A new river crossing between Rotherhithe and Canary Wharf: Factsheet 3 – Bridge options

Introduction

We are investigating the feasibility of providing a new Thames river crossing between Rotherhithe and Canary Wharf for pedestrians and cyclists.

Options for a new river crossing

We considered several options for a new river crossing in this location, including a tunnel, enhanced ferry and bridge.

Based on the studies we have carried out so far, we propose a navigable bridge (i.e. a bridge that allows vessels on the river to pass) as our preferred option. Further information on our initial options assessment is provided in: **Factsheet 2 - Crossing Options**

Bridge options

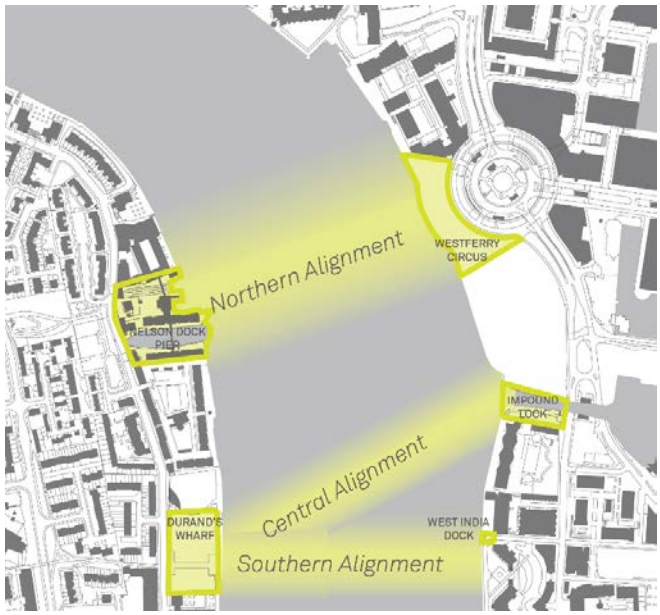
In order to inform future decisions we have been investigating the navigable bridge option in greater detail. As part of this work, we would like your views on different aspects of a bridge including the location, height and other considerations.

We will also work closely with statutory stakeholders, such as the Local Authorities, Port of London Authority, Environment Agency and Historic England to ensure that any likely significant impacts arising from our proposals are carefully considered and appropriately mitigated.

Location

We would like your views on three preferred bridge alignments which are

Figure 1 – Possible crossing alignments



Northern alignment: Nelson Dock Pier to Westferry Circus

Pros:

- The Nelson Dock landing may allow for a more direct route through Pearson's Park to Salter Road and the National Cycle Network
- The higher level at Westferry Circus allows for potentially shorter ramped access to the bridge
- Westferry Circus provides a suitable area for a bridge landing with adjacent commercial activity and good access to the wider transport network

Cons:

- Impacts on private commercial land including the Hilton Doubletree Docklands hotel
- Adjacent to heritage buildings around Nelson Dock.
- May require reconfiguration works to the highway at West Ferry Circus

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Central alignment:
Durand's Wharf to Impound Lock

Pros:

- Space for ramps could be available in Durand's Wharf Park
- The area above the Impound Lock is not currently used (aside from maintaining the lock) or proposed for development

Cons:

- This alignment gives the longest movable span and thus the longest duration for bridge openings
- Close proximity to residential buildings
- Changes to the use of public space at Durand's Wharf

Southern Alignment:
Durand's Wharf to West India Dock

Pros:

- Bridge perpendicular to the straightest part of the river reducing construction costs, risks and the duration of bridge openings

Cons:

- Close proximity to residential buildings
- There is no adequate space for a ramp and so West India Dock Pier would require additional lift capacity which could impact on adjacent properties
- Vehicular access to adjacent properties and the junction of Cuba Street with Westferry Road pose a challenge to integrating cyclists/ pedestrians with the existing road network.
- Changes to the use of public space at Durand's Wharf

We would like to know your views on the possible alignments.

Height

We have been working with the Port of London Authority to investigate different options for the height and span of the bridge over the river. This heavily influences the design of the bridge, how easy it is to access, its potential visual impact and how often/for how long it opens for any vessels on the river which are taller than the bridge.

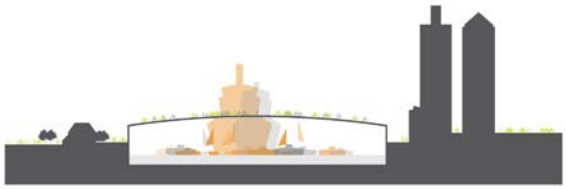
We have been surveying the river to understand the height and frequency of vessels navigating along this section of the river. These surveys will continue to assist future stages of design but initial findings suggest a bridge of10, 15 or 20m above the water, during the busiest summer months, would open for an average 15, 8 or 4 vessels passing beneath per day respectively.

An opening might mean the bridge is typically unavailable to users for as little as 10 minutes, however, this may take up to 60 minutes for the very largest vessels. 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.

Higher bridge

Pros: A higher bridge would open less often for river vessels

Cons: Would be more difficult to access (with taller ramps/lifts/stairs) and could potentially have a greater visual impact.



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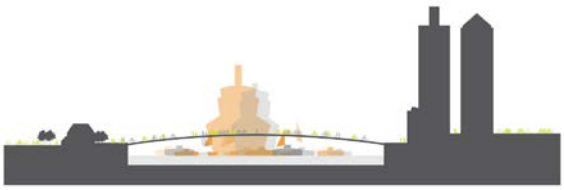
Lower bridge

Pros: More accessible and a lesser impact on the existing communities

Cons: Would need to open more frequently to allow vessels to pass.



A key implication of the bridge height decision is how users will access a bridge. A combination of ramps, lifts and stairs could be used to get users up to the main bridge section on the river. The higher the bridge, the longer the ramps need to be. This results in longer journeys and requires a greater amount of space.

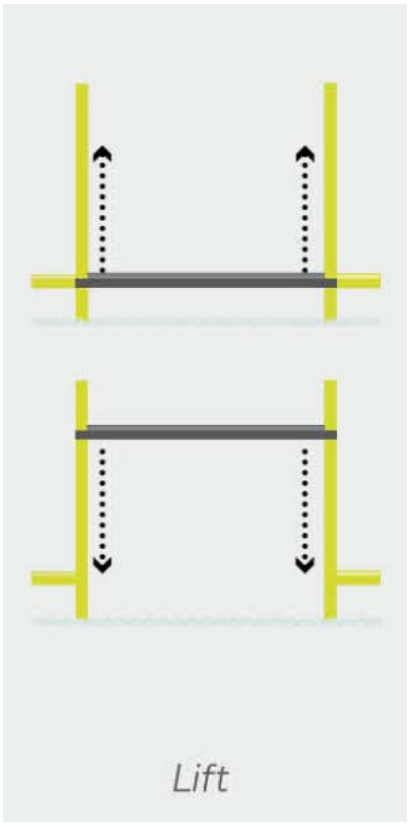
The height decision will not only affect how users cross the bridge, but also how vessels navigate underneath it. As such it is essential that the height of the bridge strikes a balance between these two characteristics of the bridge.

We would like to know your views on the optimum bridge height.

How the bridge could open

There are different ways that a bridge could open and the main examples we are considering are presented in **Figures 2, 3 and 4.**

Figure 2: Vertical Lift



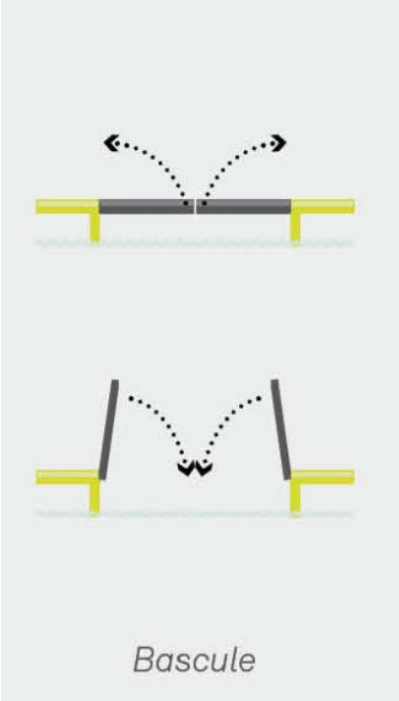
Pros:

- Relies on a single opening mechanism that is energy efficient
- Gives the shortest moving span and a potential for incremental height changes
- The size of the bridge piers would be the smallest of the options

Cons:

- Vertical clearance has an ultimate limit (the maximum lifting height)
- Towers (possibly up to 80m above the river) will be required to hold the mechanism and lift the bridge in the air. This may have a greater visual impact. Other bridge options will likely also require towers for cables supporting the main span, but these might be shorter.

Figure 3: Bascule



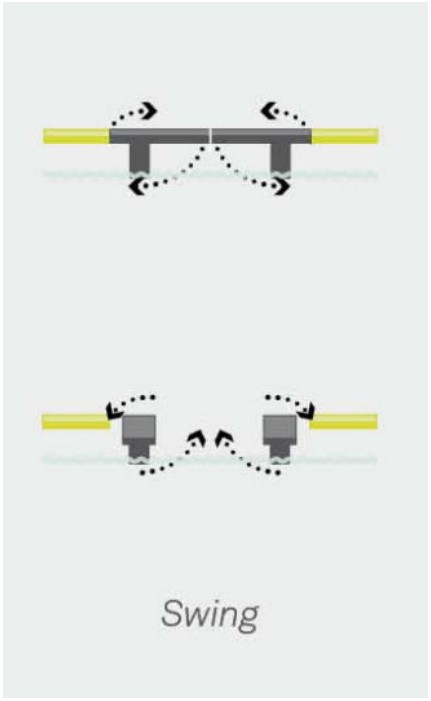
Pros:

- The height of towers above the bridge deck are less than for a lift bridge
- Counter balancing the bridge would reduce energy use
- Provides unlimited height clearance for vessels when fully open

Cons:

- A bascule bridge of the size required in this location would be at least 40% longer than the largest currently existing bridge of this type
- In the maximum open position the end of each deck would be up to 80m above the river. This may have an impact on views and also poses a significant engineering challenge.
- The wind and other loads on the structure in the open position are greater than for other options, which will require a greater amount of energy

Figure 4: Swing



Pros:

- Counter balancing the bridge may reduce energy use
- Provides unlimited height clearance for vessels when fully open
- It would move in the horizontal plane, and therefore potentially has a lower visual impact than other bridge options

Cons:

- A back span means the area of bridge moving will be larger than for other bridge types. It will take more time to clear people before opening therefore increasing the waiting times.
- Ends of the swing spans can be vulnerable to ship impact and may require additional protection and parking structures in the river in the fully open position

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We would like your views on these different opening mechanisms as well as a number of other design considerations for a bridge.

Further detail on our work to date investigating a bridge, and the crossing in general, is provided in the Background to Consultation Report which can be viewed at: **tfl.gov.uk/R2CW-crossing**

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**

Or

- Email: consultations@tfl.gov.uk
- Phone: 0343 222 1155*
- Post: FREEPOST TFL CONSULTATIONS

If you would like a paper copy of our consultation plans and questionnaire, please contact us using the details above.

*Service and network charges may apply. See tfl.gov.uk/terms for details