



## Alternative options considered to address the issues at the Blackwall Tunnel

We have considered a wide range of options for schemes to help address the transport problems of congestion, closures and incidents, and resilience at the Blackwall Tunnel and believe that our proposed Silvertown Tunnel scheme is the best solution.

This factsheet examines a number of potential alternative schemes, including some which were suggested by respondents to our previous consultation, and explains why we do not consider them to be feasible solutions to the problems at the Blackwall Tunnel.

Further detail on each alternative as well as other alternatives is included in the Preliminary Case for the Scheme, which can be found at [www.tfl.gov.uk/Silvertown-tunnel](http://www.tfl.gov.uk/Silvertown-tunnel).

### Building a bridge between Silvertown and the Greenwich Peninsula, rather than a tunnel

We have considered building a bridge at Silvertown, instead of a tunnel.

However, any new bridge built in east London needs to provide at least 50m of clearance above the water level to allow tall sea-going shipping to pass beneath safely. A bridge with this level of clearance would require long, sloping approach ramps. Such ramps would create a barrier within the local area, as well as dramatically affecting the visual environment and going against local authorities' development plans. A high-level bridge would also not be feasible in the current location due to its proximity to the Emirates Air Line cable car.

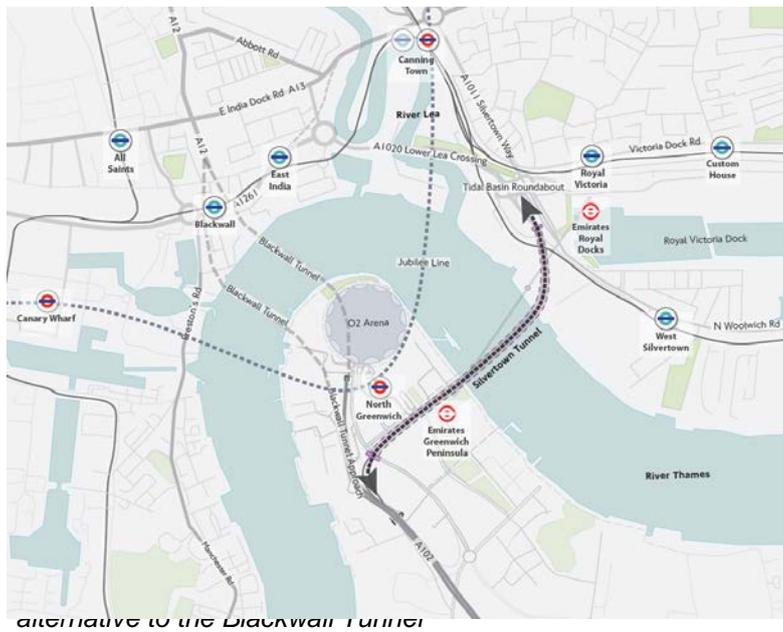
We also considered the option of a lifting bridge (like Tower Bridge). This could be constructed at a lower level, with less impact on the local area. However, such a bridge would be closed to traffic perhaps up to five times a day, for up to 30 minutes per closure when shipping needed to pass, . . . Traffic would need to be held at a red light or diverted to the Blackwall Tunnel during these closures -potentially during the busiest peak periods.

For these reasons, we concluded that a bridge at Silvertown would not be able to sufficiently address the transport problems at the Blackwall Tunnel.



*Bridges in the eastern reaches of the Thames require high clearance for shipping to pass underneath –which can mean long approach ramps*

## Building a new road-based river crossing elsewhere



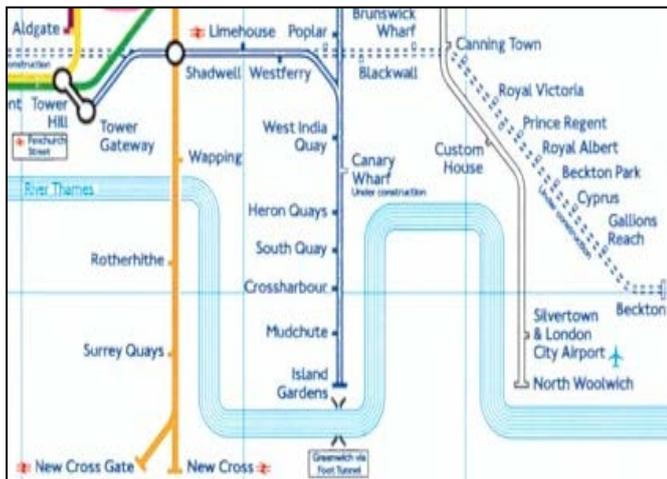
Some respondents to our previous consultation suggested that we should build the new crossing elsewhere.

A key reason for building the new crossing near to the Blackwall Tunnel is that if the Blackwall Tunnel becomes unavailable due to a breakdown, collision or other incident such as an overheight vehicle trying to use it, there are no nearby alternative routes for traffic to take. On these occasions, congestion in the surrounding area becomes much worse. Building a new crossing near to the Blackwall Tunnel would give traffic a readily accessible alternative route to take.

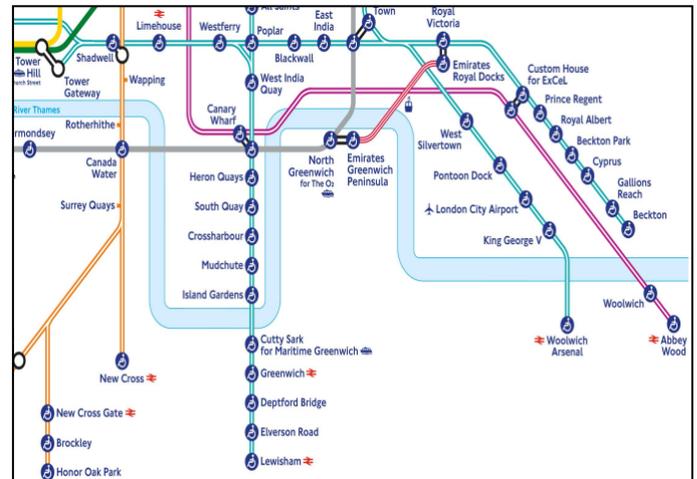
In addition to this, our investigations show that the Blackwall Tunnel – and a future Silvertown Tunnel – are in an ideal position in the road network, carrying traffic through the heart of the intersection between the A2, A12 and A13 – inner east London’s principal roads

## Provide new public transport crossings

The cross-river rail network in east London has been transformed with new links over the last 20 years. This can be seen in the images below, which compare the network in 1990 with the network that will be in place by 2018, once Crossrail has opened.



East London cross-river rail links in 1990

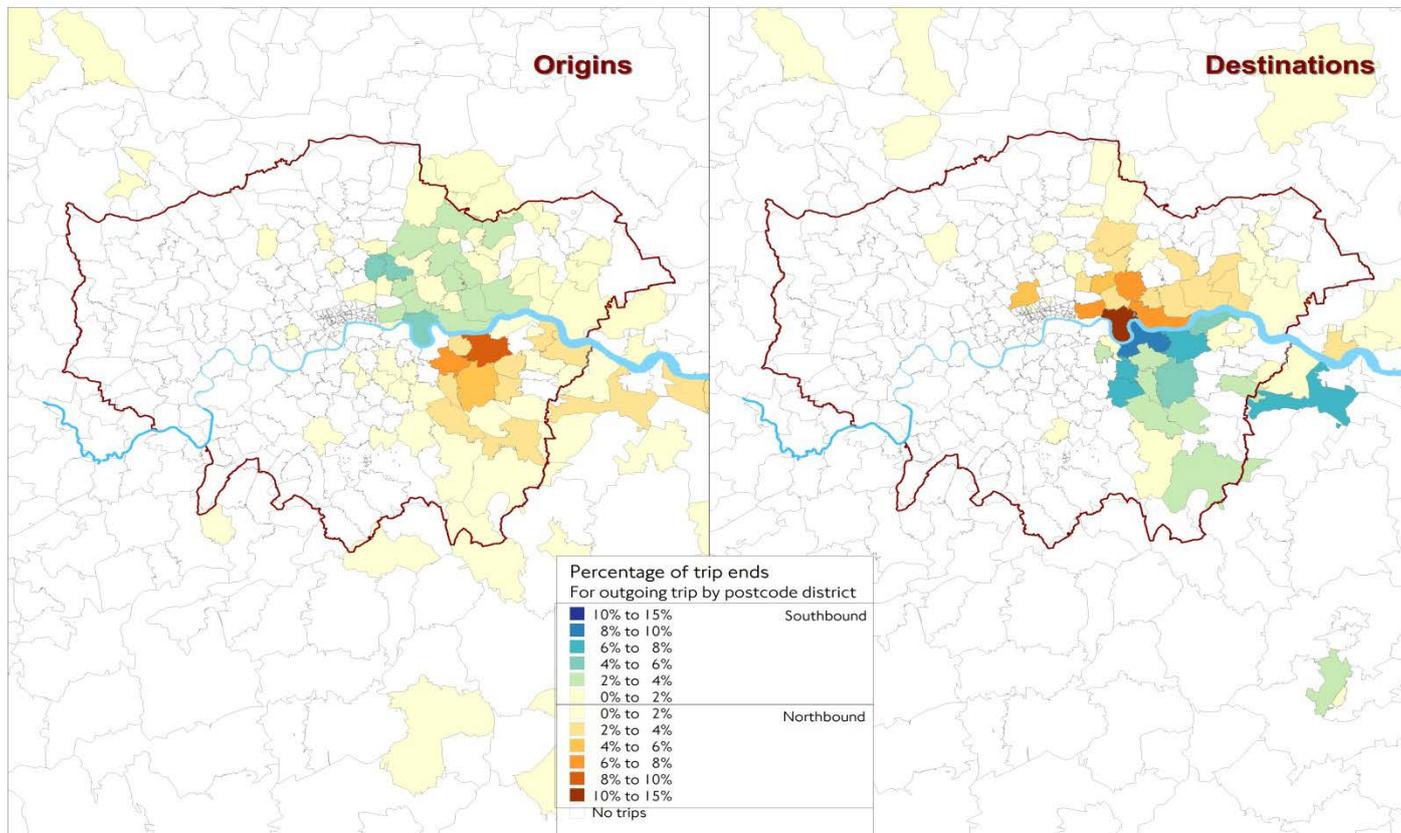


East London cross-river rail links in 2018

We examined a range of options for new public transport crossings, and identified an extension of the DLR to Eltham as the only public transport scheme which in principle had the potential to lead to a significant shift away from the car to public transport. When investigated we determined that this would not do enough to address congestion and resilience issues at the Blackwall Tunnel. Our analysis indicated only 4 per cent of existing tunnel users would be within its catchment (and of these even fewer would be capable of taking advantage of the new connection it offered). It also would not provide a solution to the issue of limited road river-crossing options when Blackwall Tunnel is closed.

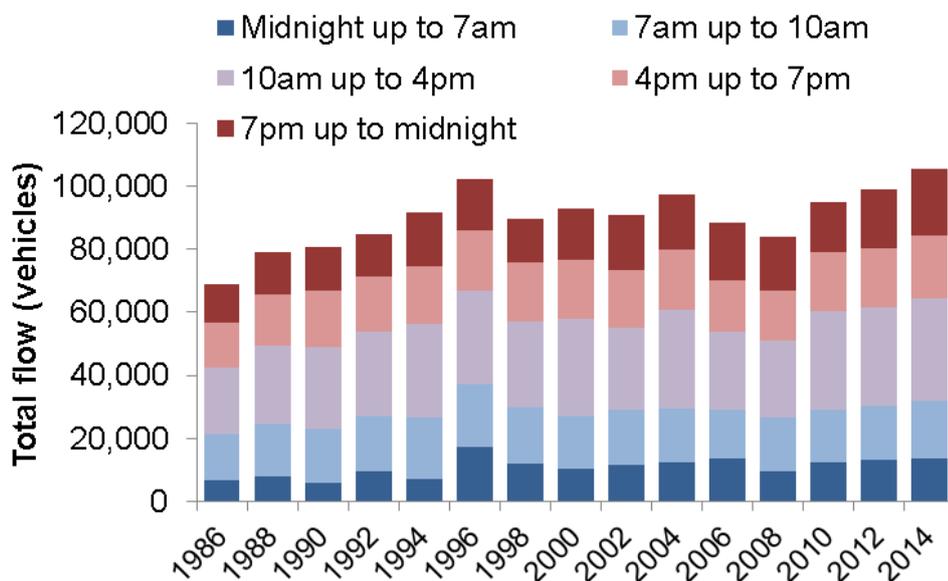
Road travel remains an important method for moving people and materials across the city. Trips through the Blackwall Tunnel are made from across a very wide area of east and south-east

London and beyond as well as between the local boroughs, as shown in the maps below. One or even potentially several new rail links would not directly address the needs of this widely-dispersed road traffic, which includes freight and servicing vehicles, as well as coach and bus passengers. Therefore new rail links would be likely to have very little impact in resolving the transport problems of congestion, closures and resilience at the Blackwall Tunnel.



*Trips through the Blackwall Tunnel originate from across a very wide area of London and beyond*

While there might appear to be potential to address the congestion at the Blackwall Tunnel through provision of alternative modes of transport, the recent history of substantial increases in public transport provision (including the Jubilee Line and DLR extensions, East London Line and capacity enhancement) shows that in fact this has not succeeded in reducing highway trips through the Blackwall Tunnel.



*Despite large increases in the provision and use of public transport, the amount of traffic using the Blackwall Tunnel has generally increased steadily since 1986.*

Furthermore, an additional public transport crossing built instead of the Silvertown Tunnel would do nothing to improve the resilience of the network to the effects of incidents at the Blackwall Tunnel, since there would remain no nearby alternative route across the river for vehicles.

In conclusion, whilst new rail-based public transport options do not provide a viable solution to the problems at Blackwall Tunnel it is important to recognise that the new tunnel will create the opportunity to transform cross-river bus services between east and south-east London, and therefore make a positive contribution to public transport.

### Providing a new crossing for pedestrians and/or cyclists only

We have also considered whether the problems at the Blackwall Tunnel could be resolved by building a new crossing for pedestrians and/or cyclists only.

The Emirates Air Line cable car was introduced specifically to provide a connection for pedestrians and cyclists between the same areas that the new Silvertown Tunnel would connect. This has aided pedestrians and cyclists but not relieved the road traffic issues our scheme seeks to address. However, alongside our proposals for the Silvertown Tunnel scheme we will put forward measures to strengthen the role of the Emirates Air Line as a pedestrian and cycle connection and would use the opportunity provided by the Scheme to improve the road layout in the area to help cyclists and pedestrians and make a more attractive environment around the north and south portals.



*The Emirates Air Line cable car was introduced specifically as a pedestrian & cyclist-only cross-river link for east London*

We are also supportive of wider measures to improve pedestrian and cyclist connectivity. Sustrans – the sustainable transport charity – is promoting a new pedestrian and cyclist bridge to link Rotherhithe and Canary Wharf. We are working with Sustrans to develop their proposal; however it is not a scheme that would address the issues of congestion and poor resilience at the Blackwall Tunnel.

We have also considered whether it is possible to provide space within the new Tunnel for pedestrians and cyclists. Allowing pedestrians and cyclists to use the Silvertown Tunnel would require that separate, segregated space be found within the Tunnel, since it would be unsafe for pedestrians or cyclists to share an enclosed space with traffic. We considered two options: one option would be to build a separate bore and include facilities for pedestrians and cyclists within it; we also considered using the space beneath the road deck for pedestrians and cyclists only.

Of these options, it would be more feasible to provide space beneath the road deck. However it would not be a pleasant place to walk or cycle -it would be exposed to significant noise from the road above, for example. The Tunnel itself will be around 1.4 km long, which is almost four times longer than the Greenwich Foot Tunnel. The length of the tunnel means that it would feel cramped and potentially intimidating, which raises significant safety and security implications. Additionally, cost impacts would likely be very significant -in the region of some £70m additional cost.

### Introducing user charging at the Blackwall Tunnel without introducing the Silvertown Tunnel scheme

We considered whether it would be possible to resolve the issues of congestion, closures and incidents, and resilience at the Blackwall Tunnel simply by charging motorists to use it, without building the Silvertown Tunnel.

A charge at the Blackwall Tunnel could reduce some of the demand – depending on the level at which it was set – however it would not prevent planned and unplanned incidents at the Tunnel, which is a significant cause of congestion across a wide area.

In 2013 there was an average of six incidents per day with an average of four incidents every day requiring the traffic intervention and/or temporary tunnel closure. Of the 1,200 plus incidents causing Tunnel closures in 2013, around half were due to overheight vehicles.

Type of incident resulting in closure	Number of incidents in 2013
Over height vehicle (HGV)	618
Broken down vehicle	368
Road traffic incident	51
Other (pedestrians, debris, etc.)	197
<b>Total</b>	<b>1,234</b>

The new Silvertown Tunnel would be accessible to modern, tall freight vehicles and so would significantly reduce incidents involving these vehicles at the Blackwall Tunnel. Our Scheme would also greatly reduce the impact of such closures by providing an alternative route should an incident take place.

### **Not charging motorists to use the Blackwall or Silvertown Tunnels**

User charging at the Blackwall and Silvertown Tunnels would play a fundamental role in managing demand for the crossings. This would ensure that when the new Tunnel opens, demand is at a level that the local road network can accommodate, so that the benefits of the additional crossing are fully realised. If we didn't introduce a charge then the additional capacity provided by the new tunnel would attract new traffic and rapidly exceed the capacity of the surrounding network, and leading to similar congestion, delay and unreliability problems as the current Blackwall Tunnel. Further detail of an assessment of the Scheme without a user charge is presented in the Preliminary Case for the Scheme. The user charge would also pay for the new Tunnel to be built and operated.

The user charge would ensure that those who benefit most directly from the Silvertown Tunnel would pay for it to be built. The charge would also provide a long-term source of funding that could be used to support other essential transport improvements in future, once the cost to build the Silvertown Tunnel had been recovered.

### **Further river crossings for east London**

In addition to the Silvertown Tunnel, we are developing proposals for new bridge or tunnel crossings at Gallions Reach and Belvedere. These additional crossings would improve cross-river connections in east London and support growth, however they could not (and are not intended to) fully address the transport problems of congestion, closures and incidents, and resilience at the Blackwall Tunnel, while supporting growth. Further information about our proposals for these additional crossings 'east of Silvertown' is available on our website at [www.tfl.gov.uk/new-river-crossings](http://www.tfl.gov.uk/new-river-crossings).

These crossings are in earlier stages of development and will be subject to separate consultations and planning procedures to that for the Silvertown Tunnel scheme.

The map below indicates the current locations of two of these potential future crossings at Gallions Reach and Belvedere.



### Further reading

For further information about our assessment of alternative options investigated, please see our website [www.tfl.gov.uk/Silvertown-tunnel](http://www.tfl.gov.uk/Silvertown-tunnel).

A detailed explanation of the options considered is described in the Preliminary Case for the Scheme document.

