overview of the Silvertown Tunnel, a new river-crossing in east London connecting North Greenwich to Silvertown.

The paper covers the legal obligations Transport for London (TfL) had to meet during the planning and construction of the tunnel, the Development Consent Order application and the monitoring of factors such as traffic, noise and air quality surrounding the tunnel.

It also details a series of packages TfL provided to ensure the tunnel is used as intended, including new bus routes, a cycle shuttle bus and road user charging measures.

About the Research Unit

The London Assembly Research Unit provides an impartial research and information service. We undertake research and analysis on key issues in London to inform the Assembly's work.

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1 Background

1.1 The Silvertown Tunnel Scheme

The Silvertown Tunnel has been constructed to form a new transport route under the River Thames between east and south east London. It is formed of two tunnels, one each for northbound and southbound travel, stretching 1.4km from North Greenwich to Silvertown (Figure 1).[1]

Transport for London (TfL) plan to open the tunnel on 7 April 2025.[2] The opening of the tunnel will be accompanied by a series of packages to ensure the tunnel is used as it was intended. These include new bus routes,[3] a cycle shuttle bus[4] and road user charging measures.[5]

Figure 1: Silvertown Tunnel Route Proposal

Source: TfL, Silvertown Tunnel, 2025

[1] TfL, Silvertown Tunnel, accessed 14 January 2025
[2] TfL, Silvertown Tunnel planned to open on 7 April 2025, 6 January 2025
[3] TfL, Silvertown Tunnel Bus Network Proposals, 16 November 2022
[4] TfL, Silvertown Cycling Service, 17 July 2023
[5] TfL, Silvertown and Blackwall tunnels user charge consultation, December 2024

1.2 The need for a new river crossing

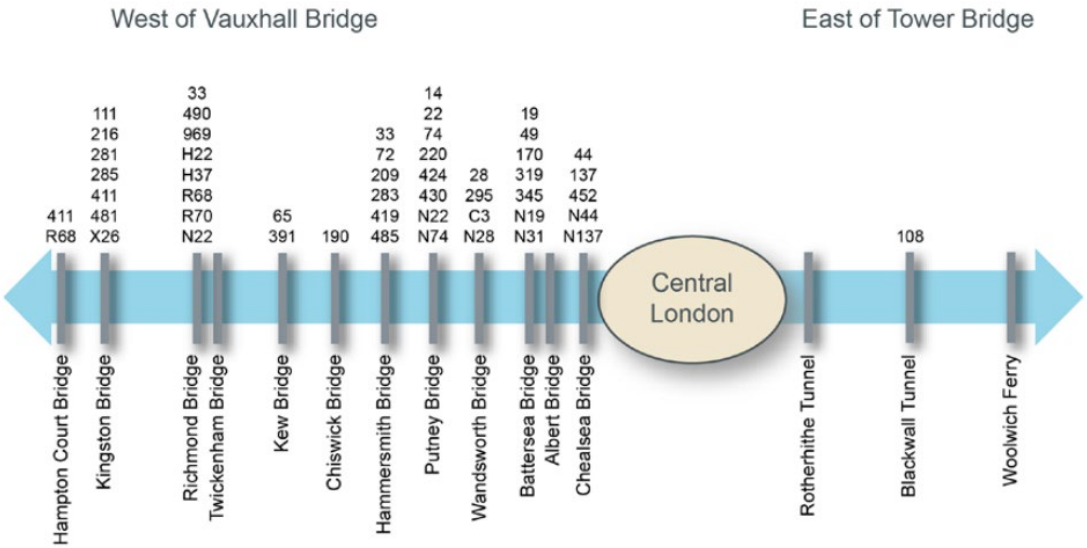
TfL outlined the need for the Silvertown Tunnel in a document it published in April 2016, titled *Case for the Scheme*.[6]

One of the main reasons TfL provided for needing to build the Silvertown Tunnel was to provide for London's growing population, stating that an estimated ten million people were expected to reside in London by 2030.[7] TfL also stated that East London would see the biggest increase in future population, housing and employment. However, it should be noted that more recent predictions have given a lower estimate of 9.4 million people living in London by 2030,[8] due to London's population growth slowing after 2016 and the impacts of the COVID-19 pandemic.[9]

In *Case for the Scheme*, TfL also highlighted the disparity in river crossings between east and west London (Figure 2).[10] There are far more river crossings in west London, where crossings are an average of 2km apart, as opposed to 8km in east London. This is due to the nature of the River Thames, where in east London the river is broad and deep, whereas in west London the river is much narrower. Crossings in east London must also accommodate shipping vessels. Therefore, it was comparatively easier to build low-level bridges in west London and tunnels in east London. It is also generally cheaper to build bridges than it is to build tunnels, hence why there are more bridges in west London than there are tunnels in east London.

In east London, the Blackwall Tunnel is the only appropriate river crossing for buses.[11] However, only single decker buses can use it as a route, due to the size of the tunnel. This means there are more cross-river bus routes in west London (Figure 2).

Figure 2: River crossings and bus routes in east and west London



Source: TfL, Silvertown Tunnel Case for the Scheme, 2016

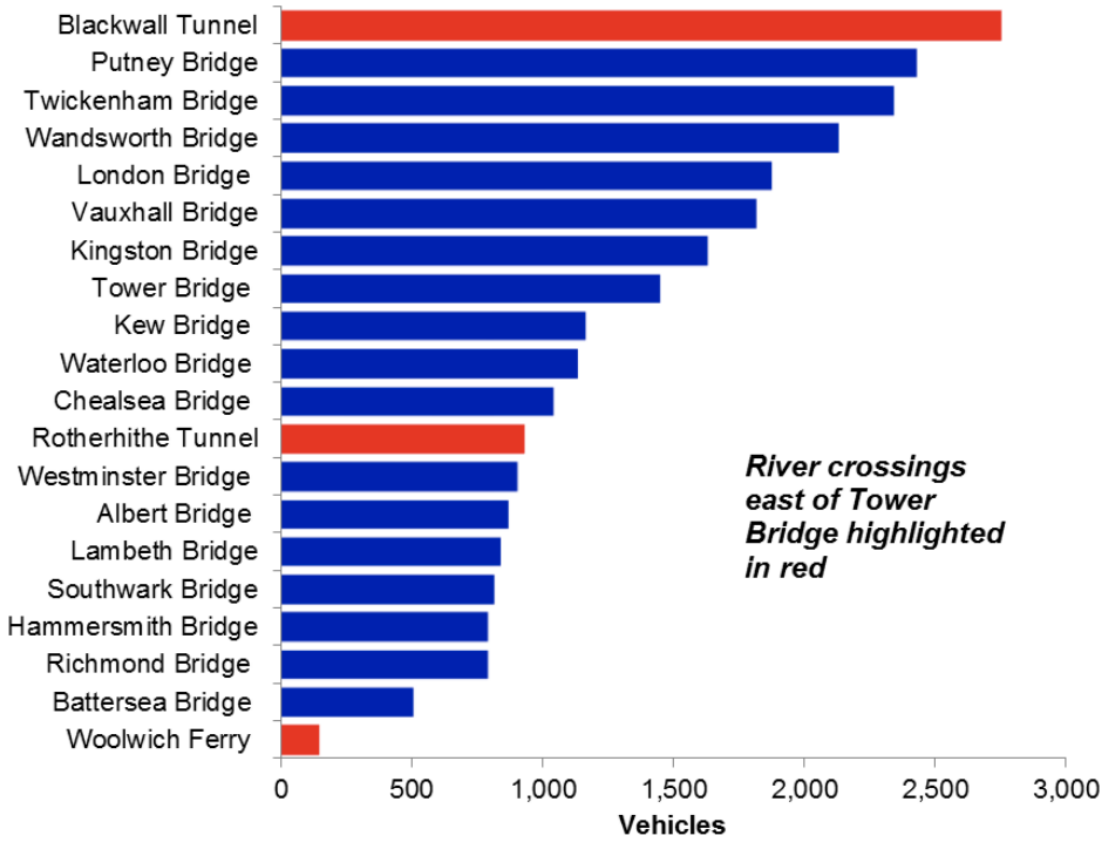
[6] TfL, Silvertown Tunnel Case for the Scheme, April 2016
[7] TfL, Silvertown Tunnel Case for the Scheme, April 2016
[8] GLA City Intelligence, London population projections explorer, accessed 30 August 2024
[9] London Datastore, New population projections for London – building on the results of the 2021 Census, 7 February 2023
[10] TfL, Silvertown Tunnel Case for the Scheme, April 2016
[11] TfL, Silvertown Tunnel Case for the Scheme, April 2016

Another reason for building the Silvertown Tunnel given by TfL in *Case for the Scheme*, was to address three key problems with the Blackwall Tunnel:

1. Congestion;
2. Closures and incidents;
3. A lack of resilience.[12]

Data provided by TfL in *Case for the Scheme* showed that in 2012, Blackwall Tunnel had the highest volume of vehicles travelling northbound on a weekday morning, of all the river crossings in Greater London (Figure 3).[13]

Figure 3: Weekday AM peak hour northbound traffic on Thames river crossings in Greater London (2012)



Source: TfL, Silvertown Tunnel Case for the Scheme, 2016

The Mayor of London, Sadiq Khan, has stated that "The current Blackwall Tunnel is, on an average basis, closed 700 times a year. A five-minute closure leads to a three-mile tailback".[14] The most common types of incidents which result in closures are an over height vehicle using the tunnel or a vehicle breakdown inside the tunnel.[15]

The Mayor has also noted that as the Silvertown Tunnel would accommodate large vehicles, its creation should draw those vehicles away from the Blackwall Tunnel, where they account

[12] TfL, Silvertown Tunnel Case for the Scheme, April 2016
[13] TfL, Silvertown Tunnel Case for the Scheme, April 2016
[14] BBC, 'It will make south-east London even more isolated', 27 September 2024
[15] TfL, Silvertown Tunnel Case for the Scheme, April 2016

for a high proportion of closures. Therefore, the Silvertown Tunnel would help keep another transport artery open.[16]

TfL has stated that by building the Silvertown Tunnel, users of both the Blackwall and Silvertown tunnels will experience shorter journey times, saving up to 20 minutes in peak periods.[17] For reference, in September 2023 peak maximum journey times to cross the Blackwall Tunnel ranged from 14.1–29.4 minutes in the southbound direction or 12.3–15.5 minutes in the northbound direction.[18]

1.3 Project Objectives

In acknowledgement of the issues with London's growing population and the congestion, closures and a lack of resilience at Blackwall Tunnel, TfL set a list of seven Project Objectives that a new river crossing should provide.[19]

The Project Objectives are:

- PO1: to improve the resilience of the river crossings in the highway network in east and southeast London to cope with planned and unplanned events and incidents;
- PO2: to improve the road network performance of the Blackwall Tunnel and its approach roads;
- PO3: to support economic and population growth, in particular in east and southeast London by providing improved cross-river transport links;
- PO4: to integrate with local and strategic land use policies;
- PO5: to minimise any adverse impacts of any proposals on communities, health, safety and the environment;
- PO6: to ensure where possible that any proposals are acceptable in principle to key stakeholders, including affected boroughs;
- PO7: to achieve value for money and, through road user charging, to manage congestion.[20]

These Project Objectives were used when setting out several of the proposals linked to the Silvertown Tunnel, including the provision of a new cross-river bus service and the road user charging for the tunnel.[21, 22]

1.4 Alternatives to the Silvertown Tunnel

When developing plans for a river crossing between east and south east London, TfL also considered a number of alternative options. Those included in TfL's 2014 Outline Business Case for the tunnel were:

- Do nothing;
- Congestion charging at the Blackwall Tunnel;
- Docklands Light Railway (DLR) extension to Falconwood;
- Ferry at Silvertown;
- Add a third tunnel to the Blackwall Tunnel;
- Silvertown bridge;

[16] The Mayor of London, Silvertown Tunnel Follow Up (1), 15 March 2024
[17] TfL, Silvertown Tunnel, accessed 14 January 2025
[18] The Mayor of London, Monitoring of the queues at the Blackwall Tunnel and the London Cable Car, 17 October 2023
[19] TfL, Silvertown Tunnel Outline Business Case, October 2014
[20] TfL, Silvertown Tunnel Case for the Scheme, April 2016
[21] TfL, Silvertown Tunnel Bus Strategy, April 2017
[22] TfL, Charging Policies and Procedures, April 2017

- Silvertown bored tunnel; [23]
- Silvertown immersed tube tunnel.[24, 25]

TfL assessed these options against the Project Objectives and found that both the bored tunnel and immersed tunnels showed the strongest positive outcomes for resilience, performance and growth.[26] TfL decided to go ahead with the bored tunnel option as it would have minimal adverse impacts on the surrounding urban areas and river environment, whereas an immersed tunnel would have greater adverse impacts particularly during construction.

1.5 Timeline of key dates

The timeline below provides an overview of the key events or announcements in the development of the Silvertown Tunnel. Many of the important milestones, such as the Development Consent Order and road user charging scheme, are covered in more detail in separate chapters.

2010

The plans for a river crossing at Silvertown were first proposed by Boris Johnson in his Mayor's Transport Strategy (2010), in which it was stated:

"The Mayor […] will take forward a package of river crossings in east London, including […] a new fixed link at Silvertown to provide congestion relief to the Blackwall Tunnel and provide local links for vehicle traffic"[27]

2012

In January 2012, Boris Johnson announced that he intended to build a tunnel between the Greenwich Peninsula and Silvertown, to be delivered "within a decade".[28]

Between 6 February 2012 and 5 March 2012, TfL held an informal consultation with stakeholders and members of the public on proposals for a package of new highway river crossings in east and southeast London, including a new highway tunnel between Greenwich and Silvertown.[29]
TfL received almost 3,900 responses, of which 80 per cent either supported or strongly supported the Silvertown Tunnel and 12 per cent opposed it.[30]

In June 2012, the Silvertown Tunnel was declared to be a 'Nationally Significant Infrastructure Project' (NSIP).[31]

2013

TfL held a formal consultation to seek the views of the public and stakeholders on a series of river crossings which included the introduction of a new tunnel at Silvertown and the tolling of the Blackwall Tunnel, and any other crossings introduced.[32] The consultation ran

[23] A bored tunnel is one that is one that is dug into the ground. Thames Water, What is tunnel boring?, accessed 14 January 2025
[24] An immersed tunnel is constructed using prefabricated sections floated into position and then immersed into a trench cut into the riverbed. TfL, Silvertown Tunnel Outline Business Case, October 2014
[25] TfL, Silvertown Tunnel Outline Business Case, October 2014. TfL provided further information to the Research Unit in January 2025 about other options that were also considered, including an extension of the London Overground and a Greenwich Waterfront Transit scheme.
[26] TfL, Silvertown Tunnel Outline Business Case, October 2014
[27] The Mayor of London, Mayors Transport Strategy, Chapter five – Transport proposals, May 2010
[28] Mayor of London, New Thames crossing will be delivered within a decade, 12 January 2012
[29] TfL, Report to the Mayor on 2012 informal consultation, July 2012
[30] TfL, Report to the Mayor on 2012 informal consultation, July 2012
[31] New Civil Engineer, Silvertown Tunnel designated as 'Nationally Significant' project, 28 June 2012
[32] TfL, River Crossings: Silvertown Tunnel, April 2013

from 29 October 2012 – 1 February 2013, and received 6,409 questionnaire responses and 351 open responses.

Responses to the questionnaire revealed that:

- 76 per cent of respondents supported the option of a new road tunnel between Silvertown and the Greenwich peninsula .
- 55 per cent of respondents opposed the option of a toll on the new crossings and the Blackwall Tunnel

2014

Detailed plans for the Silvertown Tunnel were first revealed.[33] TfL ran a consultation on the Silvertown Tunnel scheme from 15 October – 19 December 2014, which received over 4,600 responses.

The consultation revealed that:

- 83 per cent of respondents agreed that a new crossing is needed and could address the issues of congestion and poor resilience at the Blackwall Tunnel.
- 57 per cent of respondents opposed the proposed user charge and 37 per cent respondents supported the charge.[34]

2015

Between 5 October – 29 November 2015, TfL held a statutory consultation on its plans for the Silvertown Tunnel, as part of the Development Consent Order (DCO) process. TfL received 4,135 responses.[35]

2016

On 11 March 2016, TfL began the procurement process for awarding a contract to design, build, finance and maintain the Silvertown Tunnel.[36]

On 5 May 2016, Sadiq Khan was elected as the new Mayor of London[37] and inherited the design for the Silvertown Tunnel scheme from Boris Johnson. Sadiq Khan commented that the designs "had very limited environmental considerations".[38]

In June 2016, Sadiq Khan announced that he would review Boris Johnson's programme of river-crossings to ensure they had the "ability to unlock homes, create new jobs and give full consideration to walking, cycling and public transport".[39] TfL then paused the procurement process that was started in March 2016 whilst the Mayoral Review of river-crossings was underway.[40]

On 4 October 2016, after the Mayoral Review, Sadiq Khan announced a new package of river-crossings in the East and Southeast of London which included:

> "a series of enhancements to be made to the proposals for Silvertown Tunnel to make it greener and more public transport-focused, and exploring further benefits for local residents who use the tunnel".[41]

At the same time, TfL un-paused the procurement process and later received submissions from seven bidding consortia.[42]

On the 12 October 2016, the DCO examination officially began.[43]

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[33] BBC, East London river tunnel crossing proposals unveiled, 14 October 2014
[34] TfL, TfL River Crossings programme – Silvertown Tunnel, 2015
[35] TfL, Silvertown Tunnel Consultation Report, 29 April 2016
[36] Bidstats, Silvertown Tunnel Project A Prior Information Notice by TRANSPORT FOR LONDON, 11 March 2016
[37] BBC, London mayoral election: Sadiq Khan wins for Labour, 7 May 2016
[38] Mayor of London, Silvertown Tunnel contract, 28 June 2019
[39] Mayor of London, River Crossings (1), 12 June 2016
[40] TfL Programmes and Investment Committee, Silvertown Tunnel, 8 March 2017
[41] Mayor of London, Mayor commits to building greener, public transport-focused crossings, 4 October 2016
[42] TfL Programmes and Investment Committee, Silvertown Tunnel, 8 March 2017
[43] The Planning Inspectorate, The notification of Preliminary Meeting (Rule 6 letter), 13 September 2016

2017

In March 2017, TfL announced three companies that had been shortlisted to bid for the Silvertown Tunnel contract.[44] They were:

- Cintra Global Ltd;
- Hochtief PPP Solutions GmbH;
- Skanska Strabag.[45]

On 11 April 2017, the DCO examination process ended. [46]

On 20 June 2017, TfL issued an invitation to negotiate to the three bidders.[47]

On 11 July 2017, the Planning Inspectorate gave its recommendations on TfL's DCO application to the Secretary of State for Transport. [48]

2018

On 10 May 2018, the Secretary of State for Transport granted TfL the DCO for the Silvertown Tunnel.[49]

2019

On 30 May 2019, TfL announced that the Riverlinx consortium were the preferred bidder to design, build, finance and maintain Silvertown Tunnel.[50] TfL stated that the tunnel would be set to open in 2025.

In August 2019, Silver Thames Connect (a losing bidder on the Silvertown Tunnel contract) submitted a claim to the Technology & Construction court, challenging the contract award.[51]

In November 2019, Riverlinx was officially awarded the contract.[52]

2020

On 24 March 2020, due to the national lockdown in response to the coronavirus pandemic, a Safe Stop was implemented on TfL construction projects, including the Silvertown Tunnel.[53, 54] This meant that some construction work on the tunnel was suspended until it was safe to continue.

On 27 May 2020, the Safe Stop was lifted and work on the tunnel restarted.[55]

On 10 August 2020, construction on the tunnel officially started.[56]

On 4 December 2020, TfL placed the contract for the design and manufacture of the tunnel boring machine.[57]

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[44] TfL Programmes and Investment Committee, Silvertown Tunnel, 3 July 2018
[45] Newham Recorder, Shortlist of bidders for Silvertown tunnel contract announced, 15 March 2017
[46] The Planning Inspectorate, The notification of Preliminary Meeting (Rule 6 letter), 13 September 2016
[47] TfL, Transport for London investment programme report Quarter 1 2017/18, September 2017
[48] The National Archives, National Infrastructure Planning Silvertown Tunnel, accessed 14 January 2025
[49] Department for Transport, Application for the proposed Silvertown Tunnel development consent order, 10 May 2018
[50] TfL, Riverlinx named as preferred bidder for Silvertown Tunnel, 30 May 2019
[51] New Civil Engineer, Losing Silvertown Tunnel bidder launches legal challenge against TfL, 13 August 2019
[52] TfL, TfL completes contract with Riverlinx consortium to design, build, finance and maintain Silvertown Tunnel, 25 November 2019
[53] TfL, TfL and Crossrail construction sites to come to Safe Stop, 24 March 2020
[54] Mayor of London, Silvertown Tunnel, 22 May 2020
[55] TfL, Transport for London investment programme report Extended Quarter 1 2020/21 (1 April 2020 – 1 August 2020), October 2020
[56] The Gazette, THE SILVERTOWN TUNNEL ORDER 2018, 5 August 2020
[57] TfL, Investment Programme Report Quarter 3 2020/21

2021

On 17 March 2021, auditors Ernst & Young provided a report on the Silvertown Tunnel project to TfL's Audit and Assurance Committee, reviewing the business case in response to objections to the project.[58]

In 2021, TfL reached an out of court financial settlement with the Silver Thames Connect group.[59]

2022

In late August 2022, tunnelling began and was described by TfL as "a significant milestone and huge step forward for the project".[60]

2023

On 15 February 2023, the tunnel boring machine completed the tunnelling of the first "bore" (the hollow part of the tunnel).[61]

On 28 March 2023, TfL announced its new Silvertown Tunnel opening bus network.[62]

On 23 July 2023, the tunnel boring machine completed the final leg of the tunnel, 62 days ahead of schedule.[63]

In September 2023, Go-Ahead London were awarded the contract for the cross-river bus network.[64]

2024

On 10 July 2024, TfL announced the Silvertown Tunnel cross river cycling service.[65]

On 26 November 2024, TfL outlined a package of charges, discounts and exemptions for Silvertown and Blackwall tunnels.[66]

On 4 December 2024, the TfL Board approved the package of charges, discounts and exemptions for Silvertown and Blackwall tunnels.[67]

2025

On 6 January 2025, TfL announced that the Silvertown Tunnel would open on 7 April 2025.[68]

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[58] Ernst & Young, Project Telford: Part One: Review of Objections, 8 March 2021. Published with agenda papers of the TfL Audit and Assurance Committee meeting on 17 March 2021 (pages 17-71).
[59] New Civil Engineer, Silvertown Tunnel | TfL pays losing bidder £10M in procurement row, 1 June 2021. TfL reported to the Research Unit in January 2025 that the settlement figure cited in media reports has not been publicly disclosed. Further information on the legal challenge from Silver Thames Group can be found here: GLA Oversight Committee, GLA Procurement, 26 July 2022
[60] TfL, Investment programme report 1 April 2022 – 25 June 2022, July 2022
[61] TfL, Investment programme report Quarter 4 2022/23 (11 December 2022 to 31 March 2023), July 2023
[62] TfL, Silvertown Tunnel Bus Network Proposals, 28 March 2023
[63] TfL, Investment programme report Quarter 1 2023/24 (1 April to 24 June 2023), September 2023
[64] TfL, Investment programme report Quarter 2 2023/24 (25 June to 16 September 2023), November 2023
[65] TfL, Silvertown Tunnel - Cross River Cycling Service, 10 July 2024
[66] TfL, TfL outlines package of charges, discounts and exemptions for Silvertown and Blackwall tunnels, 26 November 2024
[67] TfL, TfL Board Meeting Agenda, 4 December 2024
[68] TfL, Silvertown Tunnel planned to open on 7 April 2025, 6 January 2025

2 Development Consent Order

In June 2012, the Silvertown Tunnel was declared to be a 'Nationally Significant Infrastructure Project' (NSIP),[69] which meant that TfL had to submit a Development Consent Order (DCO) to the Planning Inspectorate, which then makes a recommendation to the Secretary of State on whether or not the DCO should be granted.[70] In the case of the Silvertown Tunnel it was the Secretary of State for Transport who made this decision.[71]

According to guidance from the Government, the DCO is the "most significant outcome of the NSIP process" because it:

- "grants the development consent and some other required permissions for the approved project;
- grants the power to compulsorily acquire land and rights, if so required;
- defines the works which have been approved;
- sets out the requirements (conditions attached to the DCO) which will control the construction, commissioning, operation and, if appropriate, the decommissioning of the approved works".[72]

TfL prepared several documents to support its DCO application,[73] which included:

- **Case for the Scheme** – sets out the need for the Silvertown Tunnel, explains how strategic options were assessed, and describes how the details of the tunnel, including the user charging proposal, were developed. It also describes the benefits for private and public transport users and outlines how impacts would be managed;[74]
- **Monitoring and Mitigation Strategy** – sets out the scope of monitoring impacts caused by the Silvertown Tunnel and the processes for determining and implementing appropriate mitigation if required for any localised traffic and traffic-related impact;.[75]
- **Bus Strategy** – sets out the commitments which TfL will fulfil in developing bus services prior to the tunnel opening and in reviewing and modifying services;[76]
- **Charging Policies and Procedures** – sets out the principles according to which TfL must set and vary the user charges and the procedures that apply when doing so.[77]

In October 2016, the Mayor predicted that TfL would spend £29 million on the DCO process, which included costs of TfL staff, specialist support and fees associated with the preparation, submission, examination, revisions and undertakings connected with the DCO and related land negotiations and agreements.[78]

[69] New Civil Engineer, Silvertown Tunnel designated as 'Nationally Significant' project, 28 June 2012
[70] UK Government, Planning Act 2008: Development Consent Order Fact Sheet, accessed 14 January 2025
[71] National Archives, Silvertown Tunnel, accessed 14 January 2025
[72] Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities, Planning Act 2008: Content of a Development Consent Order required for Nationally Significant Infrastructure Projects, 30 April 2024
[73] TfL, Silvertown Tunnel permission, accessed 14 January 2025
[74] TfL, Silvertown Tunnel Case for the Scheme, April 2016
[75] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[76] TfL, Silvertown Tunnel, Bus Strategy, April 2017
[77] TfL, Silvertown Tunnel, Charging Policies and Procedures, April 2017
[78] TfL, Silvertown Tunnel - spend on Development Consent Order process (1), 19 October 2016

2.1 DCO Application Process

Stage 1: Pre-application

As part of the DCO application process, TfL had a statutory duty to carry out a consultation on the Silvertown Tunnel proposal.[79] The statutory consultation was held from 5 October – 29 November 2015 and received 4,135 responses.[80]

The consultation revealed that:

- 58 per cent of respondents supported the Silvertown Tunnel scheme and 31 per cent did not support the Scheme;
- User charging was commented on the most by respondents (TfL received 6,956 individual comments on this topic);
- Traffic and highway issues (i.e., perceived traffic impacts, mitigation schemes and junction design) was the second most commented on topic (TfL received 4,147 individual comments on this topic).

TfL then made a series of changes to the Silvertown Tunnel scheme in response to the comments made by respondents. These included:

- Establishing a mechanism for Borough involvement in setting the user charge;
- Establishing a Silvertown Tunnel Implementation Group;
- Undertaking further assessment of a package of public transport schemes as an alternative to Silvertown Tunnel.

Stage 2: Acceptance

The Planning Inspectorate received TfL's DCO application on the 3 May 2016 and then had 28 days to decide whether the application met the standards required to be accepted for examination.[81] The Planning Inspectorate accepted the application for examination on the 31 May 2016.[82]

Stage 3: Pre-examination

Between the 13 July and 31 August 2016, the public were able to register with the Planning Inspectorate to become an Interested Party.[83, 84] Anyone who wished to become an Interested Party had to make a Relevant Representation (a written summary their views on TfL's DCO application).

The Secretary of State also appointed an Examining Authority (ExA) whose purpose was to examine and report on the application made by TfL.[85] The ExA for the Silvertown Tunnel DCO application was a panel of three examining inspectors consisting of Peter Robottom (Lead Member of the Panel), Lillian Harrison, and Austin Smyth.[86]

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[79] Planning Inspectorate, National Infrastructure Planning, accessed 14 January 2025
[80] TfL, Silvertown Tunnel Consultation Report, 29 April 2016
[81] Planning Inspectorate, National Infrastructure Planning, accessed 14 January 2025
[82] National Archives, Silvertown Tunnel, accessed 14 January 2025
[83] National Archives, Silvertown Tunnel, accessed 14 January 2025
[84] Planning Inspectorate, National Infrastructure Planning, accessed 14 January 2025
[85] Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities, Introduction to National Infrastructure Planning Guidance, 17 April 2024
[86] Department for Transport, Silvertown Tunnel Decision Letter, 10 May 2018

Stage 4: Examination

The examination stage officially began on the 11 October 2016.[87] The ExA was then under duty to complete the examination within six months, which created a deadline of 11 April 2017.

The examination consisted of a series of hearings (see the Appendix for a full list of these meetings).

The ExA also gathered information through written questions[88, 89] and site visits.[90, 91]

The main issues considered during the examination were:

- need for the scheme;
- traffic and transport;
- air quality;
- noise and vibration;
- other construction impacts;
- health impacts;
- geology, soils and contaminated land;
- surface water, flood risk and hydrology;
- dredging[92] and navigation;
- climate change mitigation and adaption;
- resources and waste arising;
- hazardous substances;
- socio-economic impacts;
- industrial and commercial impacts;
- biodiversity, ecology and geological conservation;
- landscape and visual impacts
- good design;
- historic environment;
- security;
- compulsory acquisition.[93]

Stage 5: Recommendation and Decision

Once the Examination Period ended on the 11 April 2017, the Planning Inspectorate had three months to prepare a report for the Secretary of State, including a recommendation on whether to grant the DCO.[94] The Planning Inspectorate gave its recommendations on 11

[87] The Planning Inspectorate, The notification of Preliminary Meeting (Rule 6 letter), 13 September 2016
[88] The ExA issued their First Written Questions in the Rule 8 Letter. See: The Planning Inspectorate, Examination Timetable (Rule 8 letter), 18 October 2016.
[89] The Planning Inspectorate, The Examining Authority's second written questions and requests for information, 10 February 2017
[90] An Accompanied Site Inspection took place on 6 December 2016. See: The Planning Inspectorate, Silvertown Tunnel Project Accompanied Site Inspection (ASI) - Itinerary, 6 December 2016
[91] An Accompanied Site Inspection took place on 20 January 2017. See: The Planning Inspectorate, Silvertown Tunnel Project Compulsory Acquisition Accompanied Site Inspection (ASI)-Itinerary, 20 January 2017
[92] Dredging is the act of removing silt and other material from the bottom of bodies of water. National Oceanic and Atmospheric Administration, What is dredging?, accessed 14 January 2025
[93] Department for Transport, Application for the proposed Silvertown Tunnel Development Consent Order, 10 May 2018
[94] Planning Inspectorate, National Infrastructure Planning, accessed 14 January 2025

July 2017.[95] The Secretary of State then had until 11 October 2017[96] to make the decision on whether to grant or refuse development consent.[97]

On 26 July 2017, the UK Government published a policy paper which set out the UK's plan for reducing roadside nitrogen dioxide concentrations.[98] On 11 October 2017, the day of the decision deadline, the Secretary of State issued a statement to extend the deadline to 10 November 2017, to give them time to consider the Silvertown Tunnel scheme in relation to the updated UK plan for tackling roadside nitrogen dioxide concentrations. [99]

On the 7 November 2017, the Secretary of State extended the deadline again, to the 10 May 2018, stating it theyneeded time to further consider the effect of the Silvertown Tunnel scheme on air quality.[100]

The Secretary of State then wrote to TfL asking it to provide further evidence on air quality, including an updated assessment of the impact of the Silvertown Tunnel scheme based on the latest available emissions evidence and modelling tools. This also included any further mitigation measures required to address significant impacts on air quality.[101]

In January 2018, TfL completed the air quality assessment based on the latest available emissions evidence and modelling tools, that was requested by the Secretary of State. TfL stated that this assessment "confirms that the Silvertown Tunnel scheme will not lead to a significant impact on air quality".[102] TfL added that the tunnel "would in fact result in a net reduction in exposure to air pollution for residents near the affected road network."

On 10 May 2018, the Secretary of State decided to grant the DCO, on the basis that TfL made several modifications to the original DCO.[103]

These modifications included:

- Points around wording;
- An amendment to "powers of acquisition and possession of land" to reflect the coming into force of the Housing and Planning Act 2016;
- An amendment to secure biodiversity offsetting;
- A new provision to delegate the functions relating to pre-opening traffic measures to the Mayor of London;
- A new requirement to ensure that noise barriers are installed in a specific location;
- A new requirement relating to cross river cycle/pedestrian facilities to ensure mitigation of socioeconomic impacts;
- A new requirement to ensure support is provided to local businesses to assist in mitigating the adverse socio-economic impacts of the development.

Once the DCO had been granted, it was published as *The Silvertown Tunnel Order 2018.*[104] The Order allows TfL to construct, operate and maintain the Silvertown Tunnel and to

[95] The National Archives, National Infrastructure Planning Silvertown Tunnel, accessed 14 January 2025
[96] Department for Transport, House of Commons: Written Statement (HCWS153), 11 October 2017
[97] Planning Inspectorate, National Infrastructure Planning, accessed 14 January 2025
[98] Department for Environment, Food & Rural Affairs and Department for Transport, Air quality plan for nitrogen dioxide (NO2) in UK (2017), 26 July 2017
[99] Department for Transport, House of Commons: Written Statement (HCWS153), 11 October 2017
[100] Department for Transport, House of Commons: Written Statement (HCWS230), 7 November 2017
[101] Department for Transport, Request for additional information from the applicant, 14 November 2017
[102] TfL, Transport for London investment programme report Quarter 4 2017/18, June 2018
[103] Department for Transport, Application for the proposed Silvertown Tunnel development consent order, 10 May 2018
[104] UK Statutory Instruments, The Silvertown Tunnel Order 2018, 10 May 2018

acquire, compulsorily or by agreement, land and rights in land and to use land for this purpose. The Order also includes provisions in relation to the operation of the existing Blackwall Tunnel regarding speed limits, penalty charges and it also allows for the implementation of user charging at both tunnels.

Stage 6: Post Decision

After the Secretary of State made their decision, there was a six week period in which the decision could be challenged via a judicial review in the High Court.[105] No judicial reviews were requested at this point, but the Health and Safety Executive and TfL both wrote to the Secretary of state requesting several corrections of errors were made in the original DCO.[106] The Planning Inspectorate published the correction notice in February 2019.

2.2 Silvertown Tunnel Implementation Group

As mentioned previously, in response to feedback TfL received through its 2015 statutory public consultation, TfL set out that it would establish the Silvertown Tunnel Implementation Group (STIG).[107]

It was also written into the final DCO that "TfL must establish and fund the reasonable secretarial and administrative costs of a consultative body" known as the STIG.[108] The DCO also stated that TfL must consult with STIG on matters relating to the *Monitoring and Mitigation Strategy,* the *Bus Strategy* and the *Charging Policies and Procedures*.

Specifically, TfL is required to consult with STIG members on the following:

- The extent, nature and duration of monitoring to be implemented in accordance with the *Monitoring and Mitigation Strategy*;
- The proposals for the initial bus services that will operate through the tunnels when the Silvertown Tunnel opens for public use;
- The monitoring reports produced in accordance with the *Monitoring and Mitigation Strategy*;
- Any proposed revisions to the Charging Policy;
- The level of charges required to be paid for use of the tunnels and any exemptions and discounts.[109]

The STIG is comprised of one representative from TfL, the GLA, 11 London Boroughs,[110] the City of London Corporation and National Highways, who meet at least twice annually.[111]

[105] The Planning Inspectorate, National Infrastructure Planning, accessed 14 January 2025
[106] The Planning Inspectorate, Correction notice The Silvertown Tunnel Order 2018, 21 February 2019
[107] TfL, Silvertown TunnSTIGel Consultation Report, 29 April 2016
[108] UK Statutory Instruments, The Silvertown Tunnel Order 2018 – Article 66, 10 May 2018
[109] UK Statutory Instruments, The Silvertown Tunnel Order 2018 – Article 66, 10 May 2018
[110] London boroughs represented in the STIG are Barking and Dagenham, Bexley, Bromley, Greenwich, Hackney, Lewisham, Newham, Redbridge, Southwark, Tower Hamlets and Waltham Forest. See: TfL, Silvertown Tunnel Implementation Group – Terms of Reference, May 2021
[111] TfL, Silvertown Tunnel Implementation Group – Terms of Reference, May 2021

3 Monitoring and Mitigation Strategy

The *Monitoring and Mitigation Strategy* (M&MS) sets out how TfL will monitor and mitigate the impacts of the Silvertown Tunnel scheme, both before and after it is opened.[112] The DCO states that TfL must comply with the M&MS and bring forward any necessary mitigation measures to address any impacts that have been identified.

The key factors considered in the M&MS are:

- Traffic;
- Air quality;
- Noise;
- Socioeconomic impacts.

The M&MS states that TfL must refresh its assessment of the scheme's impact before it sets any user charges, specifies the Silvertown Tunnel bus network or sets any mitigation measures. This process is referred to in the M&MS as the "Refreshed Assessment". During the Refreshed Assessment TfL updated the relevant transport and environmental models, reran those models, and developed its proposals for each element in conformity with the commitments, policies and procedures set out in the relevant certified documents and any DCO requirements.

3.1 Traffic Monitoring

TfL's initial traffic monitoring plan was included within the M&MS,[113] and a finalised traffic monitoring plan was developed through consultation with the STIG with the final proposal recorded via a record of decision.[114] The aim of the traffic monitoring plan is to track performance changes on the network in the Silvertown Area of Influence using a range of metrics.

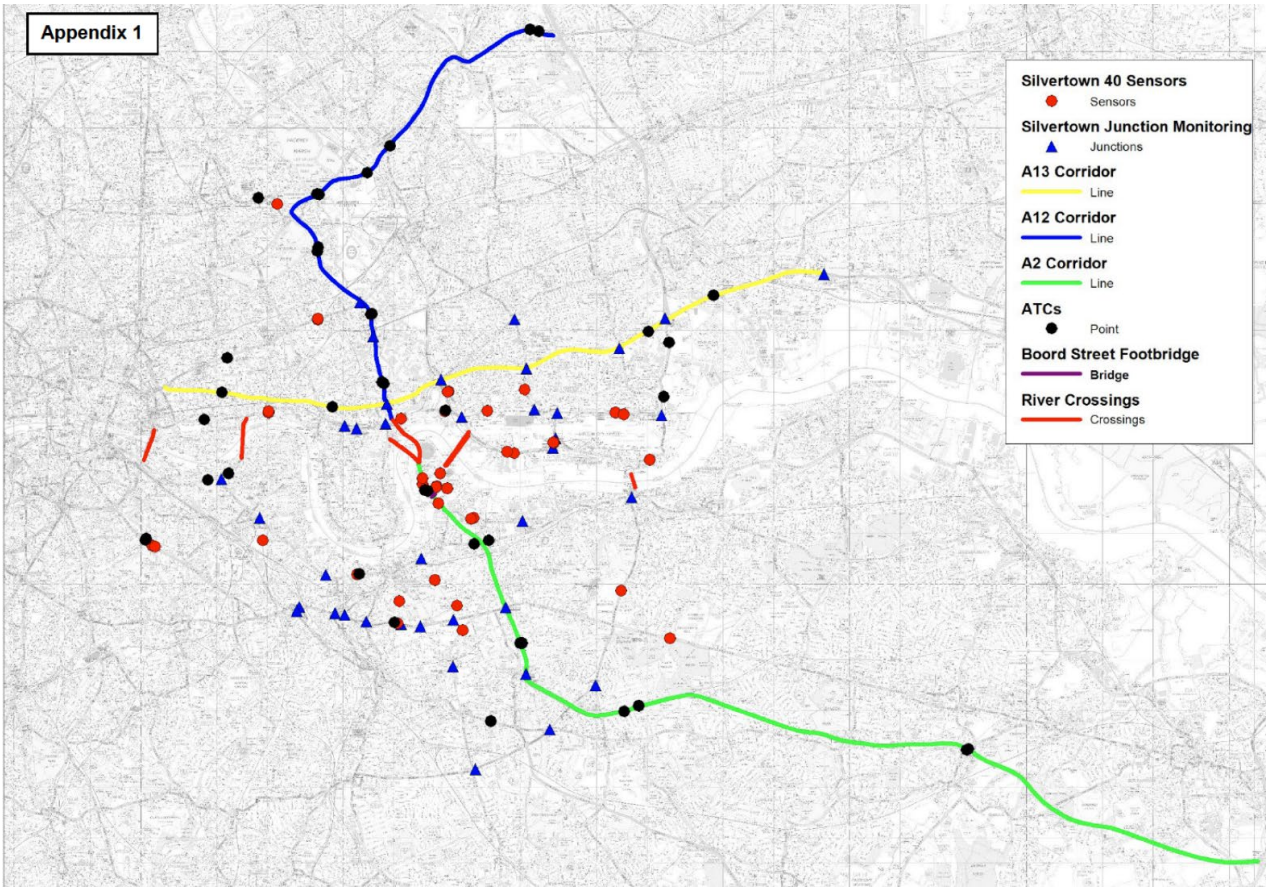
Key metrics used for traffic monitoring include:

- **Traffic flow including cyclists** – TfL has 305 existing automatic traffic counters across its network that it used to monitor traffic flow along the key routes, as well as some river crossings and key strategic sites. TfL also installed 40 new video analytic sensors in strategic sites across the Area of Influence, which provided classification of all road users, including cyclists;
- **Journey times** – calculated using Automatic Number Plate Recognition and Global Positioning System (GPS) data from vehicles;
- **Journey time distribution** – calculated as the total length of additional delay between a set day and the baseline figure;
- **Bus and rail data** – data is gathered through iBus (TfL's automated vehicle location system which tracks the location of London buses)[115] and additional data gathered by other TfL departments, e.g., Excess Wait Times and bus / rail patronage data;
- **Road safety** – data is taken from TfL's road danger reduction dashboards;[116,]
- **Travel behaviour** – traditionally carried out using roadside surveys, but TfL identified further work was required to develop this.

[112] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[113] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[114] TfL, Silvertown Tunnel Implementation Group – record of decision – Traffic Monitoring, 20 January 2022
[115] The Mayor of London, IBus Rollout, 13 June 2010
[116] TfL, Road safety data, accessed 14 January 2025

A map of the key monitoring locations set out in the traffic monitoring plan can be seen below (Figure 4).[117] Through the Refreshed Assessment, 21 additional traffic monitoring sites were identified and proposed for monitoring after the tunnel has opened.[118]

Figure 4: Map of the key traffic monitoring locations



Source: TfL, Silvertown Tunnel Implementation Group – Traffic Monitoring, 2022

TfL began baseline traffic monitoring in November 2021[119] and this data has been made available to STIG members using a cloud SharePoint platform which was described by STIG as a "flexible and interactive solution".[120]

Once the Silvertown Tunnel is open, the data will be drawn together with the other monitoring data being collected in connection with the scheme to enable a holistic analysis of the impact of the scheme in operation.[121]

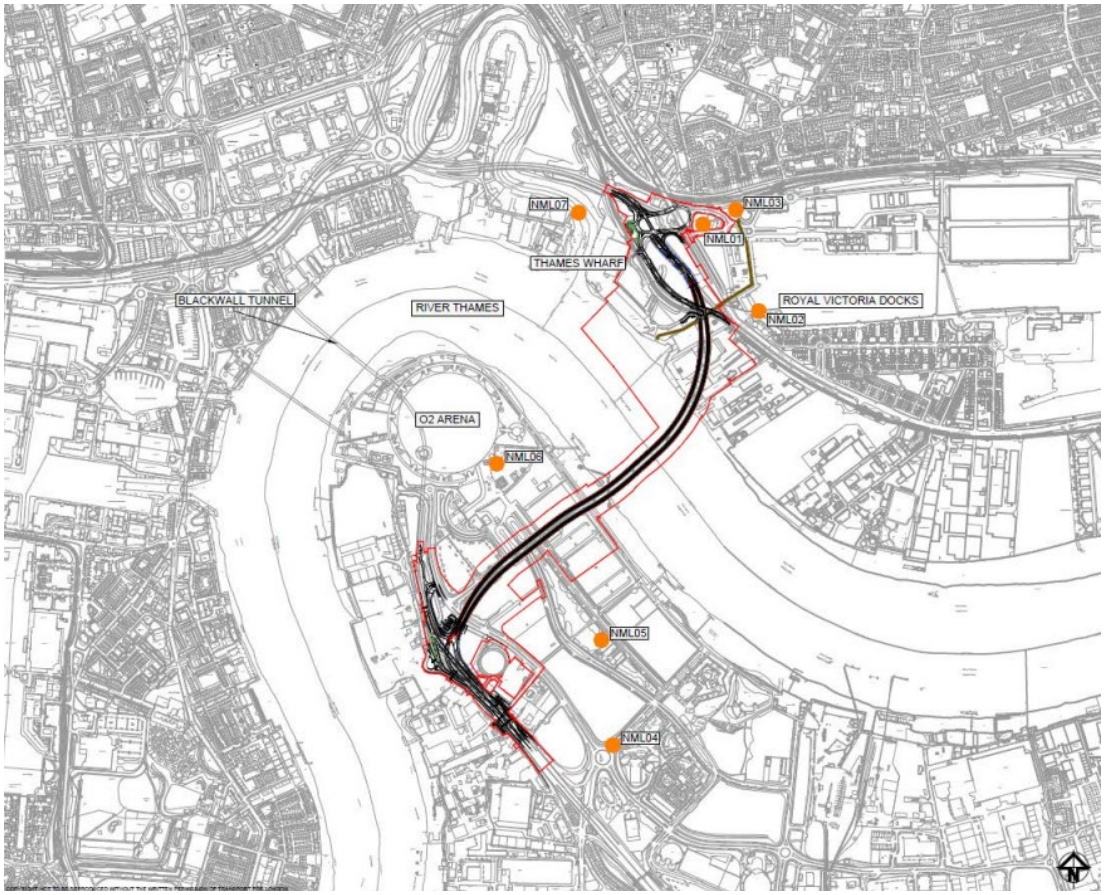
3.2 Noise Monitoring

To monitor the noise caused by traffic flows in and out of the Silvertown Tunnel, TfL set up a network of sound level meters which recorded the noise within the vicinity of the tunnel 24

[117] TfL, Silvertown Tunnel Implementation Group – record of decision – Traffic Monitoring, 20 January 2022
[118] Silvertown Tunnel Implementation Group, Meeting no.12, 18 July 2024
[119] TfL, Silvertown Tunnel Implementation Group – meeting number 5, 27 January 2022
[120] TfL, Silvertown Tunnel Implementation Group – meeting number 7, 3 November 2022
[121] TfL, Silvertown Tunnel Implementation Group – record of decision – Traffic Monitoring, 20 January 2022

hours a day (orange dots, Figure 5). [122] Four of the sound level meters were located near residential properties, and two were located near schools (Millenium School and Faraday School) and one was located near a college (Ravensbourne College).

Figure 5: Map of the noise monitoring locations surrounding the Silvertown Tunnel



Source: TfL, Monitoring and Mitigation Strategy, 2017

Noise monitoring data was collected for a period of 12 months before any construction activities began.[123] This provided a baseline which can be used to compare noise levels once the tunnel is open.[124] TfL has stated it will resume noise monitoring once the tunnel is open, for a minimum of three years, with the potential to extend the monitoring period by a further two years.[125] The results from this monitoring period will be presented in annual monitoring reports.

[122] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[123] TfL, Silvertown Tunnel Implementation Group Meeting Number 11, 8 February 2024
[124] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[125] TfL, Silvertown Tunnel Implementation Group Meeting Number 11, 8 February 2024. For further information see also TfL, Silvertown Tunnel Implementation Group Meeting Number 13, 28 November 2024

3.3 Air Quality Monitoring

The Mayor has air quality targets for the whole of London which are outlined in the London Environment Strategy,[126] Mayor's Transport Strategy,[127] London Health Inequalities Strategy,[128] and London Plan.[129]

In these strategies, the Mayor has set targets to reduce nitrogen dioxide (NO_2), carbon dioxide (CO_2) and particulate matter ($PM_{2.5}$ and PM_{10}) levels in London by 2041.[130]

The air quality monitoring plan in the M&MS focused on measuring NO_2[131]; TfL stated that $PM_{2.5}$ and PM_{10} levels were already achieving compliance with the Mayor's targets and an assessment by TfL indicated that the Silvertown Tunnel would have a negligible impact on particulates. Monitoring of construction dust and particulates was carried out by Riverlinx, separate to the air quality monitoring.[132]

Monitoring of CO_2 emissions was included in the M&MS, but this did not fall under the scope of air quality monitoring as TfL stated that CO_2 "does not directly affect human health".[133] Instead, CO_2 monitoring was included as part of the traffic monitoring and would be based on observed traffic flows.[134]

In terms of NO_2, the Government has an Air Quality Strategy (AQS) which sets objectives for the levels of NO_2 in the UK.[135] The air quality plan for the Silvertown Tunnel uses the same objectives in the AQS, which are:

- That the annual mean level of NO_2 should not exceed 40 µg m^{-3};
- That the hourly mean level of NO_2 should not exceed 200 µg m^{-3} more than 18 times in one year.[136]

Sites for NO_2 monitors were chosen using the following criteria:

- Where the Scheme is forecast to bring about a change in air quality in excess of 0.4 µg m^{-3} where annual mean concentrations are above the national air quality objective value;
- Where the Scheme could lead to traffic diverting to alternative routes which were not foreseen in the original assessment;
- To ensure the monitoring locations are representative of relevant exposure at sensitive receptors.[137]

Continuous monitoring sites (CMSs) were installed close to the tunnel openings at roadside locations where it was thought the impacts of the Silvertown Tunnel would be the greatest.[138]

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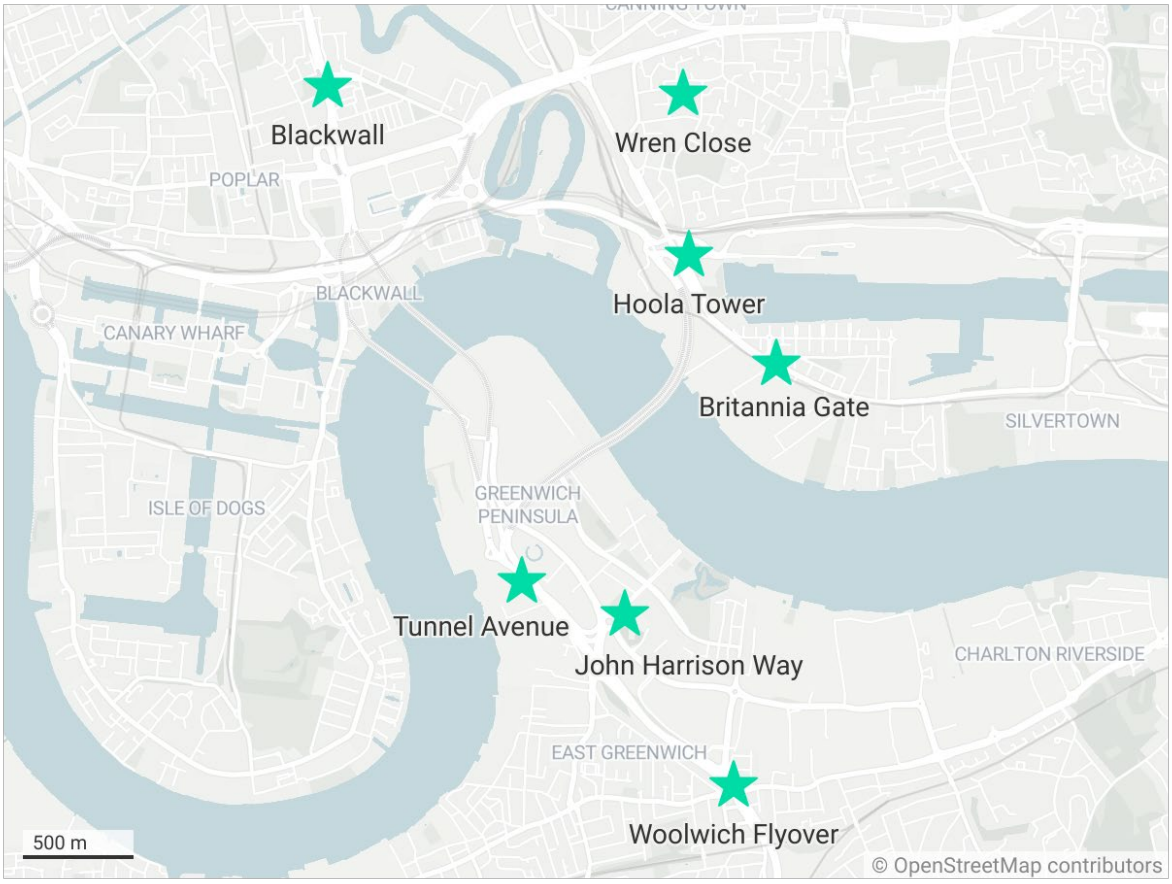
[126] Mayor of London, London Environment Strategy, 31 May 2018
[127] Mayor of London, Mayor's Transport Strategy, March 2018
[128] Mayor of London, Health Inequalities Strategy Implementation Plan 2021-24, 9 December 2021
[129] Mayor of London, The London Plan 2021, March 2021
[130] NO_2 and CO_2 are greenhouse gases that enter the atmosphere through the combustion of fossil fuels. $PM_{2.5}$ and PM_{10} are particulate matter with diameters of 2.5 µm and 10 µm respectively. Particulate matter is generated by the combustion of fossil fuels and through break wear, tyre wear or road surface wear.
[131] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[132] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022
[133] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022
[134] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[135] Department for Environment, Food & Rural Affairs, Air quality strategy: framework for local authority delivery, 25 August 2023
[136] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022
[137] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[138] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022

CMSs are highly accurate and measure air quality pollutants in near real-time.[139] As part of the air quality plan for the Silvertown Tunnel, three new CMS were installed at Tunnel Avenue; Hoola Tower and Britannia Gate.[140] Data was also collected from existing CMS owned by local authorities at Blackwall; John Harrison Way, Woolwich Flyover and Wren Close (Figure 6).

Figure 6: Map of the continuous monitoring sites around the Silvertown Tunnel Scheme



Created with Datawrapper

TfL appointed AECOM, an infrastructure consulting firm,[141] to progress the pre-opening air quality monitoring programme.[142]

AECOM began air quality monitoring in December 2020 and has since published annual *Baseline Air Quality Monitoring Reports* for 2021,[143] 2022[144] and 2023.[145] The results presented in these reports show that only one CMS exceeded the annual mean objective for NO_2, which was the Woolwich Flyover in 2021 (highlighted in bold in Table 1).

[139] Mayor of London, Guide for monitoring air quality in London, January 2018
[140] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, November 2023
[141] AECOM, About us, accessed 14 January 2025
[142] TfL, Record of decision – air quality monitoring, 17 May 2021
[143] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022
[144] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, November 2023
[145] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, December 2024

AECOM stated that over the last five years NO_2 concentrations at the Woolwich Flyover CMS had declined by 38 per cent, and it was expected that annual mean NO_2 concentrations would continue to decline due to vehicle fleet improvements and the Ultra Low Emission Zone (ULEZ).[146]

Table 1: Air quality monitoring results based on continuous monitoring sites

Continuous monitoring site	**Annual mean level of NO_2 ($\mu g\ m^{-3}$)**			**Number of 1-hourly hourly mean NO_2 concentrations exceeding 200 $\mu g\ m^{-3}$**		
	2021[147]	**2022**[148]	**2023**[149]	**2021**[150]	**2022**[151]	**2023**[152]
Tunnel Avenue (Greenwich)	34.3	32.4	26.4	0	0	0
Hoola Tower (Newham)	21.8	22.8	21.3	0	0	0
Britannia Gate (Newham)	26.4	24.6	21.7	0	0	0
Blackwall (Tower Hamlets)	37.4	36.5	28.3	0	0	0
John Harrison Way (Greenwich)	25.3	23.2	22.2	0	0	0
Woolwich Flyover (Greenwich)	**40.3**	40.0	32.0	0	0	0
Wren Close (Newham)	20.6	21.8	19.8	0	0	0

Alongside the CMS, TfL also used diffusion tubes,[153] which are small plastic test tubes that contain a material that reacts with NO_2 in the air.[154] Compared to a CMS the diffusion tubes are "lower tech", cheaper and take measurements over 2-4 week periods.

38 new diffusion tubes were installed at monitoring sites throughout Newham, Greenwich, Tower Hamlets, Lewisham and Southwark. Of those monitoring sites, three exceeded the NO_2 objective level of 40 $\mu g\ m^{-3}$ in 2021 and two of those sites exceeded it again in 2022. All three sites were below the objective level in 2023 (Table 2). The reports produced by AECOM did not give a reason as to why these sites exceeded the NO_2 objective level.

[146] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022
[147] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022
[148] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, November 2023
[149] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, December 2024
[150] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022
[151] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, November 2023
[152] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, December 2024
[153] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[154] Mayor of London, Guide for monitoring air quality in London, January 2018

Table 2: Diffusion tube sites that exceeded the objective CO_2 level of 40 µg m^{-3}

Diffusion tube site that exceeded NO_2 objective	Annual mean level of NO_2 (µg m^{-3})		
	2021[155]	**2022**[156]	**2023**[157]
Douglas Road, Newham Way	**40.2**	**41.4**	39.9
East India Dock Road	**42.2**	38.9	36.9
Blackheath Hill	**42.6**	**41.1**	37.7

TfL has stated it will continue to monitor air quality around the Silvertown Tunnel scheme until it opens, and for a minimum of three year's post-opening to inform both the baseline conditions and impacts of the tunnel.[158] All air quality monitoring reports to date have been published on the STIG webpage.

3.4 Socio-Economic Monitoring

TfL's socio-economic monitoring plan focused on the impacts of the Silvertown Tunnel on local residents and businesses.[159] TfL appointed two consultancies, Steer and Arcadis, to carry out this work.[160]

Three waves of research were planned prior to the Silvertown Tunnel being opened (in 2021, 2023 and 2024), with a further three waves after, in order to monitor changes in socio-economic characteristics. This research involves surveys of local residents and businesses, as well as analysis of secondary data such as unemployment rates and Indices of Multiple Deprivation, amongst others.

In the long term, this research aims to detect and describe socioeconomic changes within a defined study area (Figure 9) which is likely to be impacted by the tunnel.

To date, two socio-economic monitoring reports have been published for Year 1 (2021)[161] and Year 2 (2023).[162]

Residents

To monitor the impacts of the Silvertown Tunnel on local residents, TfL committed to undertaking a residents survey and behavioural survey, annually.[163] TfL aimed to survey at least 1,000 people in east and south-east London, and to analyse the results based on income band (to identify the impacts on lower income groups), location (to identify the impacts on specific regeneration areas) and socioeconomic classification including age, gender, disability and ethnicity.

[155] AECOM, Silvertown Tunnel Baseline Air Quality Monitoring Report, August 2022
[156] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, November 2023
[157] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, December 2024
[158] AECOM, Silvertown Tunnel Scheme Air Quality Baseline Monitoring Report, November 2023
[159] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[160] Arcadis, Steer, Silvertown Tunnel Socio-Economic Monitoring: Year 1, October 2022
[161] Arcadis, Steer, Silvertown Tunnel Socio-Economic Monitoring: Year 1, October 2022
[162] Arcadis, Steer, Silvertown Tunnel Socio-Economic Monitoring: Year 2, May 2024

[163] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017

The residents survey focuses on cross-river travel patterns to identify how people travelled before and after the Silvertown Tunnel was opened. Particularly, the survey asked questions to identify why and when residents travel and what type of transport they use.

A separate behavioural survey was also sent to residents to collect data on reasons why they might choose to use a different form of river crossing to the one they would usually use. This survey sought to identify whether residents had used other crossings, switched to an alternative destination, used a different type of transport or changed the time of day they travelled.

This data will be used to develop a baseline of resident's journey patterns and behaviour before the Silvertown Tunnel is opened. After the tunnel is opened the surveys will be used to explore the reasons why residents might change their travel patterns, including:

- Whether the cost of the Silvertown and Blackwall Tunnels has an impact on particular socio-economic group's ability to cross the river, to access employment opportunities or for social reasons, and the behavioural responses to this;
- Whether the reduction in congestion, or improvement in journey time reliability, has an impact on a particular socio-economic group's ability to cross the river;
- Whether the impact of the bus services has any impact on a particular socio-economic group's ability to cross the river.[164]

Key findings from the 2021[165] and 2023[166] monitoring reports revealed:

- Commuting was the most frequently made trip type, with the majority of commuters travelling at least one day a week, in both 2021 and 2023;
- More than half of commuting trips never crossed the river, in both 2021 and 2023.
- Public transport is the most common type of transport used to cross the river in both 2021 and 2023;
- 33 per cent of respondents crossed the river at least once a week in 2021, this increased to 38 per cent in 2023 as residents were no longer impacted by pandemic restrictions;
- Respondents changing mode for regular cross-river trips are a small share of the total (5 per cent in 2021, 2 per cent in 2023). Car to public transport switches are the most mentioned.

Businesses

The effect of the Silvertown Tunnel on local businesses was also monitored, with surveys sent to at least 500 businesses of various sizes and sectors, across east and south-east London.[167]

The business survey focuses on the cross-river trips made by businesses, employees and customers, as well as the changes in travel patters made by businesses. The survey will also look at the reasons why changes in travel behaviour may have taken place for particular business types. This will include:

- Whether the Silvertown Tunnel has enabled the business to grow or invest and the reasons for this;
- Whether the business has taken on more staff, or lost staff, as a result of the Silvertown Tunnel and the reasons for this;

[164] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[165] Arcadis, Steer, Silvertown Tunnel Socio-Economic Monitoring: Year 1, October 2022
[166] Arcadis, Steer, Silvertown Tunnel Socio-Economic Monitoring: Year 2, May 2024
[167] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017

- The impact of any changes in reassignment, redistribution or mode shift on the operation and profitability of the business;
- The impact of any changes in congestion and journey time reliability on the operation and profitability of the business.

Key results from the 2021 baseline report include:

- 36 per cent of businesses said customers/visitors cross the river to get to their site;
- 52 per cent of businesses said that at least some of their business trips cross the Thames in east/southeast London;
- The Blackwall Tunnel was seen by respondents as the most important east/southeast London Thames crossing;
- 45 per cent of businesses said that the number or capacity of river crossings does not constrain operations or viability of business at this site;
- 46 per cent of businesses feel that predictability of journey times for road traffic crossing the Thames in the Silvertown/ Blackwall area are poor/very poor.[168]

The second baseline report shows very similar trends, the only difference being that 39 percent of businesses said that the number or capacity of river crossings does not constrain operations or viability of business at this site, which is a 6 per cent decrease from the first baseline report.[169]

3.5 Pre-opening mitigation

The M&MS states that TfL must refresh its transport and environmental models with up-to-date data to define the requirement for any pre-opening mitigation measures needed.[170] This is referred to as the "refreshed assessment". If, through the refreshed assessment, the need for localised traffic-related mitigation measures were identified, TfL would develop these measures in consultation with STIG and submit them to the Secretary of State for Transport for approval. In January 2024, the Secretary of State and Department for Transport formally approved TfL's proposed pre-opening mitigations.[171]

Mitigation measures were considered by TfL in three boroughs: Tower Hamlets[172], Newham[173] and Greenwich[174] respectively.

14 pre-opening mitigation measures were proposed in total.[175] The types of mitigation works planned in these schemes were:

- **Physical works** – changes to roads to increase capacity and mitigate traffic impacts, such as adding additional lanes or removing U-turn links;[176, 177]

[168] TfL, Silvertown Tunnel Socio-Economic Monitoring: Year 1, October 2022
[169] TfL, Silvertown Tunnel Socio-Economic Monitoring: Year 2, May 2024
[170] TfL, Silvertown Tunnel, Monitoring and Mitigation Strategy, April 2017
[171] TfL, Silvertown Tunnel Implementation Group Meeting no. 11, 8 February 2024
[172] TfL, Scheme of mitigation – record of decision – Tower Hamlets, 21 November 2023
[173] TfL, Scheme of mitigation – record of decision – Newham, 21 November 2023
[174] TfL Scheme of mitigation – record of decision – Greenwich, 21 November 2023
[175] TfL, Silvertown Tunnel Implementation Group Meeting no. 11, 8 February 2024
[176] TfL, Scheme of mitigation – record of decision – Newham, 21 November 2023
[177] TfL, Scheme of mitigation – record of decision – Tower Hamlets, 21 November 2023

- **Signal timing optimisation** – planning of signal timing reviews to achieve a balance for all road users including all sustainable modes, to be implemented once the tunnel opens;[178, 179, 180]
- **Active traffic management** – the application of traffic signal strategies when traffic issues arise to ensure the optimal movement of traffic, to be implemented once the tunnel opens.[181]

Work on the physical mitigations is complete at one site and ongoing at two other sites, and TfL say will be completed ahead of tunnel opening.[182] Signal timing reviews will be undertaken by TfL Network Performance as part of the operational go-live plans for tunnel opening.[183]

4 New transport links

4.1 Bus Strategy

As outlined previously, the nature of the Thames and river-crossings in west London allowed for comparatively more bus routes than in east London.[184] The Silvertown Tunnel was therefore designed to have a bus lane both the north and southbound sections of the tunnel, which would be tall enough to accommodate double decker buses.[185]

The DCO stated that TfL must secure a cross-river bus service that provided at least 20 buses per hour during the peak periods in each direction during the monitoring period after the tunnel is opened.[186]

TfL's Bus Strategy for the Silvertown Tunnel was developed as part of the DCO application and sets out the commitments which TfL must fulfil in developing bus services prior to the tunnel opening.[187]

The Bus Strategy contains 11 commitments TfL must follow when developing a bus network that will utilise the new Silvertown Tunnel. A summary of key points from these commitments is:

- TfL must provide £2 million in funding for concessionary bus travel for residents local to the Silvertown Tunnel for a period after it is initially opened;
- Public buses must be exempt from any road user charging;
- Buses using the Silvertown Tunnel must comply with emissions limits;
- TfL must provide a minimum level of bus service through the Blackwall and Silvertown Tunnels for the duration of the initial monitoring period;
- TfL must proactively plan bus services with relevant boroughs and STIG members;

[178] TfL Scheme of mitigation – record of decision – Greenwich, 21 November 2023
[179] TfL, Scheme of mitigation – record of decision – Newham, 21 November 2023
[180] TfL, Scheme of mitigation – record of decision – Tower Hamlets, 21 November 2023
[181] TfL Scheme of mitigation – record of decision – Greenwich, 21 November 2023
[182] TfL, Silvertown Tunnel Implementation Group Meeting #13, 28 November 2024
[183] TfL, Silvertown Tunnel Implementation Group Meeting no. 13, 28 November 2024
[184] TfL, Silvertown Tunnel Case for the Scheme, April 2016
[185] TfL, Silvertown Tunnel Bus Strategy, April 2017
[186] UK Statutory Instruments, The Silvertown Tunnel Order 2018 – SCHEDULE 2, 10 May 2018
[187] TfL, Silvertown Tunnel Bus Strategy, April 2017

- TfL must monitor and review bus performance to ensure they remain effective and beneficial in the long term.

The full list of commitments outlined in the Bus Strategy can be seen in the Appendix.

4.2 New bus routes

In November 2022, TfL published plans of its tunnel opening bus network, which included:

- A new high frequency, limited stop service between Grove Park and Canary Wharf to be named route X239 (this was later changed to be the Superloop 4 (SL4) route);
- To extend route 129 (Lewisham – North Greenwich) north across the river to Great Eastern Quay via the Royal Docks development zone;
- A minor change to route 108 so that it uses the new Millennium Way slip road to exit the Blackwall Tunnel southbound. [188]

This would allow for 21 buses per hour operating in both directions across both tunnels in the peaks, which is more than the 20 buses per hour required by DCO.

TfL held a consultation on the proposed Silvertown Tunnel Bus Network between 16 November 2022 and 11 January 2023 which received 644 responses. The consultation revealed that:

- 77 per cent of respondents said introducing new route X239 would have a positive impact;
- 76 per cent of respondents felt extending route 129 would be positive;
- 67 per cent of respondents said rerouting the 108 would have a positive impact.[189]

Issues raised by the consultation respondents included:

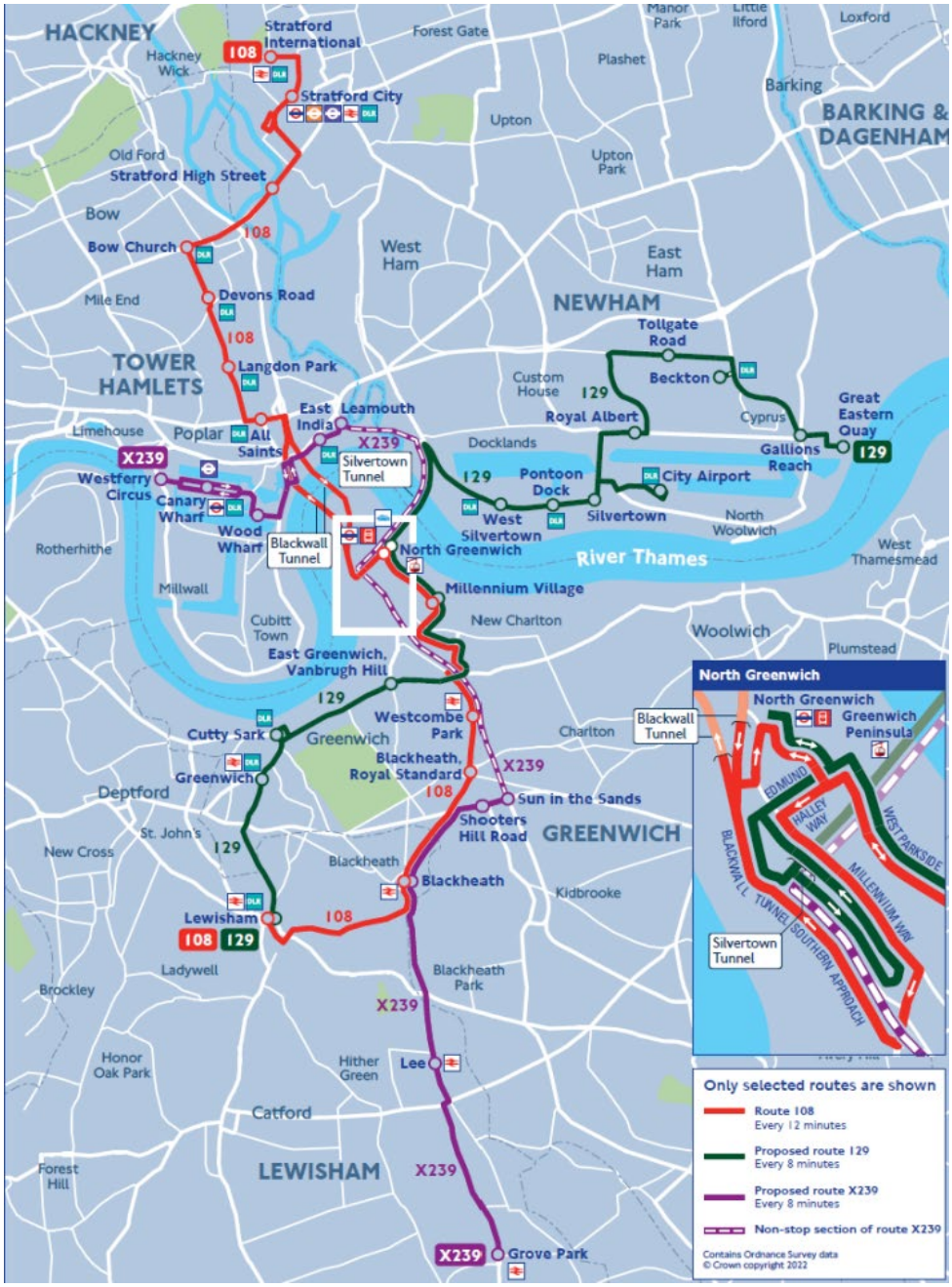
- Requests to use Zero Emission or electric buses on all three routes, with some specific requests for New Routemasters on routes 129 and X239 or tram-style buses on route 108;
    - In response to these issues, TfL stated that it could not commit to a specific vehicle type being used on a route, but it did confirm that all routes serving the Tunnels would be zero emission;
- Suggestions for alternative routes;
    - TfL stated that the proposed routeing is forecast to be a cost-effective use of resources, and will be kept under review once introduced;
- Concerns that there were no proposals for new bus routes to serve particular areas, including Bexleyheath, East Greenwich, Eltham, Kidbrooke and Woolwich;
    - TfL responded to requests for new bus routes to serve different areas individually, but overall gave the same reason that extensions to bus routes have significant cost implications;
- Concern that the scheme had not been properly considered and would not provide additional benefit for many areas;
    - In response to this issue, TfL stated that it considered the new routes to be a “step change in cross river bus travel”, but also added that this is not the end of the story and it expected the bus network would evolve over time.

[188] TfL, Silvertown Tunnel Bus Network Proposals, 16 November 2022
[189] TfL, Silvertown Tunnel Bus Network Consultation Report, March 2023

Following the consultation, TfL stated that it will proceed with opening the new Silvertown Tunnel Bus Network when the tunnel opens in 2025, with some amendments to the original proposals, which were mostly focused on routing of the buses.

TfL has confirmed local residents will be able to use the SL4, 129 or 108 routes for free for at least the first year after the tunnel opens.[190] Local residents will also be able to travel for free on the DLR from Cutty Sark to Island Gardens, and from Woolwich Arsenal to King George V for the first year after the tunnel opens.

Figure 7: Proposed routes for the Silvertown Tunnel Bus Network



Source: TfL, Silvertown Tunnel Bus Network Proposals, 2023

[190] TfL, Silvertown Tunnel, accessed 14 January 2025

4.3 Cross-river cycling

TfL has stated that walking and cycling will not be permitted in the Silvertown Tunnel for safety reasons.[191] TfL undertook work in 2018 to consider whether cyclists could be accommodated in the new tunnel's design. However, TfL stated that there were significant challenges to designing something that would be safe and attractive for cyclists, given the location and long confined space that cyclists would have to travel through. TfL also stated that this would be unlikely to generate sufficient demand to justify the "significant cost". Cyclists also have the option of using the existing foot tunnels or the IFS cable car to cross the river too.[192]

As an alternative, TfL has proposed that a shuttle bus service will be used to transport cyclists and their bikes through the Silvertown Tunnel.[193] TfL stated it hoped that this would "help promote sustainable travel, improve public health, increase access to jobs, education and leisure opportunities across both sides of the river, as well as supporting regeneration across the wider area".

In July 2023, TfL published its proposal for a shuttle bus service, which included two potential options:

1. A bus that cyclists could wheel their bike onto (Figure 8)
2. A minibus with a trailer for bikes attached (Figure 9)[194]

The shuttle bus service would drop cyclists close to existing and proposed cycling infrastructure to enable good connections with existing Cycleways (Figure 10). TfL also stated it was considering a cross-river ferry service as a potential option to be delivered in the future.

Figure 8: Bus that cyclists could wheel their bike onto, proposed by TfL

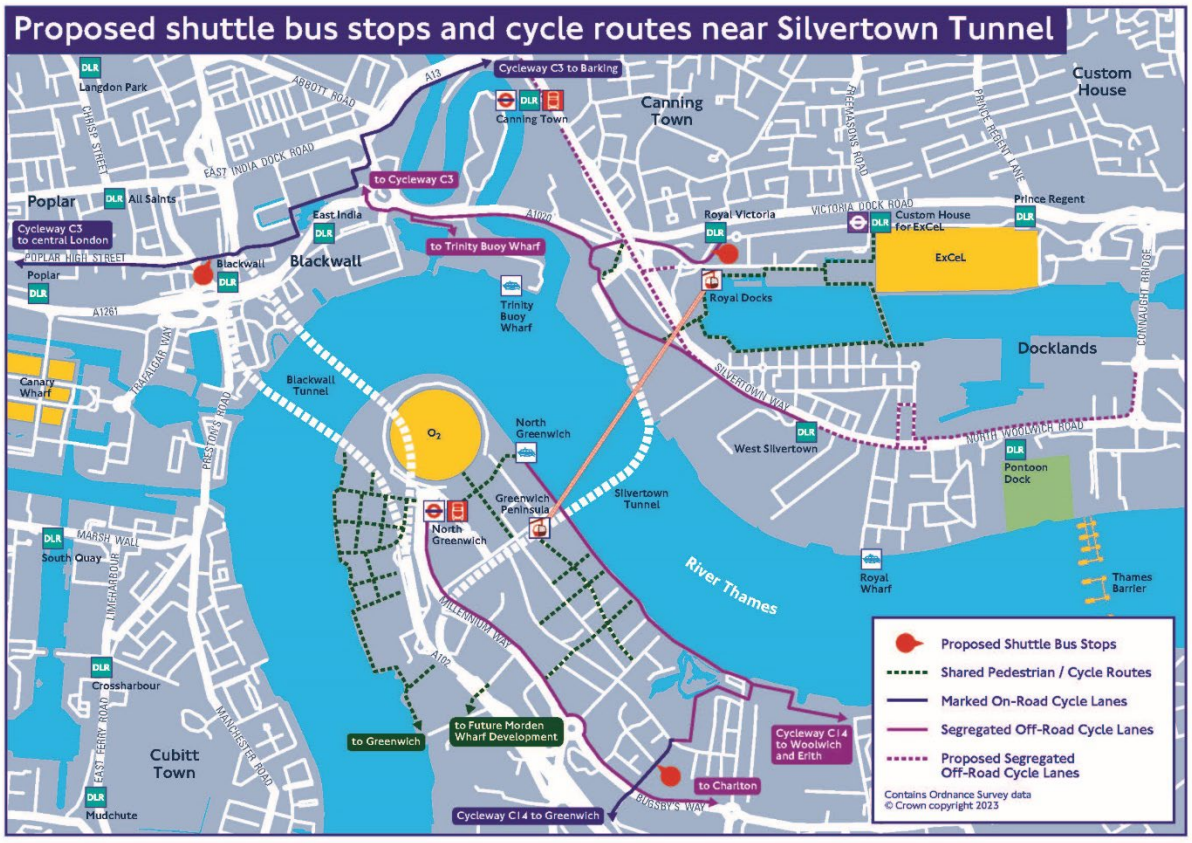
Source: TfL, Silvertown Tunnel - Cross River Cycling Service, 2023

[191] TfL, General questions on the river crossing service, accessed 14 January 2024
[192] TfL, Silvertown Cycling Service, 17 July 2023
[193] TfL, Silvertown Cycling Service, 17 July 2023
[194] TfL, Silvertown Cycling Service, 17 July 2023

Figure 9: Mini-bus with a trailer for bikes attached, proposed by TfL

Source: TfL, Silvertown Tunnel - Cross River Cycling Service, 2023

Figure 10: Shuttle bus stops and cycle routes included in TfL's plans



Source: TfL, Silvertown Tunnel - Cross River Cycling Service, 2023

TfL held a consultation on these proposals which ran from 17 July to 10 September 2023 and received 684 responses.[195]

The key findings from the consultation were:

- 43 per cent of respondents said that they would not use either a cycling shuttle bus or the cable car to cross the river with their bike;
- 79 per cent of respondents said they would consider using a ferry service if one were provided in the future;
- 44 per cent of respondents said they would use the shuttle bus service on weekdays and weekends;
- 83 per cent of respondents said they would be more likely to use the service for leisure journeys than for commuting;
- 54 per cent of respondents said they would not pay a fare for the shuttle bus service, with 40 per cent saying they would.

Respondents were also able to make written comments, the key issues which were raised in this section were:

- Silvertown Tunnel should have a segregated cycle lane/separate tunnel for cyclists;
    - TfL's response to this stated that its analysis indicated that there would be limited demand for a facility for cyclists within the tunnel and that there would be significant challenges to designing a facility that would be both safe and attractive for cyclists;
- Cyclists do not want a service where they have to get off their bikes and/or wait for a vehicle;
    - TfL responded to say its ambition for the shuttle bus was for it to be as convenient as possible, minimising wait times for cyclists. It also stated cyclists will still have the option to use the existing foot tunnel or cable car;
- Cyclists should not be charged to cross the river/charging for the service will be a deterrent to using it;
    - TfL confirmed the cross river cycling service will be free of charge for at least the first year;
- A dedicated bridge/tunnel for cyclists and walkers should be provided in the area instead;
    - TfL responded to say that building a new tunnel or bridge was not currently affordable due to the significant upfront capital costs but it noted this feedback for any future discussions around new crossing opportunities;

In July 2024, TfL confirmed that it would be proceeding with a bus shuttle service for cyclists when the Silvertown Tunnel opens.[196] TfL chose to go with the bus shuttle option that allows users to store their bikes inside the bus rather than in a trailer. It also confirmed there would be a bus at least every 12 minutes with the service running 7 days a week from 6:30 – 21:30, which would be free to use for at least the first year of operation.

[195] TfL, Silvertown Tunnel, cross river cycling service, 10 July 2024
[196] TfL, Silvertown Tunnel, cross river cycling service, 10 July 2024

5 Road User Charging

Road user charging for the Silvertown Tunnel was first proposed in 2012 and forms part of the DCO for the Silvertown Tunnel.[197] The DCO enables TfL to charge motor vehicles for using the Silvertown Tunnel and the Blackwall Tunnel from the time the Silvertown Tunnel is first open for public use.[198]

As part of the DCO application process, TfL developed a document called *Charging Policies and Procedures* (CPAP) which sets out the principles according to which TfL must set and vary the user charges and the procedures that apply when doing so.[199]

5.1 Charging Policies and Procedures

Project Objectives

The CPAP document contains 15 policies which outline the steps TfL must take when developing the user charges for the Silvertown and Blackwall tunnels.[200] The full list of CPAP policies is listed in the Appendix.

Policy 1 of the CPAP states that "TfL must impose user charges at the Silvertown and Blackwall tunnels to the extent that it is necessary or expedient to achieve the Silvertown Tunnel Project Objectives."

To ensure that any proposed user charges meet the Project Objectives, TfL developed a User Charging Assessment Framework (UCAF) (Table 4). The UCAF lists indicative metrics for each Project Objective to help determine whether the objective has been met or not. These metrics specifically focus on traffic, environment, population, economy and growth.

TfL has stated that the primary purpose of the user charges is to manage traffic demand for the river crossings.[201] TfL believes that without a user charge, any initial reduction in traffic would be short lived, as the attractiveness of the new tunnel would create additional demand. TfL therefore states that applying a user charge for both tunnels is "directly related to the achievement of PO1, PO2 and PO7; and instrumental in the achievement of objectives PO3 to PO6."[202]

The CPAP document states that TfL will keep the charges under review and make necessary variations to ensure the Project Objectives are achieved.[203] This includes a fixed-term review once the Silvertown tunnel has been open for 12 months. When making any variations to the initial user charges TfL will use the UCAF (Table 4). The CPAP document states that TfL will take account of traffic, environmental, and socioeconomic factors which are relevant at the time of the proposed variation, including the results of monitoring.

[197] The Mayor of London, Blackwall and Silvertown Tunnels Income, 28 December 2023
[198] TfL, TfL Board meeting agenda papers, 4 December 2024
[199] TfL, Charging Policies and Procedures, April 2017
[200] TfL, Charging Policies and Procedures, April 2017
[201] TfL, TfL Board meeting agenda papers, 4 December 2024
[202] TfL, Charging Policies and Procedures, April 2017
[203] TfL, Charging Policies and Procedures, April 2017

Table 4: User Charging Assessment Framework TfL must use when setting the Silvertown Tunnel user charges

Project Objective (PO)	Metric used to assess whether the user charge will achieve the Project Objective
PO1: to improve the resilience of the river crossings in the highway network in east and southeast London to cope with planned and unplanned events and incidents. AND PO2: to improve the road network performance of the Blackwall Tunnel and its approach roads.	Impact on traffic flow and composition at the Blackwall & Silvertown Tunnels Impact on delay at the Blackwall & Silvertown Tunnels Impact on journey time and journey time reliability on strategic routes Impact on traffic flow at nearby crossings incl. Tower Bridge, Rotherhithe Tunnel, Woolwich Ferry, Dartford Crossing Impact on traffic composition at nearby crossings including Tower Bridge, Rotherhithe Tunnel, Woolwich Ferry, Dartford Crossing Impact on traffic on diversion routes and local roads
PO3: to support economic and population growth, in particular in east and southeast London by providing improved cross-river transport links.	Impact on user benefits Impact on business Impact on the ability of residents to access employment opportunities Impact on public transport
PO4: to integrate with local and strategic land use policies.	Summary of assessment in relation to integration with relevant policies
PO5: to minimise any adverse impacts of any proposals on communities, health, safety and the environment.	Impact on emission levels (air quality) on the Blackwall & Silvertown Tunnel approaches Impact on emission levels (air quality) on the approaches to nearby crossings incl. Tower Bridge, Rotherhithe Tunnel & Woolwich Ferry Impact on noise levels on the Blackwall & Silvertown Tunnel approaches Impact on noise levels on the approaches to nearby crossings incl. Tower Bridge, Rotherhithe Tunnel & Woolwich Ferry Impact on emission (air quality) levels on diversion routes and local roads Impact on noise levels on diversion routes and local roads Impact on different socio-economic groups Impact on safety
PO6: to ensure where possible that any proposals are acceptable in principle to key stakeholders, including affected boroughs.	Summary of STIG's and relevant stakeholders' views
PO7: to achieve value for money and, through road user charging, to manage congestion.	Impact on the ability to fund the Scheme and other transport improvements without significantly impacting on other funds

5.2 Road User Charging Consultation

Charge level proposals

The proposed user charge levels for the Silvertown and Blackwall tunnels can be seen below (Figure 11). [204] These levels were set so that trips made at the busiest times of day and in the busiest direction would cost more.

All types of vehicle will have to pay to use the tunnel, as they will all receive the benefit from reduced congestion and improved journey times. However, charge levels differ by vehicle type to reflect the different magnitude of impact they will have including environmental effects, wear and tear on the road and congestion.

A lower charge will apply to drivers registered with Auto Pay (TfL's automatic billing system for road user charges)[205] to incentivise drivers to use the service as it removes the risk of incurring a penalty charge for non-payment, and also has reduced administration costs.

Figure 11: User charges proposed by TfL as part of the user charges consultation

Silvertown and Blackwall tunnels user charges – 06:00 to 22:00				
	Charges paid via Auto Pay			**Charges paid via other channels**
	Standard off-peak charges	**Peak charges** Mon-Fri only Northbound 06:00 - 10:00 Southbound 16:00 - 19:00		At all times
Motorcycle, moped, motor tricycle	£1.50	£2.50		£2.50
Car and small van	£1.50	£4.00		£4.00
Large van	£2.50	£6.50		£6.50
Heavy Goods Vehicles	£5.00	£10.00		£10.00
Penalty Charge Notice for non-payment - £180 (Reduced to £90 if paid within two weeks)				

Source: TfL, Silvertown and Blackwall tunnels user charge consultation, 2024

[204] TfL, Silvertown and Blackwall tunnels user charge consultation, December 2024
[205] TfL, Auto Pay, accessed 14 January 2025

Discounts and Exemptions

TfL proposed a series of discounts and exemptions to support certain people or in respect of certain vehicle types and journeys where TfL considered it is fair and justified to do so.[206]

Table 5: List of discounts for the Silvertown/Blackwall tunnel user charges

Discount	Length of time	Eligibility
50 per cent discount	This discount would be for a period of at least three years.	To qualify individuals must live within an east London borough and be in receipt of an eligible benefit, which includes: • Income Support • Income-related Employment & Support Allowance • Income-based Jobseekers Allowance • Universal Credit • Pension Credit • Child Tax Credit • Working Tax Credit • Carer's Allowance and • Housing Benefit
£1 business discount on standard off-peak charges	This discount would be for a period of at least 12 months.	Small businesses, sole traders and charities based in the host boroughs can register a maximum of three vehicles to receive a £1 discount on standard off-peak charges.
100 per cent discount	N/A	• Recovery and breakdown vehicles • Vehicles with 9+ seats • Blue Badge holders - individuals can register up to two vehicles that would be used to travel though Silvertown or Blackwall tunnels. This could be their own vehicle, or one they travel in/ • Certain operational vehicles used by the host boroughs • Zero-Emission Capable and Wheelchair Accessible private hire vehicles (PHVs)

TfL also proposed that the following vehicles would be exempt from any user charges:

- Taxis (Black Cabs);
- Emergency services vehicles;
- NHS vehicles exempt from vehicle tax;
- Vehicles in the disabled tax class;
- Military vehicles in use.[207]

NHS staff and NHS patients who are clinically assessed as too ill, weak or disabled to travel to an appointment on public transport and have a compromised immune system or require recurrent surgeries, would also be eligible for a reimbursement.

[206] TfL, Silvertown and Blackwall tunnels user charge consultation, December 2024
[207] TfL, Silvertown and Blackwall tunnels user charge consultation, December 2024

Issues raised by the STIG

Between 10 July and 3 September 2024, TfL consulted members of the STIG, the public and other stakeholders on the proposed charge levels, discounts and exemptions.[208]As set out in the DCO, it was a legal requirement for TfL to consult with the STIG when it proposed the initial user charges. National Highways and 10[209] out of the 12 London boroughs that are represented in the STIG responded to the consultation.

The top five issues raised by members of the STIG, and a summary of TfL's response to them is as follows:

- Concerns that the proposals will increase levels of traffic and congestion. The STIG questioned whether this is compatible with the Mayor's Transport Strategy and that the consultation has lacked clarity on how this will be monitored;
    - TfL stated that its extensive development work has shown that the Silvertown Tunnel scheme will effectively reduce congestion, support sustainable growth, and deliver an overall improvement in air quality;
    - TfL also stated that it will publish longer-term evaluation of the key impacts of the scheme annually, in the form of a dedicated 'Travel in London' Focus report. This report will summarise the overall impacts in the context of wider changes affecting London and in terms of contribution to the aims of the Mayors Transport Strategy;
- Suggestion that the proposed charges should be higher for cars;
    - TfL recognised that cars make up the highest proportion of cross river trips, and so the charge for cars has been set at a level which reflects these impacts. TfL also stated that if the user charge is set too high there is a risk of increasing traffic using other neighbouring crossings such as Rotherhithe Tunnel;
- Suggestion that bus service/public transport provision needs improving or increasing for those affected;
    - TfL stated it will monitor demand for bus services once the Silvertown Tunnel is open and respond accordingly. This includes considering additional cross-river routes or enhancing services on the new bus network routes which will be introduced then the tunnel opens;
    - TfL also highlighted its current work on other cross-river travel choices, such as the expansion of Surrey Quays station and DLR extension to Thamesmead;
- Concerns that proposals will not encourage car users to use other forms of transport or reduce car use;
    - TfL stated it will provide residents and businesses with a package of concessions and discounts to encourage them to use the new transport connections as well as making the scheme as green and fair as possible;
- Suggestions that the bus concession to support local residents using new cross-river bus services and the cross-river cycle shuttle-bus should be made permanent;
    - TfL stated it would review the use of the cross-river bus routes and cycle shuttle-bus once they are operational. [210]

[208] TfL, Silvertown and Blackwall tunnels user charge consultation, December 2024
[209] The London Boroughs in the STIG that responded to the consultation were: Bexley, Hackney, Lewisham, Newham, Redbridge, Southwark, Tower Hamlets and Waltham Forest, the Royal Borough of Greenwich and the City of London Corporation.
[210] TfL, Silvertown and Blackwall tunnels user charge consultation, December 2024

Issues raised through the public consultation

TfL received 5,361 responses to the public consultation, which included:

- 5,045 from members of the public;
- 207 from organised campaigns;
- 109 from a range of stakeholder groups, such as local authorities, politicians, transport groups, environmental groups, freight organisations, local businesses and statutory consultees.[211]

The 207 responses received through organised campaigns were from:

- Friends of the Earth calling for higher charges for more-polluting vehicles, a review of all east London crossings to allocate more space for greener travel options, and showing support for discounts for low-income Londoners (120 responses);
- We Are Possible opposing the charges, calling for Silvertown Tunnel to be repurposed for public transport and active travel only, and equal tolls across all London bridges and tunnels (31 responses);
- An unidentified campaign calling for the introduction of Routemaster buses (56 responses).

TfL also received two petitions during the consultation period:

- The first petition was raised by a member of the public opposing the proposed charge levels and had over 28,000 signatures;
- A second petition was opposed to the user charges and was submitted by Assembly Member Alex Wilson with 3,775 responses.

After the consultation closed and TfL published the confirmed user charges, another petition opposing the charges was started by a member of the public, which has received over 47,000 signatures to date.[212] This petition has also been submitted to the Assembly by Alex Wilson AM.[213]

The top five issues raised during the consultation which relate to the proposed level of user charges were:

- Opposition or disagreement with the proposed charges or the principal of charging generally;
    - TfL stated that operating the Silvertown Tunnel with no user charge performed badly against all project objectives when assessed through the UCAF;
- Opposition or concern that proposals are unfair to those living in or travelling from east and southeast London;
    - TfL recognised that the user charges will be a new cost for some drivers, whist highlighting the new cross-river bus network of 21 buses per hour at peak times. TfL stated these services will enable residents on the Greenwich Peninsula to access over 43,000 more jobs within a 60-minute journey, and residents of West Silvertown will be able to access over 21,000 more jobs within a 60-minute journey;
- Suggestions that the proposed charges are too expensive;

[211] TfL, Silvertown and Blackwall tunnels user charge consultation, December 2024
[212] Change.org, Stop the Mayor of London charging £8 per day to use Blackwall and Silvertown Tunnel (Accessed 19 February 2025, the petition had 47,241 signatures)
[213] London Assembly plenary meeting, 5 December 2024 (Item 6 – Petitions)

    - TfL stated that if the charges are set too high, overall demand for adjacent crossings would increase significantly and the project objective would not be met. Similarly, if TfL set the user charge too low, it would attract additional traffic to the crossings and would erode the benefits of the project;
    - TfL also highlighted the discounts available for local residents and businesses;
- Opposition to the proposals as they were seen as a revenue-raising project for TfL;
    - TfL stated that the user charge is necessary to manage traffic demand and to cover the cost of the new tunnel;
- Opposition or disagreement with charging to use the Blackwall Tunnel;
    - TfL stated that if it did not set a charge on the Blackwall Tunnel, drivers would favour it over the Silvertown Tunnel, which would eradicate the desired effect of reducing the queues and congestion previously seen at the Blackwall Tunnel.

In response to the proposed discounts, exemptions and reimbursements, the key issues raised were:

- Suggestions that the discounts should be for all residents local to the area;
    - TfL stated that it expects 50 percent of journeys through the tunnel to originate locally to the Silvertown and Blackwall tunnels, therefore if all local residents were exempt from the charges the scheme would be less successful in delivering its objectives;
- Suggestions that motorcycles/mopeds/motor tricycles should be exempt;
    - TfL stated that motorcycles also contribute to congestion, noise and air pollution as well as wear and tear of road surfaces and, therefore, will be subject to user charges;
- Opposition or disagreement with the proposed discounts in general;
    - TfL stated it carefully considered the discounts it is providing to ensure they are effective and support those who may need them most;
- Opposition or disagreement with taxis being exempt;
    - TfL stated that taxis play a vital role in London. Taxis also make up one per cent of daily traffic through Blackwall Tunnel, and this would expect to increase to two per cent of total traffic when the Silvertown Tunnel is opened.

Changes to the user charges

After considering the feedback it received through the consultation, TfL decided to make two changes to the user charge levels it initially proposed. The first was to re-classify the definitions it used for ‘small van’ and ‘large van’, as the originally drafted definitions led to small electric vans being classed as large vans, and large electric vans being classed as HGVs due to the size and weight of the vehicle’s battery. The second was to offer 100 per cent discounts to east London refuge vehicles, which were originally not included for the discount as it was thought they would not make cross-river trips.[214]

The TfL Board approved the proposed charges (Figure 11), meaning these are the final confirmed fees that users of the Silvertown and Blackwall tunnels will have to pay when the tunnel opens.[215]

[214] TfL, Silvertown and Blackwall tunnels user charge consultation, December 2024
[215] TfL, TfL Board Meeting Agenda, 6 December 2024

6 Financing the Silvertown Tunnel

6.1 Private Finance Initiative

The Silvertown Tunnel scheme has been funded through a public private partnership (PPP).[216] Using a private finance initiative (PFI) model, Riverlinx is responsible for meeting the costs and bearing the risks associated with the construction, maintenance and operation of the tunnel.[217] It has been stated by the Mayor that Riverlinx will also be responsible for the maintenance and renewal of the systems and equipment for 25 years once the tunnel is open and that Riverlinx secured £1.2 billion in finance to cover the costs of the project. [218]

In 2018, the Chancellor of the Exchequer, Phillip Hammond, announced that he was abolishing the use of PFIs for future building projects,[219] which had been previously criticised as failing to deliver value for money.[220]

In a London Assembly Budget Monitoring Sub-Committee meeting in June 2019, Jennette Arnold OBE AM asked TfL's Chief Finance Officer, Simon Kilonback, how confident he was that the Silvertown Tunnel PFI would deliver value for money, given that the Government had abolished this type of financial arrangement.[221] Simon Kilonback answered that TfL was relatively inexperienced in building road tunnels (it had not built one in the last 50-100 years), whereas Riverlinx were "vastly experienced in building road tunnels" and better placed to deliver the scheme. Simon Kilonback explained that:

> "The overall cost of finance embedded in this PFI reflects that [the experience of Riverlinx] and we think, given the requirements to do this and the constraints on TfL's balance sheet, this is one of the few occasions on which this type of financing mechanism makes sense".

Riverlinx will start to be repaid when the tunnel has been completed to TfL's satisfaction and is open for use. In 2016, when Boris Johnson was Mayor he stated that this provided "a very strong incentive for the company to deliver on time (or early) and to budget".[222]

Repayment to Riverlinx will be made by TfL through Availability Payments (APs), over the 25-year period following the opening of the tunnel.[223, 224] TfL has reported that initial payments to Riverlinx will start at £65 million.[225]

The APs are subject to Riverlinx's performance against areas such as incident response, asset inspection and maintenance and management reporting to TfL.[226] The APs are also linked to the Retail Price Index (a measure of inflation).[227] Therefore, due to these factors, the total amount to be paid to Riverlinx is not fixed.[228]

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[216] Mayor of London, Silvertown Tunnel - Public Private Partnership funding, 25 February 2016
[217] Mayor of London, Silvertown Tunnel - Public Private Partnership funding (2), 20 March 2016
[218] Mayor of London, Total cost of Silvertown Road Tunnel to Londoners, 10 May 2021
[219] House of Commons Library, Goodbye PFI, 30 October 2018
[220] The Guardian, PFI is bankrupting Britain. But there are ways to set ourselves free, 30 August 2017
[221] London Assembly Budget Monitoring Sub-Committee, GLA Borrowing, 12 June 2019
[222] Mayor of London, Silvertown Tunnel - Public Private Partnership funding, 25 February 2016
[223]Mayor of London, Initial payment amount for the Silvertown Road Tunnel contract, 16 November 2022
[224] Mayor of London, Silvertown Road Tunnel debt and the TfL balance sheet, 15 October 2024
[225] TfL, Annual Report and Statement of Accounts 2023/24, September 2024
[226] Mayor of London, Initial payment amount for the Silvertown Road Tunnel contract, 16 November 2022
[227] UK Government, Measures of Price Inflation: RPI, CPI, and CPIH, 23 August 2021
[228] Mayor of London, Initial payment amount for the Silvertown Road Tunnel contract, 16 November 2022

Originally, the PFI was classified by TfL as "off balance sheet" because Riverlinx were responsible for raising the finance and designing, building and maintaining the tunnel.[229] In July 2024, TfL stated that the Silvertown Tunnel will become "on balance sheet" once it is opened.[230] The Mayor stated that this was for statutory reporting purposes and the tunnel will be "capitalised on the balance sheet as an asset and the amounts owed to Riverlinx will be recognised as a liability (debt)".[231]

The revenue from the road user charging scheme applied to the Silvertown and Blackwall Tunnels will be used to repay the debt to Riverlinx through the APs.[232] Any funds left over after Riverlinx have been paid will be reinvested in the transport network. TfL has stated that charging for both the Silvertown and Blackwall Tunnels will generate £103.8 million in the first year (2025/26), but, operating costs are assumed to be £106.7 million, which means there will be a "small deficit".[233] However, TfL has stated the scheme will move into a small surplus of "around £3 million per annum from 2026/27 onwards.

6.2 TfL's Direct Costs

Whilst Riverlinx are responsible for designing, building, financing and maintaining the Silvertown Tunnel, TfL also has several direct responsibilities to enable the opening of the tunnel and ensure its benefits are delivered.[234]

These include:

- Securing the temporary land and rights required for construction and the permanent land required to operate the scheme;
- Undertaking a range of monitoring, modelling and assessment work to ensure TfL has up-to-date information to understand the tunnel's impacts pre- and post-opening;
- Securing infrastructure and systems that are required to operate the road user charging system;
- Providing a cross-river bus service including a new express bus service (Superloop 4);
- Signage changes, modifications to TfL control centres, and other specific obligations under the DCO such as the construction of additional noise barriers along the A102.

The financing of these responsibilities come under "TfL Direct Costs", and TfL must seek authority from TfL's Programmes and Investment Committee to do so.[235] Although it should be noted that a proportion of TfL Direct Costs were financed through Riverlinx which will paid back through APs.

As of Quarter One in TfL's 2024-25 calendar year (1 April to 22 June 2024), it had spent £127 million in Direct Costs and had a further £53 million it was predicted to spend.[236] This put TfL's net final estimated cost at £180 million, which is £4 million above the £176 million of spending TfL's Programmes and Investment Committee had authorised for the project, known as the Programme and Project Authority (PPA).

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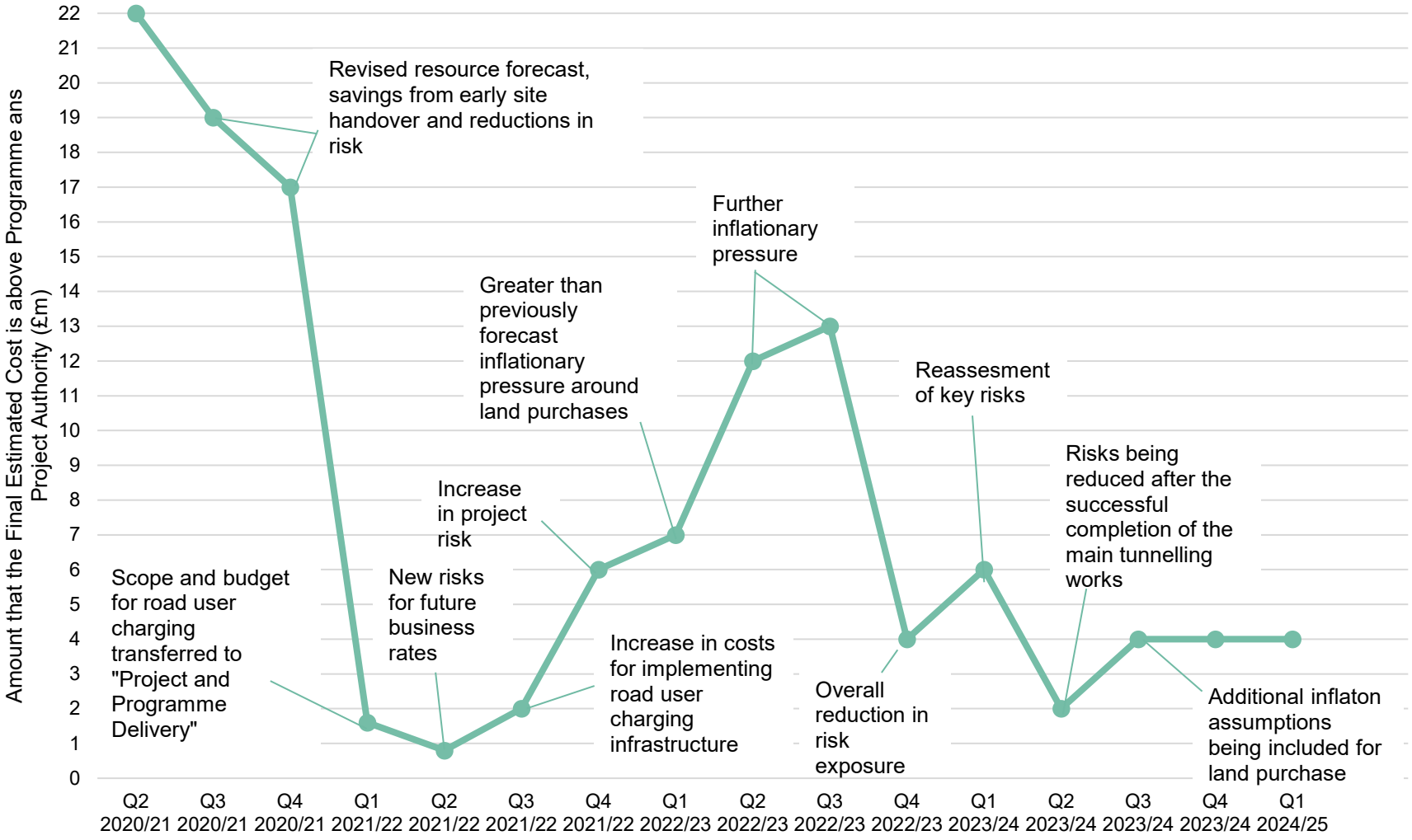
[229] TfL, Programmes and Investment Committee – Silvertown Tunnel, 8 March 2017
[230] TfL, Finance Committee Agenda, 11 July 2024
[231] Mayor of London, Blackwall and Silvertown Tunnels Income, 28 December 2023
[232] Mayor of London, Blackwall and Silvertown Tunnels Income, 28 December 2023
[233] London Assembly Budget and Performance Committee, The 2025-26 GLA Group Budget – Transport for London, 17 December 2024
[234] TfL Programmes and Investment Committee, Silvertown Tunnel, 5 October 2023
[235] TfL Programmes and Investment Committee, Silvertown Tunnel, 5 October 2023
[236] TfL, Investment programme report Quarter 1 2024/205, October 2024

The PPA was approved in May 2019,[237] but wasn't revealed until TfL published its Quarter Two 2020/21 Investment Programme Report,[238] due to reasons of commercial sensitivity.[239] Initially the PPA was set at £180 million, however, this was reduced to £173 million in Quarter One 2021/22 when TfL transferred the scope and delivery of road user charging to its "Surface Project and Programme Directorate".[240] Then, in October 2023 TfL requested that the PPA was increased by £2.7 million to include scope for the provision of bus infrastructure, which was approved by TfL's Programmes and Investment Committee.[241] Therefore, the current PPA for the Silvertown Tunnel is £176 million.[242]

Since the PPA was revealed in Quarter Two 2020/21, TfL's quarterly Investment Programme Reports have reported on the Estimated Final Cost (EFC) of the Silvertown Tunnel. Since this reporting began, the EFC has consistently been predicted to be higher than the PPA. Figure 17 shows how this overspend has varied over the years, and the reasons provided by TfL for why it has either increased or decreased. When commenting on this overspend, TfL has stated that its project team is looking for ways to bring the EFC "back in line".[243]

[237] TfL Programmes and Investment Committee, Supplementary Agenda Silvertown Tunnel, 15 May 2019
[238] TfL, Investment programme report Quarter 2 2020/2021
[239] TfL, Investment programme report Quarter 1 2020/2021, October 2020
[240] TfL, Investment programme report Quarter 1 2021/22
[241] TfL Programmes and Investment Committee, Silvertown Tunnel, 5 October 2023
[242] TfL, Investment programme report Quarter 1 2024/205, October 2024
[243] TfL, Investment programme report Quarter 1 2024/205, October 2024

Figure 12: TfL's overspend (£m) on direct costs associated with the Silvertown Tunnel [244, 245]



[244] Information in Figure 12 is collated from quarterly reports Q2 2020/21 – Q1 2024/25: TfL, Investment programme report, accessed 14 January 2024. This graph only shows the overspend, rather than the full PPA. Since 2021/22, the reported overspend has remained within 10 per cent of the PPA.
[245] It should be noted that the initial PPA of £180 million was reduced to £173 million in Q1 2021/22 and then raised to £176 million in Q3 2023/24

7 Opening the Silvertown Tunnel

TfL has stated that the Silvertown Tunnel will open on 7 April 2025.[246]

It stated that until then, its focus is on:

- Completing internal works on portal buildings;[247]
- Testing and commissioning tunnel systems;
- Installing lighting and handing over land it has been using temporarily for construction;
- Preparing the roads, vehicles and infrastructure for the new cross-river bus network and cycle shuttle-bus;
- Implementing highway changes needed before the tunnel opens;
- Continuing to monitor and report on traffic, air quality and the tunnel's impact on residents and businesses.[248]

[246] TfL, Silvertown Tunnel planned to open on 7 April 2025, 6 January 2025
[247] The portal buildings are the tunnel entrances. TfL, Portal & Building Design, 2015
[248] TfL, Silvertown Tunnel, accessed 14 January 2025

Appendix 1: Meetings held during the DCO examination period

Meeting Date	Meeting Type	Meeting Purpose
11 October 2016[249]	Preliminary Meeting	For Interested Parties to put their views to the ExA on the way in which TfL's application would be examined.
12 October 2016[250]	Issue Specific Hearing	To clarify how the draft DCO was intended to work. To confirm the Interested Parties' views on TfL's proposals.
13 October 2016[251]	Open Floor Hearing	For Interested Parties to give oral evidence about their views on TfL's application.
7 December 2016[252]	Issue Specific Hearing	To discuss traffic and transport modelling.
8 December 2016[253]	Compulsory Acquisition Hearing	To consider whether the conditions relating to the land being required were met and whether there was a compelling case in the public interest for the compulsory acquisition.
17 January 2017[254]	Issue Specific Hearing	To discuss traffic/transport modelling, forecasting and user charging and economic issues.
18 January 2017[255]	Issue Specific Hearing	To discuss air quality, noise and other environmental issues.
19 January 2017[256]	Issue Specific Hearing	To discuss the DCO

[249] The Planning Inspectorate, Notice of Preliminary Meeting, availability of relevant representations, appointment of the Examining Authority and notification of hearings, 13 September 2016
[250] The Planning Inspectorate, Issue Specific Hearing Agenda, 5 October 2016
[251] The Planning Inspectorate, Open Floor Hearings Agenda, 5 October 2016
[252] The Planning Inspectorate, Agenda for the Issue Specific Hearing on Traffic and Transport Modelling, 30 November 2016
[253] The Planning Inspectorate, Agenda for the Compulsory Acquisition Hearing, 30 November 2016
[254] The Planning Inspectorate, Examining Authority's notification of hearings and accompanied site inspection, 19 December 2016
[255] The Planning Inspectorate, Examining Authority's notification of hearings and accompanied site inspection, 19 December 2016
[256] The Planning Inspectorate, Examining Authority's notification of hearings and accompanied site inspection, 19 December 2016

Meeting Date	Meeting Type	Meeting Purpose
20 January 2017[257]	Compulsory Acquisition Hearing	To consider whether there is a compelling case in the public interest for the compulsory acquisition.
28 March 2017[258]	Issue Specific Hearing	To obtain updates and progress reports on environmental, technical socioeconomic and commercial matters from TfL and Interested Parties. To understand which matters are unlikely to be resolved by the end of the Examination.
28 March 2017[259]	Open Floor Hearing	To examine detailed relating to traffic, environmental or other consequences. To question the detailed wording of the draft DCO.
29 March 2017[260]	Issue Specific Hearing	To clarify issues around how the draft DCO is intended to work. To establish or confirm the views of other Interested Parties as to the appropriateness, proportionality or efficacy of proposals.

[257] The Planning Inspectorate, Examining Authority's notification of hearings and accompanied site inspection, 19 December 2016
[258] The Planning Inspectorate, Agenda for the Issue Specific Hearing on any Other Outstanding Issues including Environmental matters, 20 March 2017
[259] The Planning Inspectorate, Agenda for the Open Floor Hearing, 20 March 2017
[260] The Planning Inspectorate, Agenda for the Issue Specific Hearing on the Development Consent Order, 20 March 2017

Appendix 2: Bus Strategy Commitments

Commitment 1: TfL must provide £2m in funding for concessionary bus travel to residents of the London Boroughs of Newham and Tower Hamlets and the Royal Borough of Greenwich for a period after the Silvertown Tunnel opens for public use.

Commitment 2: the initial Statement of Charges prepared in accordance with the Charging Policies and Procedures will provide for a 100% discount for public service buses.

Commitment 3: for the duration of the monitoring period, buses, coaches and heavy vehicles will have a dedicated lane in the Silvertown Tunnel.

Commitment 4: TfL must ensure that any bus ordinarily using the Silvertown Tunnel as part of a London local service must comply with the Euro VI emissions limits or with equivalent emissions standards.

Commitment 5: TfL must secure the provision of not less than the minimum level of bus services specified in the 'cross river bus services' requirement in Schedule 2 to the DCO for the duration of the monitoring period.

Commitment 6: TfL must keep the bus services through the tunnels under review and must secure the provision of bus services in accordance with the objectives set out in section 3.5 of this Bus Strategy.

Commitment 7: Prior to the Silvertown Tunnel opening for public use TfL will consult with STIG members on its outline proposals with regard to the bus network.

Commitment 8: Bus service planning will commence not less than 2 years prior to Scheme opening, using TfL's Bus Service Planning Guidelines.

Commitment 9: TfL will work with STIG members to seek opportunities to implement bus priority measures on the network around the Silvertown Tunnel, for example by undertaking bus priority studies.

Commitment 10: TfL and STIG members will consider socio-economic monitoring and information in assessing bus services.

Commitment 11: TfL will collect monitoring data on cross-river bus performance and use this to modify services in order to maintain the continued achievement of the Project Objectives.

Appendix 3: Silvertown Tunnel Charging Policies

Policy 1: TfL must impose user charges at the Silvertown and Blackwall Tunnels to the extent that it is necessary or expedient to achieve the Project Objectives.

Policy 2: In setting and varying the user charges (including the charge levels, the hours charged, the vehicles charges, discounts and exemptions granted and other factors related to user charging), TfL must ensure that they are fair, justified and will not undermine the Project Objectives.

Policy 3: TfL will use its power to set and vary the charges as a means to help fulfil its wider road network management duty under the Traffic Management Act 2004. Overall, in setting and varying the user charges, TfL will seek to manage traffic demand at the Blackwall and Silvertown Tunnels and make efficient use of the road network including other river crossings and to reduce congestion.

Policy 4: TfL must set and vary the user charges in accordance with applicable legislation, the MTS and other relevant policies.

Policy 5: for a period of not less than 56 days prior to Scheme opening, eligible residents and small businesses in the host boroughs will be able to register online for a payment account without paying the annual registration fee for the initial year.

Policy 6: for the duration of the monitoring period a discount of not less than 50% on the user charges will be available for eligible residents of host boroughs on a low income who register for an online account with TfL. After the expiry of the monitoring period, TfL will review in consultation with the host boroughs whether the discount should continue.

Policy 7: TfL must set initial user charges prior to the Silvertown Tunnel opening for public use.

Policy 8: Before setting the initial user charges, TfL will update its modelling using up-to-date inputs and the outputs of this modelling will be used to determine whether any changes to the Assessed Case user charges are required to more effectively deliver the Project Objectives.

Policy 9: The extent to which the user charges will assist in achieving the Project Objectives is the primary consideration which TfL will have regard to when setting the initial user charges.

Policy 10: TfL will set the initial charges at a level and subject to conditions so that the Scheme in operation is not likely to give rise to materially new or materially different environmental effects to those reported in the Environment Assessment.

Policy 11: TfL must keep the user charges under review, and will make variations to charges where this is considered necessary to ensure the continued achievement of the Project Objectives.

Policy 12: The extent to which the user charges will assist in the continued achievement of the Project Objectives is the primary consideration which TfL will have regard to when reviewing and varying the user charges. In considering whether any proposed variations to the charges will assist the delivery of the Project Objectives, TfL will consider the likely

impacts of the proposed variation on traffic, the environment, population, economy and growth and other factors which are relevant to the Project Objectives. TfL will also consider the extent to which the proposed variations assist TfL to comply with its statutory functions and other relevant policies and legislation.

Policy 13: TfL will use the UCAF to help to determine the extent to which the proposed user charges meet the Project Objectives. This will apply for both initial charge-setting and subsequent variations.

Policy 14: TfL may impose a temporary suspension or variation of charges where it considers it necessary to do so. Such a suspension would be advertised in advance on TfL's website. TfL may, without notice, impose a temporary suspension or variation of user charges in response to emergencies or unplanned incidents on the highway network.

Policy 15: TfL must complete a review of the user charges not later than 15 months after the Scheme opens for public use and, if necessary, must revise the charges to mitigate any significant adverse impacts attributable to the Scheme which were not predicted in the preopening assessment.[261]

[261] TfL, Charging Policies and Procedures, April 2017

Other formats and languages

If you, or someone you know needs this report in large print or braille, or a copy of the summary and main findings in another language, then please call us on: 020 7983 4100 or email assembly.translations@london.gov.uk

Chinese

如您需要这份文件的简介的翻译本，
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Email 与我们联系。

Hindi

यदि आपको इस दस्तावेज का सारांश अपनी भाषा में
चाहिए तो उपर दिये हुए नंबर पर फोन करें या उपर दिये
गये डाक पते या ई मेल पते पर हम से संपर्क करें।

Vietnamese

Nếu ông (bà) muốn nội dung văn bản này được dịch sang
tiếng Việt, xin vui lòng liên hệ với chúng tôi bằng điện
thoại, thư hoặc thư điện tử theo địa chỉ ở trên.

Bengali

আপনি যদি এই দলিলের একটা সারাংশ নিজের ভাষায় পেতে চান,
তাহলে দয়া করে ফো করবেন অথবা উল্লেখিত ডাক ঠিকানায় বা
ই-মেইল ঠিকানায় আমাদের সাথে যোগাযোগ করবেন।

Greek

Εάν επιθυμείτε περίληψη αυτού του κειμένου στην γλώσσα σας, παρακαλώ καλέστε τον αριθμό ή επικοινωνήστε μαζί μας στην ανωτέρω ταχυδρομική ή την ηλεκτρονική διεύθυνση.

Urdu

اگر آپ کو اس دستاویز کا خلاصہ اپنی زبان میں
درکار ہو تو، براہ کرم نمبر پر فون کریں
یا مذکورہ بالا ڈاک کے پتے یا ای میل
پتے پر ہم سے رابطہ کریں۔

Turkish

Bu belgenin kendi dilinize çevrilmiş bir özetini
okumak isterseniz, lütfen yukarıdaki telefon
numarasını arayın, veya posta ya da e-posta
adresi aracılığıyla bizimle temasa geçin.

Arabic

الحصول على ملخص لهذا المستند بلغتك،
فرجاء الاتصال برقم الهاتف أو الاتصال على
العنوان البريدي العادي أو عنوان البريد
الإلكتروني أعلاه.

Punjabi

ਜੇ ਤੁਸੀਂ ਇਸ ਦਸਤਾਵੇਜ਼ ਦਾ ਸੰਖੇਪ ਆਪਣੀ ਭਾਸ਼ਾ ਵਿਚ ਲੈਣਾ
ਚਾਹੋ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਇਸ ਨੰਬਰ 'ਤੇ ਫ਼ੋਨ ਕਰੋ ਜਾਂ
ਉਪਰ ਦਿੱਤੇ ਡਾਕ ਜਾਂ ਈਮੇਲ ਪਤੇ 'ਤੇ ਸਾਨੂੰ ਸੰਪਰਕ ਕਰੋ।

Gujarati

જો તમારે આ દસ્તાવેજનો સાર તમારી ભાષામાં
જોઈતો હોય તો ઉપર આપેલ નંબર પર ફોન કરો
અથવા ઉપર આપેલ ટપાલ અથવા ઈ-મેઈલ સરનામા
પર અમારો સંપર્ક કરો.

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