Finance and Policy Committee

Date: **13 March 2013**

Item 13: **Structures and Tunnels Investment Programme**

This paper will be considered in public

1 Summary

1.1 This paper introduces the Structures and Tunnels Investment Programme (STIP). The objective of the STIP is to replace, strengthen and refurbish key bridges, tunnels and other structures on the Transport for London Road Network (TLRN) to ensure network safety and reliability, while considering the needs of other transport modes.

1.2 The STIP schedule is to start by delivering three discrete packages of work within an Early Contractor Involvement (ECI) Framework.

1.3 At its meeting on 26 February 2013, the Projects and Planning Panel noted the proposals in this paper and supported the recommendations to the Committee.

1.4 A paper is included on Part 2 of the agenda, which contains exempt supplemental 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 Recommendations

2.1 **The Committee is asked to:**

(a) note the paper and the supplemental paper on Part 2 of the agenda;

(b) approve an increase in project authority to allow the Early Contractor Involvement phase to be undertaken, as set out in the supplemental paper on Part 2 of the Agenda.

(c) recommend that the Board:

(i) approve the award of a Framework Agreement for Early Contractor Involvement and Construction with four suppliers for refurbishment or replacement of bridges, tunnels and other structures (the Framework Agreement);

(ii) delegate to the Subsidiaries and TfL Officers (as described in paragraph 2.2 below) authority to approve and finalise the terms of the Framework Agreement and authorise the agreement and execution (whether by deed or otherwise on behalf of TfL or any Subsidiary, as appropriate) of any documentation to be entered

into in connection with the Framework Agreement (including, without limitation, all agreements, deeds, guarantees, indemnities, announcements, notices, contracts, certificates, letters or other documents); and

(iii) authorise the TfL Officers and Subsidiaries to do all such other things as they consider necessary or desirable to facilitate such agreements.

2.2 The following Officers and Subsidiaries shall have delegated authority:

(a) TfL Officers: the Commissioner, Managing Director Surface Transport, Managing Director Finance and General Counsel.

(b) Subsidiaries: Subsidiaries of TfL including Transport Trading Limited and any other subsidiary (whether existing presently or to be forms) of Transport Trading Limited and any of the directors of the relevant company shall be authorised to act for and on behalf of that company.

3 Background

3.1 Due to long-term under-investment, some key tunnels and structures on the TLRN are in very poor condition and represent a real risk to network safety and reliability. Some of the assets already have load restrictions in place and reactive/minor works are no longer sufficient to maintain their function. If not addressed, further restrictions will be essential to maintain safety but at the expense of network reliability.

3.2 An overview of the assets covered by the STIP is provided in Appendix 1, including photographs that demonstrate the continued risks to serviceability.

3.3 The STIP includes strengthening, refurbishment or replacement of eight road bridges, tunnels and structures on the TLRN which have been identified as having serious structural and/or safety issues. The STIP is pivotal in ensuring TfL meets key objectives of the Mayor's Transport Strategy; delivering an efficient and effective transport system, reducing operating costs and bringing the assets to a good state of repair.

3.4 Although each structure will be treated as a separate project, they have been grouped into three work packages according to location, type of work and value. They will be managed as a portfolio to benefit from efficiencies in procurement, resourcing, commercial management and stakeholder engagement.

4 Early Contractor Involvement

4.1 The framework utilises Early Contractor Involvement (ECI) to allow early engagement between designer, contractor(s) and TfL. The portfolio will be delivered in two stages; Stage 1 (ECI Phase) includes the development from concept to a sufficiently detailed design to allow the construction costs to be agreed and for any advanced works to be undertaken without full commitment from TfL. Stage 2 is the completion of the detailed design and construction of the solution. The ECI approach is focused on providing optimal design solutions and minimising construction risk, ensuring reduced network disruption.

4.2 The ECI work is based on an open book contract option including tendered overhead and profit percentages and all works subject to market testing as, due to the nature of the work, it is not practical for the suppliers to provide a lump sum. During the ECI phase, TfL and the designer will work with the contractor to refine the construction works estimates to identify, apportion and allocate risk to the party most suitable to mitigate and challenge supplier and material costs to ensure value for money.

4.3 The Designer has been engaged since November 2012 using a mini-competition through TfL's existing Engineering and Project Management framework to undertake pre-design work to reduce risks to delivery. This activity includes land searches, reviewing utility requirements and progressing access onto the Rail Network, in advance of the ECI phase.

4.4 The programme of construction works will commence in October 2013 with Hammersmith Flyover; the remainder of the STIP portfolio is scheduled for completion by 2016.

5 Tender Process and Evaluation Results

5.1 Expressions of Interest were sought via the Official Journal of the European Union, to which 29 completed Pre-Qualification Questionnaires (PQQ) were received across all three work packages. Following the evaluation of the PQQs, seven suppliers were shortlisted for work package 1, six for work package 2 and seven for work package 3. Invitations to Tender (ITT) were issued to shortlisted suppliers on 5 November 2012.

5.2 A separate ITT was issued for each of the three work packages, requiring the tenderers to submit Equality and Supplier Diversity submission, a Quality submission, and a Financial submission for each work package. Within the Quality Submission, tenderers were required to demonstrate their technical and behavioural capabilities including relevant staff experience for each work package. In the Financial Submission, they were required to provide the resource rates for their project teams, project overhead, and percentage uplift for direct and subcontract works.

5.3 Following evaluation of Quality submissions across all three work packages, five tenderers: Balfour Beatty, BAM Nuttall, Costain, Hochtief and Skanska achieved the required quality threshold as set out in the ITT. Following evaluation of quality and financial submissions, the scores for Quality and Price were combined to produce a final tender score.

5.4 The intention is to seek approval from the Board to award the Framework Contract (based on NEC3 terms amended to reflect the ECI approach) and to then enter into the call-off contracts as described in this paper.

5.5 The Framework Contract complies with TfL's Responsible Procurement Policy and in particular includes the following requirements for contractors:

(a) to appoint one apprentice, or equivalent, per £1m spent through the framework. This could result in over 200 apprenticeships during the framework term;

(b) to join the Freight Operator Recognition Scheme; and

(c) to mitigate the environmental impact of their activities.

5.6 TfL will demonstrate the ECI procurement route is delivering best value through external benchmarking and through full visibility of contractor and supply chain costs including overheads and profit. Should the Target cost not meet the Sponsor's value expectations, the Design can be completed through the framework.

6 Governance

6.1 The STIP Portfolio has been reviewed through Gate A+ of the TfL Programme Management Office's (PMO) governance process. Future relevant gate reviews for each project within the portfolio of the project will follow their own approval process in accordance with TfL Standing Orders.

6.2 The Independent Investment Programme Advisory Group (IIPAG) has reviewed the development of the procurement solution and has endorsed the ECI approach.

6.3 The PMO recommends that the STIP pass Corporate Gate A+, is granted approval to appoint contractors to the construction framework and award call-off contracts for each of the three work packages.

6.4 Quantified Risk Assessments are currently being evaluated across the full portfolio.

7 Views of the Projects and Planning Panel

7.1 At its meeting on 26 February 2013, the Projects and Planning Panel noted this programme and supported the recommendations to the Committee. The Panel was provided with details of commendations and findings by the PMO and IIPAG; the Panel was satisfied with the management responses to the findings.

List of appendices to this report:

Appendix 1: Work Package Summary
A paper on Part 2 of the agenda contains exempt supplemental information.

List of Background Papers:

None

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Appendix 1

Work Package Summary

Work Package 1		
Asset	**Summary**	**Photos**
A127 Ardleigh Green Railway Bridge	A three span bridge carrying the four lanes of the A127 over busy railway lines, shown opposite. The bridge is approximately 25m x 18m and is riveted steel beams and concrete jack arches. There is a load restriction on the bridge (enforced by narrow lanes and signs), the bridge parapets are substandard and main deck elements are in poor condition.	 
A1 Highbury Corner Bridge	Constructed circa 1930, the bridge crosses the London Overground railway, supports the highway, and hosts commercial and residential buildings. The section of the bridge supporting the A1 highway, approx. 40m × 23m, is owned and managed by TfL, highlighted opposite in red. The deck includes a mix of cast iron beams, brickwork jack arches, steel flat plates and York stone slabs. It is in a very poor condition and load restrictions are in place.	 

A406 Power Road Bridge	A three span bridge built circa 1922. It carries the A406 North Circular Road (Gunnersbury Avenue) over two Network Rail lines, shown opposite. It is a reinforced concrete beam and slab deck supported on reinforced concrete abutments and piers. The bridge is approx. 19m × 31m. The deck and supports are badly corroded and the bridge did not pass its latest load assessment, but at this time a decision has been taken not to implement a load restriction; but as deterioration continues this will become inevitable.	 
A1 Upper Holloway Bridge	A single span bridge built circa 1868. It carries the A1 Holloway Road, comprising two traffic lanes and two bus lanes, over a section of the London Overground. The bridge is adjacent to Upper Holloway Station. The deck includes steel and cast iron beams (with steel plates, wrought iron flat plates, reinforced concrete and York stone slabs). It is approximately 7m × 19m with headroom clearance of 4.23m for rail traffic. Some strengthening works were done in 2000 as an interim solution, as the metal component continue to deteriorate, a full reconstruction is now needed.	 

Work Package 2		
Bridge	**Summary**	**Photos**
A316 Chiswick Bridge	Constructed in 1933, the bridge has five reinforced concrete arch spans carrying the A316 over the River Thames. The structure is Grade II* listed, placing a duty on TfL to maintain the structure to an appropriate standard, including ornamental parapets sculpted from Portland Stone. The bridge provides an excellent vantage point for river events and attracts large crowds. The work will refurbish the bridge and upgrade the parapets to current standards.	 
A406 Fore Street Tunnel	Constructed by the Highways Agency and opened to traffic in 1998, the tunnel is 361m long and carries 60,000 vehicles a day in two dual carriageway bores along the A406 North Circular Road. Water ingress is causing damage to equipment in the tunnel and creates a dangerous environment for drivers. The ingress is causing rapid deterioration of Mechanical and Electrical equipment electrical. The work will address the ingress and renewal equipment.	 
A406 Woodlands Retaining Wall	The wall is located east of the Brent Cross interchange, on the south side of the A406 North Circular Road. It retains the gardens of properties backing onto the A406. It is approximately 200m long and made up of 55 mass concrete panels of differing lengths and heights. Temporary measures, which severely restrict the footway usage, have been in place for many years.	 

Work Package 3		
Bridge	**Summary**	**Photos**
A4 Hammersmith Flyover (Phase 2)	Continuing work to strengthen remaining spans.