

# A new river crossing between Rotherhithe and Canary Wharf: Factsheet 2 – Crossing options

Have  
your  
say



## Introduction

We are investigating the feasibility of providing a new river crossing for pedestrians and cyclists between Rotherhithe and Canary Wharf. This crossing seeks to increase travel by sustainable modes, improve the health of Londoners, and support growth in the Opportunity Areas of Canada Water and the Isle of Dogs. **Figure 1** shows the section of the River Thames under consideration for a new crossing.

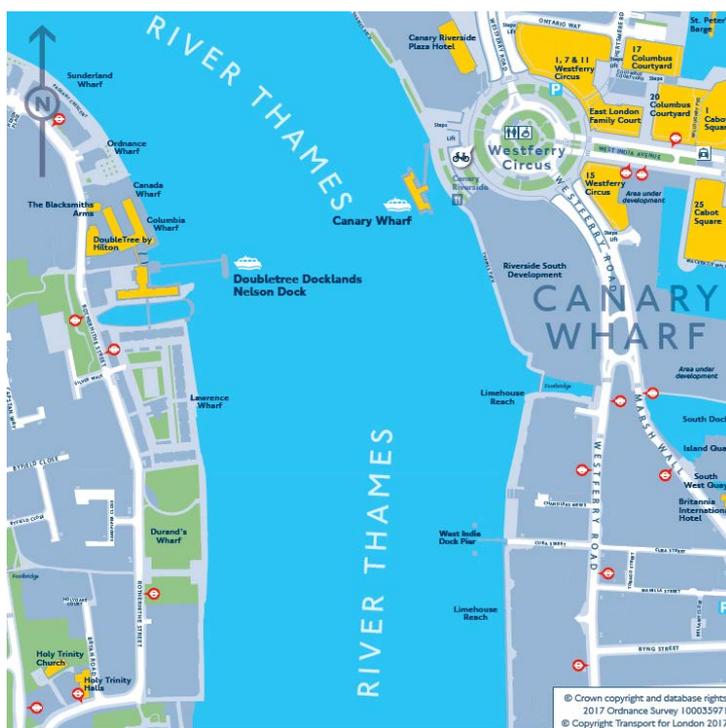
A new river crossing would provide a more direct and attractive route for pedestrians and cyclists travelling between south and east London helping to improve the share of local trips being made by walking and cycling in line with the Mayor's aim for 80 per cent of Londoners' trips to be on foot, by cycle or by using public transport by 2041.

## Options Assessment

We carried out a number of assessments to explore possible crossing options. Some options (such as a cable car) were discounted at an early stage as they were not feasible. Three potential options were shortlisted for further assessment, appraisal and review; a navigable bridge (a bridge which still allows shipping to pass), a tunnel and an enhanced ferry (note there is an existing ferry service in this location).

These three options were assessed to consider their ability to meet the need for a new crossing, the project's objectives, their likely costs, potential benefits, and possible impacts. We also engaged with stakeholders, including landowners and the local community, to understand what they thought of the crossing options from an early stage. This factsheet outlines a summary of this assessment.

**Figure 1:** The section of the River Thames under consideration for a new crossing



# A new river crossing between Rotherhithe and Canary Wharf:

## Factsheet 2 – Crossing options



### Bridge



**Option description:** A navigable bridge can be built in a number of ways to enable the passage of vessels on the river to continue. For example, a high-level bridge could be built, or a bridge could be constructed at a lower-level with a movable span to allow the bridge deck to be opened for passing vessels.

**Cost<sup>1</sup>:** Approximately £225–300 million (Net Present Value (2016 base year)).

**Forecast demand:** In 2031 approximately 1.5 million pedestrian trips are forecast per year and between 450,000 and 900,000 cycling trips.

**Availability:** A crucial consideration with this option is the need to open for any vessels on the river which are taller than the bridge. An opening might mean the bridge is unavailable to users for as little as 10 minutes typically, however, this might increase up to 60 minutes if, for example, a large war ship requires synchronised opening with Tower Bridge. The time of day when it has to open will change as many vessels move with the changing tides, however, it may be possible to communicate these openings to users to mitigate any impact on their journeys. The frequency of opening is dependent on the height of a bridge above the water and the height of vessels transiting this part of the river. A bridge is easier to access if it is at a lower level but would have to open for river vessels more often. A higher bridge is more difficult to access (with taller ramps/lifts/stairs) but would open less. For a navigable bridge to never have to open, it would need to be up to 60m clear of the water (similar to the Emirates Air Line).

**Feasibility:** A pedestrian and cycle bridge of the span needed to cross the river at this location would be unusual and therefore relatively high risk. However, early engagement with the engineering and construction industry suggests it is feasible.

**Environment:** Subject to further assessment, some impacts are anticipated in the river around piers and possibly visual impacts for nearby residents (these could be positive, or negative, depending on design). Construction impacts, such as noise, are likely but mitigation measures could be employed. Impacts on land will depend on the height of the bridge deck and the extent and design of any ramps.

---

<sup>1</sup> This represents whole life costs expressed as a Net Present Value (2016 base year). This means the total of all costs involved in designing, constructing, operating and maintaining that option over a 60 year appraisal period, reduced to 2016 prices.

# A new river crossing between Rotherhithe and Canary Wharf:

## Factsheet 2 – Crossing options

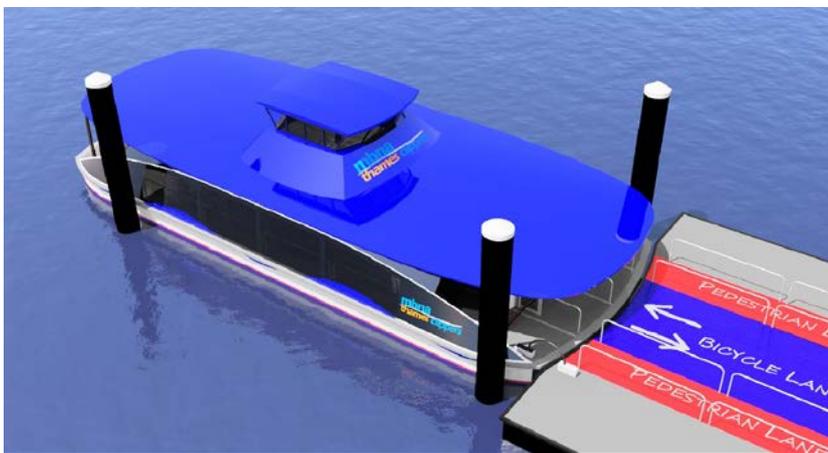


**Value for money:** The cost: benefit assessment for this option appears to be similar to the ferry option, but with the potential for a more transformative impact and realisation of wider long-term economic benefits. A bridge achieves similar benefits at a significantly lower cost than the tunnel.

**Summary:** A bridge would provide a permanent cross river link for walking and cycling in this location, helping to encourage a change in behaviour and supporting sustainable growth. The key challenges will be to develop a cost effective solution that minimises the impact on the environment, local residents, and balances the needs of those using the bridge with those using the river.

---

### Enhanced ferry service



**Option description:** One crossing option is to enhance the existing cross river ferry connecting the DoubleTree Docklands Hotel with Canary Wharf. Pier upgrades at Canary Wharf and Nelson Dock could make them more accessible and able to accommodate new roll-on/roll-off cycle vessels to provide faster boarding and alighting. New vessels could provide a higher frequency service than the current service through provision of two or even three vessels to reduce waiting times. The existing ferry service has a fare for users but this could be altered, or removed entirely.

**Cost:** Approximately £75-120m (Net Present Value (2016 base year)).

**Forecast demand:** In 2031 between 850,000 and 1.1 million pedestrian trips are forecast per year and up to 340,000 cycling trips.

**Availability:** A ferry would provide good availability as the impact of passing vessels on ferry operations would be minimal. However, there would always be a wait associated with the service even if multiple boats were provided to reduce waiting times. Given the running costs and lower demand, a multiple boat service could be reduced at night or outside commuting periods.

**Feasibility:** No significant constructability issues are foreseen.

**Environment:** Subject to further assessment, minor impacts are anticipated during construction, for example, visual and noise impacts around the piers and some temporary impacts on river habitats. Construction impacts are likely but mitigation measures could be employed.

**Value for money:** For assessment purposes, we considered a free service and a fare charged service, the free service generating a higher forecast demand. This produced a comparable cost benefit assessment to a navigable bridge option, although the lower cost reflects the lower benefits of a reduced number of users.

# A new river crossing between Rotherhithe and Canary Wharf:

## Factsheet 2 – Crossing options



**Summary:** An Enhanced ferry service is cheaper and faster to implement than the bridge or tunnel alternatives, but is unlikely to encourage as many walking or cycling trips.

---

### Tunnel



**Option description:** A tunnel could provide a reliable link which would be accessed by lifts or potentially by ramps. We based this option on an immersed tube tunnel<sup>2</sup> as we determined this to be the most effective tunnel solution; unlike other tunnel types this could provide a more efficient square cross section and could be shallower underground to reduce the height change for users. Further we concluded that an immersed tube tunnel would be cheaper than alternative tunnel options. A tunnel option could be relatively flexible in location with no need to construct entrances directly on the riverbank, although a longer length of tunnel may cost more.

**Cost:** Approximately £440 million (Net Present Value (2016 base year)).

**Forecast demand:** In 2031 approximately 1.6 million pedestrian trips are forecast per year and up to 900,000 cycling trips.

**Availability:** A tunnel would provide very good availability to users 24 hours a day, regardless of weather or shipping movements.

**Feasibility:** This approach would be a complex engineering challenge as an equivalent immersed tube tunnel has not been built before in London, however, it is not uncommon elsewhere and early engagement with the engineering and construction industry suggests it is feasible.

**Environment:** Subject to further assessment, impacts are anticipated on aquatic ecology and riverine habitat during construction associated with an immersed tube tunnel. Construction impacts are likely, such as visual and noise but mitigation measures could be employed. A tunnel would have little visual impact on the river and surrounding landscapes in its final state.

**Value for money:** This option offers poorer benefits compared to its overall cost than the ferry or bridge options, due to its higher construction cost.

---

<sup>2</sup> An immersed tube tunnel is a tunnel located under a body of water consisting of multiple sections which are floated, sunk into place and subsequently connected to form the overall tunnel structure

# A new river crossing between Rotherhithe and Canary Wharf:

## Factsheet 2 – Crossing options



**Summary:** : A tunnel would provide a 24/7 solution, but would be the highest cost option. An immersed tube option, which we believe would be the most viable form of tunnel, could also have significant environmental impacts on the river.

---

### Our preferred option

Based on the studies that we have carried out so far, we propose a navigable bridge as our preferred option for a river crossing between Rotherhithe and Canary Wharf.

It is important to note that no final decisions have yet been made and we want your views on our initial options assessment.

---

**To find out more:** Visit [tfl.gov.uk/R2CW-crossing](http://tfl.gov.uk/R2CW-crossing) where you can view and download our other factsheets and supporting information about the scheme.

---

## Have your say

This public consultation will be open until 8 January 2018.

To have your say about our proposals please visit [tfl.gov.uk/R2CW-crossing](http://tfl.gov.uk/R2CW-crossing)

Or

- Email: [consultations@tfl.gov.uk](mailto:consultations@tfl.gov.uk)
- Phone: 0343 222 1155\*
- Post: FREEPOST TFL CONSULTATIONS

\*Service and network charges may apply. See [tfl.gov.uk/terms](http://tfl.gov.uk/terms) for details

You can also request paper copies of plans and a consultation questionnaire in Braille, large text or another language using the above contact information, or calling 0343 222 1155\*.