What is the Silvertown Tunnel?

The Silvertown Tunnel will be a new twin-bore tunnel providing a road link beneath the Thames from the Blackwall Tunnel Southern Approach on the Greenwich Peninsula to the Tidal Basin roundabout in the Royal Docks area.

Our current estimate is that the tunnel will cost around £750m. Construction could start in late 2017 and the soonest that the tunnel could be open is 2021/2022.

The section beneath the Thames will be built as a ‘bored’ tunnel, using a tunnel boring machine similar to those used to construct Crossrail. The sections either side of the river will be built using the ‘cut & cover’ technique, in which the ground is excavated, following which the tunnel is built and then covered over.

The tunnels will be accessible to all motorised vehicles. There will be two traffic lanes in each direction, in a separate bore. One lane in each direction could be reserved for buses and HGVs.

We will build new junctions to link the tunnels into the existing road network, and new portal buildings to house the infrastructure necessary to operate the tunnel, including ventilation equipment.

Changes to the A102 Blackwall Tunnel Approach Road
We would need to make a number of changes to the existing road network on the south side, on the immediate approach to the new tunnel. These changes are:

- Widening the A102 Blackwall Tunnel Approach road in order to create new access routes to the Silvertown Tunnel portals.
- Demolishing the existing footbridge over the A102 near the junction with Boord Street, to allow for the A102 Blackwall Tunnel Approach to be widened. The footbridge would be replaced with a new structure.
- Building a new flyover to take southbound traffic exiting the Blackwall Tunnel over the northbound approach to the Silvertown Tunnel.
- Introducing new signage to direct motorists either to the Blackwall Tunnel or to the Silvertown Tunnel, depending on their final destination.
- Creating a new tunnel services building over the mouth of the new Silvertown Tunnel to house ventilation equipment and other vital tunnel infrastructure.

The image below shows the changes we would need to make. The image includes a representation of the possible level of development in the area in future; however these developments are not part of our proposals and are subject to separate planning processes. Our proposals are however fully integrated with proposals for development in this area.

Changes in the Silvertown roundabout area

We would also need to make some changes to the road network on the north side of the tunnel, to link the tunnel to the existing road network. These changes are:

- Creating a new signal-controlled roundabout at the Tidal Basin roundabout, to create a link between the Silvertown Tunnel approach roads, Dock Road and the Lower Lea Crossing.
- Temporarily closing the existing junction of Dock Road with the Lower Lea Crossing, and realigning Dock Road so that it links with the new Tidal Basin roundabout.
- Introducing new pedestrian and cycle facilities within the new Tidal Basin Roundabout.
- Creating a new Tunnel services building over the mouth of the new Silvertown Tunnel to house ventilation equipment and other vital tunnel infrastructure.

Pedestrians and cyclists

The Mayor's Transport Strategy supports a package of river crossing improvements in east London, including improved facilities for pedestrians and cyclists. In support of this and recognising the fact that a 1.4km-long tunnel would not be an attractive place to walk or cycle through, TfL delivered the Emirates Air Line Cable Car in 2012, providing a new cross-river link specifically for pedestrians and cyclists. Given that the cable car is a much more suitable link, pedestrians and cyclists will not be permitted to use the Silvertown Tunnel, in common with the Blackwall Tunnel.

Building the Silvertown Tunnel

We will need land in the Royal Docks and Greenwich Peninsula areas to build the new tunnel. Some land will be needed temporarily, although we will need other areas permanently; these include some existing areas of the highway. The map below shows indicatively what land is required both temporarily during construction of the new tunnel, and what areas will be needed permanently.
The Silvertown works site has a dedicated quay facility at Thames Wharf, from which the majority of excavated material from both tunnel bores and some from the highways works can be transported away. For a number of similar construction projects, Wallasea Island has been the designated disposal site for the spoil generated, as part of the Royal Society for the Protection of Birds (RSPB) project to transform the whole island into a wetland habitat.

While it is unavoidable that some materials must be moved by road, wherever possible lorries will move to and from the works site via main roads only, principally the A12, A13 and A1020 Lower Lea Crossing. There will be a smaller number of lorry movements that will need to be routed via Blackwall Lane and Millennium Way.

We will need to close the access for vehicles, cyclists and pedestrians to Dock Road from the Tidal Basin roundabout for the duration of our works. We will signpost
alternative access routes to it for all users and it will still be possible to access Dock Road from North Woolwich Road to the east.

It will also be necessary to close Edmund Halley Way and the southern section of Millennium Way for significant periods of the construction works. We will construct a temporary alternative route to provide access between the north section of Millennium Way and West Parkside.

We do not expect that construction of the new tunnel would cause significant disruption to the Blackwall Tunnel. The A102 Blackwall Tunnel Approach will be available at all times, although it may be necessary to close the Blackwall Tunnel Approach road and tunnel at night on some occasions. Any closures necessary will be publicised well in advance so drivers can plan alternative routes.

The off-street cycle lane linking the Lower Lea Crossing and Tidal Basin Road to the south of the Tidal Basin roundabout should be unaffected by our construction works, although there may occasionally be minor, temporary diversions. We will establish a new route for cyclists to access Dock Road via Silvertown Way and North Woolwich Road.

It will also be necessary to close the cycle route along Millennium Way; however there is an alternative route available via the existing cycle route on West Parkside.

Pedestrians will not be able to access Dock Road for the duration of the works. We will signpost alternative routes for pedestrians via Silvertown Way and a step-free route via The Crystal. It will be necessary to close the footway on Millennium Way for the majority of our works. We will signpost an alternative route into North Greenwich Station and the O2 via West Parkside. It will also be necessary to demolish the existing pedestrian footbridge over the A102 Blackwall Tunnel Approach at Boord Street; however we will replace it with a new structure. For the most part we will keep existing crossings open during the construction of the new footbridge, although there may need to be some temporary closures.

Our scheme will not impact on the operation of the DLR or Emirates Air Line Cable Car, although it will be necessary to introduce temporary diversions to bus routes 108 and 188. We will publicise the diversions in advance so that bus passengers are aware. Access routes to West Silvertown DLR station will be unaffected.

The map below summarises the temporary changes that will be needed to the north side while we construct the tunnel.
Traffic management arrangements on the north side

The following map shows what further arrangements will be necessary on the south side.
A new user charge to manage demand and help pay for the Silvertown Tunnel

We propose introducing a user charge to the Silvertown and Blackwall Tunnels once the Silvertown Tunnel is completed.

The charge is necessary to manage demand for the tunnels and to ensure that the local road network can accommodate future traffic levels with the new tunnel in place. The charge will also provide a source of revenue to help fund the construction and operation of the new Silvertown Tunnel.

The principles of the user charge

We have developed our proposals for the new charge based on a number of principles:
- We will need to introduce a charge at both the Blackwall and Silvertown Tunnels, but we will not charge motorists to use the Blackwall Tunnel until the Silvertown Tunnel has opened. If either one of the tunnels were not charged it is likely that some motorists would simply divert to it in order to avoid paying the charge. This would increase pressure on the uncharged crossing.
- There will be no toll booths at either Blackwall or Silvertown Tunnels. We will use automatic systems to track motorists using the tunnels so that we can take payment from them.
- The charge will be similar to the cash charge at the Dartford crossings, although there will be some times of day when it will need to be higher. A higher charge will apply at those times of day, and for those directions of travel, when demand for the tunnel is at its greatest.
- The charge would vary by time of travel and direction of travel. There is greatest demand in the peak periods, although the Blackwall Tunnel is ‘tidal’ and there is also a peak direction of travel.
- We will introduce an account system and the charge would be cheaper for account holders. It will be much easier to collect the charge from account holders, who would pay less than non-account holders.

*How much could the charge be?*

We propose that the charge at the Blackwall and Silvertown Tunnels will be broadly similar to the charges to use the Dartford crossings. The charges at the Dartford Crossing are shown in the table below, for reference.

<table>
<thead>
<tr>
<th></th>
<th>2014 prices</th>
<th>Day charges (0600 – 2200)</th>
<th>Night charges (2200 – 0600)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motorcycles</strong></td>
<td></td>
<td>Free</td>
<td>Free</td>
</tr>
<tr>
<td><strong>Cars</strong></td>
<td></td>
<td>£2.50</td>
<td>Free</td>
</tr>
<tr>
<td><strong>Two-axle goods vehicles</strong></td>
<td></td>
<td>£3.00</td>
<td>Free</td>
</tr>
<tr>
<td><strong>Multi-axle goods vehicles</strong></td>
<td></td>
<td>£6.00</td>
<td>Free</td>
</tr>
</tbody>
</table>

The charge would vary by time of travel and direction of travel. We will need to charge a ‘peak rate’ at those times of day, and for those directions of travel, when demand for the tunnels is at its greatest. We expect the ‘peak rate’ to be higher than the cash charge at the Dartford crossing and the ‘off-peak rate’ will be similar to the cash charge at the Dartford crossing. The tunnels would be free to use overnight, between 10pm and 6am.

<table>
<thead>
<tr>
<th></th>
<th>Travelling northbound</th>
<th>Travelling southbound</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Morning peak</strong></td>
<td>Peak rate</td>
<td>Off-peak rate</td>
</tr>
<tr>
<td><strong>Daytime</strong></td>
<td>Off-peak rate</td>
<td>Off-peak rate</td>
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<tr>
<td><strong>Evening peak</strong></td>
<td>Off-peak rate</td>
<td>Peak rate</td>
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<tr>
<td><strong>Night-time</strong></td>
<td>Free</td>
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</table>
There will be no toll booths at either Blackwall or Silvertown Tunnels. We will use automatic systems to track motorists using the tunnel, similar to the London Congestion Charge. There will be a variety of payment methods available similar to the London Congestion Charging system.

We also propose setting up an account system. Users who set up an account would register a debit or credit card so the charge could be collected automatically. As with the Congestion Charging system, to incentivise users to set up accounts, they would pay less.

We have prepared some examples to show how the new charge might work:

Andrew drives through the northbound bore of the Blackwall Tunnel in the morning peak. If he does not set up an account, he will pay more than the Dartford cash charge and possibly higher than what he would pay if he had set up an account.

Eve runs a freight haulage company and has some flexibility about when her lorries would need to use the tunnels. If she instructs her drivers to use the tunnel at off-peak times she would pay a lower rate. If her lorries use the tunnel after 10pm she may not pay. However if her drivers use the tunnel at peak times, she is likely to pay a higher charge than the cash charge currently in place at the Dartford crossing.

**Opportunities for public transport improvements**

Over and above the rail improvements already made throughout the area, the Silvertown Tunnel would create opportunities for new public transport connections. With substantial planned jobs and population growth north and south of the river, the tunnel will enable new cross-river bus services to link growth areas, and provide new bus connections to major rail interchanges.

London's bus network is affected by the limited number of river crossings to the east of Tower Bridge. While there are comprehensive networks of bus services either side of the river in east and southeast London, these networks operate largely independently of one another. In east London, route 108 is the only bus to cross the river. There are many more cross-river bus services in west London, where there are a large number of road bridges.
The congestion at the Blackwall Tunnel significantly disrupts bus services across a wider area. The new Silvertown Tunnel would greatly reduce congestion at the Blackwall Tunnel and provide a new cross-river link, therefore giving us an opportunity to improve cross-river bus services in east London.

The map below identifies a number of potential corridors where new bus connections could improve cross river connectivity for those areas not well served by cross river public transport connections at present. We will continue to develop the proposals for new bus connections in light of responses to this consultation.
The congestion at the Blackwall Tunnel significantly disrupts bus services across a wider area. The new Silvertown Tunnel would greatly reduce congestion at the Blackwall Tunnel and provide a new cross-river link, therefore giving us an opportunity to improve cross-river bus services in east London. It is too early yet to outline specific proposals for improvements to the cross-river bus network in east London. We will continue to develop our proposals, mindful of emerging new developments to be served by new bus links.