

Thames Pedestrian and Cycle Bridge, Canary Wharf to Rotherhithe

Chapter 9: Further Work

February 2016



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1. Next Steps to Delivery

This study has shown that a pedestrian and cycle bridge from Rotherhithe to Canary Wharf is technically feasible and offers good value for money, with a Benefit Cost Ratio (BCR) of 2.5:1 – 1.8:1. It will provide for a convenient, fast and reliable journey between southeast London and the Isle of Dogs, benefiting Londoners, businesses and investors.

Existing political and public support for bold, functional cycling and cross-river schemes, and current local support for better transport connections, provides a timeous context for taking the bridge forward. The bridge can be opened for use in 2020, in line with existing delivery timescales for the major developments, and sources of demand, at Canada Water and Wood Wharf.

The next stage of the project should focus on safeguarding the ramp arrangements at the landing sites with stakeholders, securing political and financial support, and selecting a bridge design.

Feasible timescales are:

2015: Initiation and feasibility

2016: Concept design and fundraising launch (12 months to include any procurement)

2017: Planning (12 months) and main contract procurement

2018-2020: Detailed design and construction (2.5 years)

Summer 2020: Open to public

1.1 Governance

To be taken forward, the project requires political support, a project sponsor to take the project through the next stage, and fundraising. Additionally, an organisation responsible for owning and operating the bridge should be identified to agree key technical requirements such as power, insurance, operational procedures.

The business case shows there is a strong case for the project to be led by the public sector, as it strongly supports strategic policy objectives and has a high benefit cost ratio, arising from transport benefits. Therefore it is expected a significant proportion of the capital cost can be derived from public sources specifically Transport for London, the Department for Transport and VAT relief.

There is also strong potential for capital contributions from the private sector, particularly businesses active in Canary Wharf, and CIL/S106 contributions arising from development, particularly in Rotherhithe and the wider catchment area in south east London. Additionally, an increase in land values and Public Transport Accessibility Level (PTAL) scores in Canada Water and Rotherhithe is predicted, creating a case to negotiate higher developer contributions.

To secure and effectively manage private sector contributions, it is recommended that an independent body such as a charitable trust or consortium, whose membership includes businesses active in the area, is established to oversee the next stages of the project and initiate capital fundraising.

A reserve fund could also be established to finance future annual maintenance costs. This could be managed by the project sponsor or the charitable trust/consortium.

1.2 Costs and Funding

The full project cost is estimated at £204.9m – £272.0m, which includes construction, project costs, risk and contingency. Suggested funding sources are

- Transport for London, potentially as part of the East London river crossings package
- Central government, via the Department for Transport, the National Infrastructure Commission, or VAT relief.
- CIL/S106 contributions from LBS and LBTH
- The private sector such as businesses active in Canary Wharf, the wider Isle of Dogs and Rotherhithe

The £1.4m annual maintenance and operational costs could be secured through private sector sponsorship, as set by precedents Emirate's Air Line (cable car) Santander Cycles (Cycle Hire) and Barclays Cycle. Additionally interest from businesses active in the area, particularly in Canary Wharf, whose employees would benefit directly from the bridge, should be explored.

Cost efficiencies can be made through:

1. competitive selection of design using engineering requirement in this report and cost as a benchmark
2. value engineering at detailed design stage
3. involving bridge owner, operator and delivery body from the next stage to develop the contract specification(s)
4. integrating the operations and maintenance into existing and planned river crossings procedures, potentially by including the bridge under the TfL East London River Crossings package

1.3 Strategic Planning

The Rotherhithe to Canary Wharf crossing has had 'in-principle' regional, sub-regional and local planning policy support since 2010, as summarised below:

- Regional: London Plan 2011 and 2015 & Mayor's Transport Strategy 2010
- Sub-regional: East London Sub Regional Transport Plan 2010
- Local:
 - LB Southwark: Core Strategy 2011; emerging Local Plan 2015; Canary Wharf Area Action Plan 2012 (& 2015 review);
 - LB Tower Hamlets: Core Strategy 2010; Transport Planning Strategy 2011 & Managing Development Document 2013; Infrastructure Delivery Plan Update 2012.

The case for crossing – to support future growth and development in LB Southwark/LB Tower Hamlets - has strengthened since 2010 due to regional and local policy developments, and the inclusion of East London river crossings in TfL's Business Plan 2014.

To safeguard and support the advancement of the bridge project, discussion with the relevant planning authorities should be taken forward to consider amendments to the following documents:

- London Plan
- Emerging Opportunity Area Planning Frameworks (OAPFs) for Isle of Dogs and Canada Water
- LB Southwark Infrastructure Plan
- LB Tower Hamlets Local Plan
- LB Tower Hamlets CIL list
- LB Tower Hamlets S106 obligations for Riverside South site

See Appendix D for further details.

1.4 Key Stakeholder Engagement

A group of the key project stakeholders was consulted through this feasibility work to determine the technical parameters and constraints and recommendations for operational procedures. A number of opportunities should be pursued to advance the project and refine the bridge specification:

1. Given the constraints of the area and minimal possible variation in the ramp alignment, the preferred ramp alignment on the Canary Wharf bank should be safeguarded through further engagement with London Borough of Tower Hamlets, Canary Wharf Group and JP Morgan, ahead of land assembly work
2. Due to the possibility of reducing the scale and associated visual and cost impacts of the bridge, particularly on the Rotherhithe Bank, the final bridge height should be confirmed in consultation with the PLA and river stakeholders, and an agreement of acceptable level of service to land users of the bridge
3. The low likelihood but high impact on crowd size of a 45 minute bridge lift occurring during peak hours warrants further discussion between the bridge operator and the PLA and river stakeholders on the potential to introduce river traffic restrictions for ships of a certain size at peak times
4. Consultation with the PLA, river stakeholders and local stakeholders is required to develop the operational procedure, preceded by a health and safety risk assessment as this will affect the final cost and design
5. The preferred ramp alignment on the Rotherhithe bank should be confirmed through consultation with stakeholders local to Durand's Wharf, and led by LBS. The consultation could include re-landscaping and ecological enhancement projects for Durand's Wharf
6. The location and design features of bridge controls and staff facilities should be developed in consultation with landowners and the PLA, ideally led by the bridge operator and considered alongside existing and planned river crossings
7. Consultation with cycling and walking and local stakeholders will be required at the next stage to develop improvements to connecting routes and detailed design features for users of the bridge such as final widths, signage, speed control
8. Coordination with Thames Water, Nine Elms and other major construction projects on the Thames is required to confirm a construction programme

9. Express support for the project from businesses and key organisations should be sought
10. Agree concept designs for connecting routes with CWG, aligning plans with other major cycle schemes i.e.. Cycle Superhighway routes approaching from the west, and the outputs of any forthcoming Isle of Dogs cycling strategy.
11. As the planning application for the bridge would be referable to the GLA, the GLA should be engaged at the next stage of work.

1.5 Technical Work

A detailed demand analysis, microsimulation and detailed business case will be required to further define the benefits and impacts of the project on all stakeholders. Before advancing any concept design to the developed design stage (RIBA Stage 3), and before consents can be sought from the relevant authorities, further technical work is required to refine or confirm the bridge parameters and site constraints:

- A Navigational Risk Assessment
- Ship Simulator Trials conducted with PLA pilots
- A Line and Level Survey to establish exact location of Jubilee Line Tunnels
- Wind tunnel testing
- Transport Assessment
- Environmental Impact Assessment
- Structural assessment of impact of bridge supports and lift shafts on existing assets, such as the City Arms Bridge (owned by LBTH) which supports the A1206 Westferry Road, and the river walls
- A hydrodynamic study into the effect on the river regime of any piers in the river; the parameters for the study to be agreed with the PLA
- Technical Landscape study, including the public realm under the ramps
- Detailed Construction Methodology
- People movement study
- Cycle route concept designs, including on the bridge and connecting routes

Consents and approvals will be required from the PLA, LBS, LBTH, EA, MMO and English Heritage in order to obtain planning permission.

1.6 Community Involvement

The case for the bridge is strong and there is already a demonstrable level of public interest and support, with clear benefits to Rotherhithe residents. However due to the large scale of the project, its high expected use and significant physical impact on both banks, public consultation should begin at the next stage.

Opportunities to involve local stakeholders include:

- Involvement in final design of the main span or ramps
- Involvement in enhancing Durand's Wharf park through Heritage and art enhancements to

the ramp design, celebration events and tree planting

- Early liaison with construction contractors to agree measures to minimise impacts of construction
- Storytelling activities to develop the bridge's association with local heritage, and active travel engagement
- Promoting the local benefits of better access
- Consulting residents in development of the operational procedures

This should be developed and taken forward at the next project stage, alongside any regional, national and international PR.

2. Risk Summary

2.1 Risk Summary Table

Ref	Risk	Exposure to inherent Risks			Comments on nature and potential outcome of risk	Measures to be implemented at next stage to manage risk
		Impact	Likelihood	Score		
1	Final alignment of ramps to be agreed and protected	3	3	R	Change to Riverside South site substructure or new consented schemes would restrict alignment/ make it unviable. JPM expressed interest but development timescales unclear.	Local stakeholder consultation, prioritising JPM Safeguard landing site through planning system Design integration proposals for landing sites (enhancement to Durand's Wharf and Impounding Dock, for example) Engage with CW businesses to build local strategic support Continue to build public support Maintain alternative option of building over CRT-owned Impounding Dock
2	Key stakeholder/ borough support for the scheme	4	2	A	Requires explicit support from TfL, GLA, LBS, LBTH, CWG, PLA to be deliverable. Moderate reputational risk associated with new major cycling scheme. LBS and LBTH strongly support a walking and cycling crossing here. CWG require significant development of road network proposals.	Continued key stakeholder engagement Establish formal body to oversee next stage Engage local stakeholders early to develop local support

3	Impact on views/privacy of residential properties on or near riverside and near ramps	2	3	A	Scale of bridge will impact on views of existing residential properties and planned commercial developments on north bank. Some opposition likely from residents of adjacent properties.	View assessment with relevance to other local developments Local stakeholder consultation Design specification to include features to encourage users away from points that overlook properties
4	Public reputation	2	1	G	Existing majority public and business support in London for major cycling infrastructure Existing appetite for walking and cycling crossings east of Tower Bridge High quality user-focussed design specification	Build on existing support to promote fundraising and public support through consultation. Early engagement of local stakeholders.
5	Impact on Durand's Wharf park	2	4	A	Use of park during construction. Visual impact of final design on park, increased footfall and loss of a row of mature trees. Impact on reputation and cost.	Local stakeholder engagement on alignment options in Rotherhithe Develop mitigation and enhancement measures with LB Southwark and local stakeholders Integrate landscaping into construction contract
6	Uncertainty in cost	3	3	R	Cost estimate based on feasible preliminary design, complex project (record breaking bascule, one of the longest vertical lift bridges). No UK guidance exists for moveable bridges. Cost could increase with further modifications at detailed design stage and dependent on lifting mechanism, however contingency/optimism bias already included. Low inflation predicted but needs testing.	Design & build procurement to identify cost-effective design with early contractor involvement in design Early specialist subcontractor involvement (e.g. mechanical engineering) Maintain appropriate risk/optimism bias in cost estimates Consider negotiating PLA requirements to reduce scale Use cost estimates and operational/maintenance costs as benchmark to select cost-effective design

7	Net under/over estimation of demand	2	3	A	Demand analysis assumptions may under or over estimate demand, due to limited data source. Ramp width, lift capacity may be underspecified leading to retrofit. Impacts on road network may be underestimated	Transport assessment including detailed demand analysis to finalise design specification and specify network upgrades
8	Conflict between cyclists, pedestrians and motor vehicles on dispersal routes	2	2	A	Capacity is sufficient however some junctions and existing configurations on some key dispersal routes are inadequate in quality for cycling, leading to suppressed use of the bridge and/or an increase in collisions.	Transport assessment at next stage Detailed demand analysis Concept design solutions for key dispersal routes Consultation with highways teams
9	Bridge controls and protocol	3	2	A	Location of bridge control room/staffing requirement and integration with existing river protocol unspecified. Could increase cost.	Test feasibility of incorporating with existing and planned river operational resources in consultation with TfL/PLA
10	Personal safety in park and on bridge/ramps	4	2	A	Green spaces in Rotherhithe have moderate crime levels - landing site in Durand's Wharf park may create concerns about personal safety among bridge users.	Landscaping required in Durand's Wharf park to include a lit, safe and DDA compliant link to Rotherhithe Street Design to incorporate crime prevention measures Security strategy for the bridge including 24 hour CCTV in consultation with local stakeholders
11	Cultural heritage in riverbed	1	2	G	Cultural heritage may exist in the river bed and therefore be affected by construction, piers and scour, causing delay to programme	Site investigation once pier sites and construction method defined Develop mitigation/enhancement measures at Durand's Wharf and Impounding Dock

12	Construction over water	4	3	R	Tidal river - regularly changing water levels, high flows. CDM Risk to Contractor. Limited local skilled resource.	Construction methodology, liaison with specialist marine construction contractors
13	Construction over live river traffic	3	3	R	Impact on design and construction of bridge (pier location, deck level) CDM Risk to Contractor	Navigational Risk assessment to be undertaken Continued dialogue with PLA Construction methodology to minimise interaction with live river traffic
14	Unexploded Ordnance (UXO) encountered in river bed	3	2	A	CDM Risk to all parties during construction. Could impact LUL Jubilee Line tunnel operation.	Commission UXO surveys of river bed and landing areas Continued liaison with LUL
15	Wind conditions	4	3	R	Long span and exposed site; will affect dynamic performance. CDM Risk to Contractor during construction	Commission wind tunnel testing Consider construction sequencing in design and size of components requiring lifting into place
16	Constrained access to south bank (via local road network and restricted available land)	2	2	A	CDM Risk to Contractor and Public during construction	Early stakeholder engagement Consider alternative access routes, including access for materials and plant via the river
17	Crowd management - during operation	4	2	A	Occasional bridge lifts during peak times, causing crowding. Health and safety/CDM risk to Public	Carry out people modelling Undertake risk assessments and agree procedures Ensure adequate space/waiting areas and evacuation routes for worst case bridge opening regime