

**This paper will be considered in public.**

**1 Summary**

<b>Barking Riverside Extension (BRE)</b>				
Existing Financial Authority	Estimated Final Cost (EFC)	Existing Project Authority	Additional Authority Requested	Total Authority
xxxx	xxxx	£2m	£2.7m	£4.7m

**Authority Approval:** Additional Project Authority is requested of £2.7m to continue the design and development of the Barking Riverside Extension and to prepare documentation for a Transport and Works Act Order (TWAO) application.

**Outputs and Schedule:** The purpose of the proposed London Overground Barking Riverside Extension is to enable the development of the Barking Riverside site, which will provide up to 10,800 new homes, as well as healthcare, shopping, community and leisure facilities. The key outputs of the work, under this Project Authority request, will be the preparation of all documentation required for the submission of a TWAO application and development of the design to GRIP stage 4.

To provide the best opportunity of meeting completion of the extension in 2020, the TWAO application is scheduled to be submitted in early 2016.

- 1.1 Under Standing Orders, the authority sought in this paper is reserved to the Board. On 26 March 2015, the Board delegated to the Finance and Policy Committee authority to approve any matter reserved to the Board from 2 July to 23 September 2015. Authority is sought now to ensure the Barking Riverside extension design work continues uninterrupted along with preparation of the documentation for a Transport and Works Act Order application in early 2016
- 1.2 A paper is included on Part 2 of the agenda, which contains exempt supplementary information. The information is exempt by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the business affairs of TfL. Any discussion of that exempt information must take place after the press and public have been excluded from this meeting.

**2 Recommendation**

- 2.1 **The Committee is asked to note the paper and the supplemental paper included on Part 2 of the agenda and to:**

- (a) exercise the authority delegated by the Board to approve additional Project Authority of £2.7m increasing the total Project Authority to £4.7m, to continue the development of the Barking Riverside Extension and to prepare documentation for a Transport and Works Act Order (TWAO) application in early 2016; and**
- (b) endorse a paper being submitted to the Board in September seeking approval to submit a TWAO application and approval to enter into a funding agreement with Barking Riverside Limited (BRL).**

### **3 Background**

- 3.1 Barking Riverside is the largest brownfield development site in east London, with planning permission for 10,800 new homes. To unlock the full scale of the development, planning permission for the site requires significant investment in transport infrastructure, to improve the accessibility and connectivity of the site to the local area and London.
- 3.2 The Barking Riverside planning permission states that no more than 1,500 homes can be built without planning consent for an extension of the Docklands Light Railway (DLR) to provide a transport link being granted. No more than 4,000 homes are permitted without a new DLR transport link in operation. The current build profile for the development indicates that the 4,000 homes limit will be reached in 2020.
- 3.3 The previously proposed DLR extension to Dagenham Dock that would have served Barking Riverside was not taken forward. TfL has since examined a number of transport options to serve Barking Riverside. This work has concluded that an extension of the London Overground Gospel Oak to Barking line, from its current terminus at Barking to a new station in the heart of Barking Riverside, is the optimal scheme to serve and enable the development. As such, Barking Riverside Limited (BRL) will request an amendment to the planning permission conditions to replace “DLR” with ‘rail extension’.
- 3.4 The extension would be 4km in length, including 1.5km of new track. Four trains per hour (tph) would operate from Barking station along the existing Tilbury Loop Line and then via a new section of railway, heading south towards Barking Riverside after the railway passes underneath Renwick Road Bridge. This would mean current services from Gospel Oak no longer terminating at Barking, but instead continuing to a new Barking Riverside station.
- 3.5 If a TWAO is granted, it is anticipated that construction of the extension would commence from autumn 2017, with the aspiration to begin running services to Barking Riverside in late 2020.
- 3.6 BRL is a joint venture company, the shares in which are held by GLA Land and Property Limited ((a subsidiary of the GLA) 49 per cent) and Bellway Homes Limited (51 per cent). Proposals for the provision of third party funding towards the cost of the scheme were agreed in principle in November 2014, when the Government announced provision for a large sites infrastructure projects loan for BRL through the Homes and Communities Agency (HCA).

- 3.7 The proposed extension directly supports the Mayoral policy to develop London's transport system in order to accommodate sustainable population and employment growth. As a key enabler of regeneration and growth in east London, the Barking Riverside Extension supports the Mayor's Transport Strategy and the recently published London Riverside Opportunity Area Planning Framework.
- 3.8 The Barking Riverside Extension also directly meets the objectives of the Growth Fund, which was established to deliver transport schemes to overcome barriers to development and directly unlock new homes and jobs in key areas for regeneration.
- 3.9 Single Option selection is anticipated to be reached in August 2015, following: the conclusion of the second phase of public consultation, the completion of GRIP 3 design, and agreement with Network Rail of the preferred option.
- 3.10 Following Single Option selection, the project will be subject to a TfL Pathway Stage 2 review in August 2015. Authority to submit the TWAO application will be sought from the Board in December 2015 alongside additional Project Authority to advance the scheme to detailed design as well as the TWAO process and longer term delivery.
- 3.11 Additional Project Authority of £2.7m is needed now to continue with critical path TWAO preparation and to continue the development of the Barking Riverside Extension to GRIP stage 4.

## **4 Proposal**

### **Preferred Option**

- 4.1 Following the decision not to proceed with the proposed DLR extension to Dagenham Dock, a number of different transport options were assessed to determine the best solution to unlock the full development potential of the Barking Riverside site. This assessment concluded that an extension of the London Overground to Barking Riverside was the best solution to enable the full scale of the development to proceed.
- 4.2 Two potential alignment options remain under consideration. These options were the subject of a public consultation that ran until 28 June 2015. Subject to the final consideration of the results of this consultation and the conclusion of further technical assessment, a preferred option will be identified in August 2015. This will then be the subject of a TfL Pathway Stage 2 Review.
- 4.3 Both alignments would support four trains per hour service between Barking Riverside and Gospel Oak, with services operated by four-car trains. Both alignments would provide a new station in Barking Riverside comprising of a surface concourse, with a single island platform at viaduct level, accessed via staircases and lifts. The station will be designed to a standard consistent with other stations on the London Overground network with reference to the London Overground Station Design Guide which aligns the LU Design Idiom.
- 4.4 A significant part of the construction work for the Barking Riverside Extension would take place away from the Tilbury line, with sufficient distance between construction sites and the operational railway to have no effect on train services.

However, the newly built railway will need to be connected to the Tilbury line during a series of weekend closures or similar. These closures will also allow for the testing and commissioning of the new junction, infrastructure and signalling equipment, necessary to allow the line to be brought into service.

- 4.5 The proposed closures would cause some temporary disruption to c2c passengers and rail freight operators. During these closures c2c users would be provided with an alternative mode of transport (e.g. rail replacement bus serves). There is the opportunity for c2c to benefit from the closures by sharing the possessions to deliver the Beam Park new station project.
- 4.6 The effect of operating the extended London Overground services on the Tilbury line is being studied using software simulating the new c2c timetable, proposed to be introduced in December 2015, and the rail freight services that operate on the line. The analysis carried out to date indicates the proposed Overground extension will have no impact on off-peak c2c services. The timetable for peak period c2c services and freight services would need to be modified to allow for regularly spaced Overground services to operate to Barking Riverside. Therefore, access will need to be secured by agreement with Network Rail.
- 4.7 The Barking Riverside Extension will be subject to a full Environmental Impact Assessment (EIA). This will examine the proposals and report all residual environmental effects and the mitigation measures that will remove or reduce potential impacts on the environment. This process will ensure that environmental issues are given proper consideration during the engineering design process, and are reported in an Environmental Statement.
- 4.8 The project will provide full step free access at Barking Riverside station and will be subject to an Equalities Impact Assessment that will be submitted as part of the TWAO application.

## **Benefits**

- 4.9 The construction of the extension will enable the full build out of the Barking Riverside development site, with up to 10,800 new homes. Of these, only 1,500 homes can be delivered prior to planning consent being granted for a rail extension, and only 4,000 can be delivered prior to the rail extension becoming operational.
- 4.10 The extension unlocks the full development potential of Barking Riverside by providing much needed public transport connectivity. This directly enables the construction of an additional 9,300 new homes and generates significant wider economic benefits including the creation of up to 3,500 construction jobs and 2,500 permanent jobs in one of the most deprived boroughs in London.
- 4.11 The uplift in land value produced as a result of unlocking the homes generates approximately £250m, which will be reinvested in the capital cost of the project. The new residential population and jobs Barking Riverside supports have the potential to increase local retail spend by up to £47m per year and to realise social welfare savings of £13m per annum.

- 4.12 In accordance with guidance, the value of the additional homes and the uplift in land values enabled by the extension have not been included in the economic appraisal of the project. The monetised transport benefits of the scheme are based only on the benefits to the 4,000 homes that are permitted prior to the scheme opening. On this basis the Benefit Cost Ratio (BCR) for the scheme is calculated to be 1.1:1 (exclusive of third party funding and 2:1 when third party funding is included).
- 4.13 The current BCR also does not currently include any wider social economic benefits delivered by the extension. These benefits are expected to significantly strengthen the business case and therefore the BCR calculation will be revised prior to the submission of the TWAO application.
- 4.14 The summary of the economic appraisal and benefits for the scheme is tabulated below.

Economic Appraisal	
Estimated Final Cost, £k (at outturn prices)	£263,000
Net Present Values ,£k	
Discounted NPV EFC	-£342,409 (inc 66% optimism bias)
Other CAPEX	-
Other costs	-
OPEX (+ or -)	-£57,844
Third Party	£172,000
Revenue	£33,527
Other Income	-
Net Financial Effect	-£366,726
Payback Period	
	-
Passenger Benefits	£405,104
Impacts during Implementation	Not quantified
Total Benefit, £k	
Benefit : Cost Ratio (not including third part funding)	1.1 : 1
Benefit : Cost Ratio (including third party funding)	2:1 : 1

### Options Analysis

- 4.15 A modal option selection process was undertaken from 2012 to 2014. The other options considered are listed below:
- (a) DLR extension using a safeguarded alignment from Beckton to a new station at the centre of Barking Riverside with the potential for a future extension;

- (b) DLR extension using an alignment north of the Beckton Sewage works to a new station at the centre of Barking Riverside with the potential for future extension;
- (c) District or Hammersmith and City line extension to Grays via Dagenham Dock with a new station for Barking Riverside located at Renwick Road Bridge;
- (d) New Renwick Road station on the Tilbury line;
- (e) Multi modal spine road and high frequency bus service to the Royal Docks; and
- (f) Enhanced bus services across the Barking Riverside site; and

4.16 The selection of a preferred option followed a multi step process, including: engineering feasibility, fit with strategic objectives, transport modelling, business case assessment and fit with local objectives. The DLR northerly alignment and the London Overground extension made the final shortlist. Both generated similar BCRs with the Overground extension deliverable at a lower cost. The Overground extension also performed better in the assessment against local objectives by providing improved links to Barking town centre and was therefore progressed as the preferred option.

#### **Delivery of Preferred Option**

4.17 The project will be managed and controlled by the London Overground Programme Delivery team. This will benefit the project because the London Overground team have a direct relationship with Network Rail and will strengthen the continuity in the project by managing both the ongoing design and future construction aspects of the project.

4.18 TfL Planning will manage the TWAO application process, which will benefit the project by drawing on the recent experience and lessons learned from the Northern Line Extension and Bank Station Upgrade TWAO applications and public inquiries. The work package structure will be:

- (a) Engineering and Environment;
- (b) Transport Planning and Modelling;
- (c) Town Planning and social economic impact;
- (d) Urban Design (including station design and masterplan engagement);
- (e) Property and Land Referencing; and
- (f) Public Consultation and Engagement.

4.19 The project has a direct relationship with the Network Rail Gospel Oak to Barking electrification scheme. The base scope of the extension requires the electrification of the new line to future proof the operation of the service.

4.20 The key milestones to deliver the TWAO application are set out below.

Milestone	Target Date
Public Consultation on Route Options	11 May 2015 to 28 June 2015
GRIP 3 completion	15 August 2015
Scheme Freeze	14 August 2015
Integrated Assurance Review Gate 2 (Feasibility) Review	14 August 2015 to 31 August 2015
Public Consultation on 'final' scheme	31 August 2015 to 11 October 2015
TfL Board approval to enter into funding agreement and submit TWAO Order	24 September 2015
Operational Change agreed with Network Rail	November 2015
Barking Riverside Ltd S73 application	November 2015
Finance and Policy Committee	27 November 2015
Completion of key documents for Board Approval	4 December 2015
Mayoral consent to submit TWAO Order	December 2015
TWAO Submission	31 January 2016
Construction Begins (subject to TWAO being granted)	2017
The extension is operational (subject to Network Rail asset acceptance)	2020

4.21 Resource requirements for the detailed design and construction stages of the project are currently being developed along with the Procurement Strategy.

4.22 The top five risks identified by a Quantified Risk Assessment (QRA) completed in April 2015 are:

Risk No	Risk Description	Mitigation Actions
1	Congested market place results in increased contractor bid price	Early development of procurement strategy, encouraging early contractor involvement and careful consideration of the content of work packages offered to the market. Using benchmarking tools to ensure that return prices for work are competitive and fair.
2	Second station at Renwick Road brought into scope	Undertake robust modelling work to understand passenger demand and engage with residents through consultations prior to the TWAO application. Clearly outline project scope to manage stakeholder expectation.
3	Unidentified buried services located	Request buried services records and decide what additional surveys need to be commissioned as part of the early stage Option Development (GRIP 4) works

4	Train Operating Companies (TOCs) and Freight Operating Companies (FOCs) object to Network Change	Consultation with TOCs and FOCs from an early stage of project development. Working with Network Rail to ensure compatibility of preferred option with aspirations to develop the Ripple Lane freight facility.
5	Asset betterment is required from Network Rail RAMs.	Clear definition of project scope and establish a dialogue with Network Rail.

4.23 It is also acknowledged that works to Barking and/or West Ham stations, to accommodate the increased passenger numbers generated by the introduction of a Barking Riverside service, is a risk to the project. Mitigation for this risk includes: reviewing the assumptions behind the forecast passenger numbers; modelling the likely impact of the Barking Riverside service on Barking and West Ham stations; and collaborating with c2c to understand their franchise commitment to improve passenger flow and step free access at Barking Station.

4.24 The total risk value for the project included in the requested EFC is £56.45m at P50. The £56.45m is inclusive of the recommended increase in the project's risk allocation, concluded by the independent review of the GRIP2 cost estimate. Refer to the cost and funding table in Section 5.13

4.25 A QRA exercise confirmed that a P50 value of £56.45m is the most appropriate risk allocation for the project.

## 5 Financial Implications

5.1 The breakdown of the additional Project Authority being sought is summarised below:

Engineering and Environment	£1.30m
Transport Planning	£0.36m
Town Planning and Socio Economic Impact	£0.15m
Urban Design	£0.16m
Consultation and Engagement	£0.12m
Project Management	£0.37m
Risk	£0.24m
<b>TOTAL</b>	<b>£2.70m</b>

5.2 The current cost estimate is considered to be robust for the stage of project development. The estimate has been independently validated. This review recommended adjustments to two main areas: the contractor preliminary costs and construction costs were increased to reflect current market rates; and an increase to the project's risk allocation was recommended.



## **Commercial**

- 5.3 The single option will be further developed via a GRIP 4 and 5 (outline and detailed design) design contract. The recommended option is then to let a single, integrated Main Works delivery contract. The key advantage of this approach is that TfL retain responsibility for the design development, access (possessions) and approvals risks up to start of the delivery phase. Part of the additional Project Authority sought in this paper will cover the commencement of the GRIP 4 design.
- 5.4 An Asset Protection Agreement will be entered into with Network Rail for design assurance and asset protection services. This programme and cost risk, including the interface with Network Rail, will be managed by Rail for London (RfL). The contractor will retain the delivery risks for the work they are carrying out. This will minimise overall costs to RfL as the contractor will not need to “price in” potential delays in any Network Rail approval of designs or the cost of changes during the final phases of design.
- 5.5 A procurement strategy has been developed and the scheme will be delivered via the London Overground Programme Delivery team. RfL will act as the employer and tender several works, services, and materials packages to deliver the project requirements.
- 5.6 Early Contractor Engagement during the detailed design phase is being considered as part of the procurement and the delivery strategy.

## **6 Assurance**

- 6.1 The project was subject to a TfL Project Assurance and IIPAG review in April 2015. The recommendations have been accepted by management. This review followed a TfL Pathway Stage 1 (Inception) review that was carried out in August 2014. The project will complete a TfL Pathway Stage 2 (Option) Review in August 2015.

### **List of appendices to this paper:**

None

### **List of background papers:**

Project Assurance and IIPAG Reports:

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