Committee(s):	Date(s):	Item no.
Planning and Transportation	16 November 2010	

Subject:	Public
Millennium Inclinator	
Report of:	**For Approval**
City Surveyor	

Summary

Due to the continued poor reliability of the Millennium Inclinator this report seeks to advise your Committee of the options available for the continued provision of mechanical transportation from the river embankment at the bottom of Peter's Hill to the Millennium Bridge. The upper part of Peter's Hill provides access between the Millennium Bridge and St Paul's Cathedral.

Various options are reviewed including seeking to improve the reliability of the existing Inclinator and the provision of a more conventional lift. Due to the location and the need to develop unique solutions all of the options are expected to be costly and I suggest that a Capital Bid Report be submitted during next year's budget review to consider this further. This will include the complete replacement of the existing Inclinator along with the outline concept to replace the Inclinator with a lift.

Given the constraints of the site the most likely answer to improve reliability is to provide a more robust Inclinator. However, due to the bespoke nature of this solution it cannot be said that this could be achieved without fail before the Olympic and Paralympic Games which run from July to September 2012. Should it be desired to investigate this possibility further then your authority would be required to submit a Capital Bid outside of the normal budget cycle.

In order to seek to improve the reliability of the existing Inclinator during this period pre-emptive maintenance could be undertaken at the beginning of the summer 2012 and daily attendance by a lift engineer provided during this period, at a total estimated cost of £6,000.

Recommendations

I recommend that your Committee considers the following:-

i. That mechanical transportation continues to be provided at this location thereby enabling all users to gain access between the river embankment and the Millennium Bridge.

ii. That a Capital Bid Report on the options within this report be submitted either:-

a) in the normal Capital Budget cycle (i.e. June 2011) or

b) to your next Committee for subsequent agreement by the Finance and Policy & Resources Committees that there is justification in evaluating options earlier with a view to considering further the possibility of completion before the 2012 Olympics.

iii. Subject to (ii) above that no substantive capital works will be undertaken prior to the Paralympic Games, but pre-emptive maintenance on the Inclinator will be undertaken at the beginning of the summer 2012 with daily attendance by a lift engineer to ensure the efficient operation of the Inclinator during the period of the Games, at a total estimated cost of £6,000 to be met from my Bridge House local risk budgets.

Main Report

Background

1. Peter's Hill London EC4 is located in the Ward of Queenhithe and provides public access between Paul's Walk by the Millennium Bridge across Queen Victoria Street to Carter Lane by St Paul's Cathedral (see Appendix A). The lowest part of Peter's Hill from the river embankment up to the Millennium Bridge, is formed by steps and in order to enable access for all an inclinator provides mechanical transportation along this section. There is no easy alternative route for those who cannot negotiate these steps. The Inclinator is not used to provide access between the St Paul's area and the Millennium Bridge and then onto the Southbank.

2. The Millennium Inclinator was manufactured by the Italian company Maspero Elevatori and was provided as part of the redevelopment of the area during the turn of this century. The continued maintenance is funded from the Bridge House Estates budgets. Since 2003, when it was finally put into service, it has had a persistent history of breakdowns, causing it to be often unavailable for use. There is no record from that time of the number of days per year the Inclinator has been unavailable. However, the expenditure, including the cost of remedial works, is shown below.

Calendar year	Expenditure (£)
2003	921
2004	10,943
2005	8,222
2006	34,177
2007	20,227
2008	80,799
2009	27,583
2010 (so far)	25,472
Total	208,344

Current Position

3. Since August 2009 Thyssen Krupp Elevator UK has been appointed on a comprehensive contract to maintain and repair the Inclinator. As one of the leading companies in this field their technical experience was thought to be an asset in attempting to improve the reliability of the Inclinator. They have undertaken a review and suggested critical spare parts to be stocked to improve the Inclinator's downtime when it fails.

4. On the 12 June 2010 one of the Inclinator's inner glass doors shattered. This was the subject of a police investigation following a report of vandalism from a member of public. There were no witnesses and no CCTV pictures available. Police Forensics Officers attended the scene but could find no evidence of vandalism so the case was closed.

5. Due to the construction of the glass door the breakage was contained and did not represent a hazard but it did render the Inclinator unusable. As the door is of a special construction (e.g. laminated and etched) it took until the 17 July to obtain a replacement. However, when ThyssenKrupp attempted to fit the replacement they found that it was slightly warped so it had to be returned to the manufacturer. Finally a suitable replacement door was fitted and the Inclinator returned to service on the 6 August. An insurance claim has been made to recover the costs involved and so the costs are not shown in the expenditure profile in paragraph 2 above.

6. Research through records indicates that this is the sixth time that one of the glass doors has needed replacement since 2004. Specialist door manufacturers, such as Meiller, have been approached and have said that they are unable to offer any solutions that they feel would improve the doors. Therefore the procurement of a temporary solid door is being explored with a view to it being kept on site and available as a short term replacement.

7. ThyssenKrupp's design team have also undertaken a general review of the Inclinator and are unable to recommend enhancements that can make it more robust and reliable.

8. In order to evaluate options to improve the Inclinator I engaged a specialist lift consultant, Butler & Young Lift Consultants Ltd. They were also asked to consider alternative systems and were chosen as they have recently assisted in the production of a standard specification for public lifts and escalators. Their comments and indicative costs form the basis of the options reviewed below.

Options

9. On the assumption that there is a continued wish to provide a means of access for all between the Millennium Bridge and the riverbank walkway the following options have been considered. Each option would involve, to a varying degree, the engagement of an architectural design team including structural engineers and associated disciplines to ensure the option was feasible from all aspects and not just from the application of lift engineering.

   Option 1 – Do Nothing

   Since its original installation the Inclinator has performed erratically and a number of repairs and remedial actions have sought to remedy the poor performance. Continuity of service is of utmost consideration and historically this installation has not performed to the expected standard. This option would continue the expensive maintenance noted in paragraph 2 above and the poor reliability experienced.

   This is not considered to be a long term viable option.

   Option 2 – Undertake Further Replacement of Equipment

   This option deals with the remedial works that may contribute to improving the reliability of the Inclinator. It retains the existing Inclinator with modifications/renewals to the entrances, lift car and support structure plus further remedial works. It seeks to provide for enhanced performance and health and safety improvements. The lift car and the support structure will need to be custom redesigned involving substantial R&D.

Most recent faults are mainly associated with doors and door operation. Butler & Young have not been able to identify a manufacturer of a door mechanism that is designed to function in the current manner. They have said that manufacturers of automatic doors have not shown any interest, to-date, in supporting a solution.

This option includes works necessary to improve the reliability of the Inclinator plus compliance with statutory requirements and British and European Standards and generally accepted good working practice.

This option will reflect no improvement to the original "as installed" operation. It would not seek to achieve full compliance with current standards but to incorporate improvements where reasonably practicable.

The indicative total cost of this option would be in the region of £300,000 including fees and staff costs.

As it will still contain at its core the original installation it is not anticipated to be a long term viable option.

Option 3 – Replace with an Alternative System

Over the past years the Inclinator has had fairly major renewals. In addition the application of the original product is questionable and in this particular environment it would seem that the duty required is stretched beyond the design capability.

The Inclinator is used for the transportation of people using buggies, bicycles, wheelchairs, etc. and along with general use the duty required is now more in keeping with a mass transit elevator than a lift solely for those with impaired mobility.

A complete replacement is therefore expected to be preferable as the continued use of the Inclinator should now take into consideration factors that may not have been catered for previously. There is a need to ensure that the duty is sufficiently robust to meet these demands. The Inclinator usage should be designed for this greater starting capacity and to cater for the general public curiosity and not just to meet the needs of the disabled.

The inclined lift is very much a bespoke product for which there are few standard applications. Lift manufacturers with factory capabilities' have been researched but manufacturing companies for this type of product

within the EU are limited. Butler & Young have identified one German company, Hütter Aufzüge, with experience, products and knowledge that would be suitable to further the design for a replacement solution. They suggest that this be explored further with a view to a final design development with them.

The Millennium Inclinator environment will require some special engineering and a replacement may require the redesign of the structure to accommodate the particular drive that is offered.

This option replaces the whole Inclinator from a selected source and would not be an open tender situation but will require a review of the products available to select the most appropriate and proven lift model. Where possible consumables and key components would be sourced from UK or recognised generic suppliers to ensure long term maintainability.

The indicative total cost of this option would be in the region of £750,000 including fees and staff costs.

All options will be considered should a Capital Bid Report be approved but **at this stage this option is considered to be the most likely long term viable solution**. However, it will require further investigation with the manufacturer to identify a product that will satisfy this application.

Option 4 – Replace with a Conventional Lift

This option would entail the complete replacement and a change of concept to provide a conventional vertical lift. It would involve some fairly major changes to the structure and surrounding area to provide a vertical shaft and passenger waiting area at the lower level. Having a vertical lift would require a walkway situated in close proximity to the adjacent building, Millennium Bridge House. People would be walking in front of several windows to gain access to and from the lift. In addition there would be a visual impact from the river, the Millennium Bridge and St Paul's Cathedral.

The indicative total cost of this option would be in the region of £500,000 including fees and staff costs.

It is not anticipated that this option will be possible but given the cost of Option 3 there is merit to using an innovative architectural practice to develop outline proposals for consideration and consultation.

Impact of the Olympic and Paralympic Games

10. Visitor numbers during the summer of 2012 could be high as the Olympic Games run from the 27 July to 12 August and the Paralympic Games from the 29 August to 9 September. In addition it has become apparent that the Paralympic HQ is to be located in the St Paul's Cathedral area. Although the Inclinator will not be used by athletes to provide access between St Paul's and the Millennium Bridge and then onto the Southbank, it is anticipated that it will be subject to increased use by the general public.

11. From Butler & Young's initial review of the design, approval and works involved the programme shown below is anticipated. Consideration has been given to replacing the Inclinator before the summer of 2012, however, there would appear to be insufficient time to guarantee a new installation before then. Investigations are required into suitable products, involving visits to factories and installations to enable concept and detailed designs to be developed with a degree of confidence into a suitable specification. From the procurement, manufacture and delivery times Hütter Aufzüge indicated to Butler and Young it would probably take a minimum of 18 months from approval to proceed to putting a new Inclinator in service. So even if approval was obtained under urgency procedures it would mean that it would be early summer 2012 before a new inclinator could be installed. Also, as this would involve work starting on site during the winter period of early 2012 there is the possibility of severe delays if the work is subject to the sort of weather experienced last winter.

12. Although the existing Inclinator is considered unreliable at this stage it does seem to present the best opportunity of providing mechanical transportation at this location during the summer of 2012.

13. In order to seek to improve the reliability of the existing Inclinator I could undertake pre-emptive maintenance during May 2012 and provide a daily visit by a lift engineer from mid July to mid September 2012. The pre-emptive maintenance will involve the replacement of certain operating parts regardless of their condition. The above is anticipated to add some £6,000 to the revenue budget for the financial year 2012/13.

14. This, coupled with the provision of the temporary replacement door mentioned in paragraph 6 above, should improve the availability of the existing Inclinator during the Olympic and Paralympic Games.

Programme

15. The anticipated programme for Option 3 (Replace with an Alternative System) based upon recommendation (ii) a), the normal Capital Budget cycle, is as follows:-

Submit Capital Bid Report	June 2011
Approval to proceed with detailed evaluation	October 2011
Seek fee tenders	December 2011
Submit Evaluation Report	July 2012
Appoint contractor	September 2012
Start on site	January 2013
Complete	May 2013

The working period on site could be affected by being undertaken during the winter period.

Community Strategy Implications

16. The proposals contained within this report relate to the Community Strategy in the following ways:

- Good Transport for a Thriving City – *to improve the "pedestrian experience"*
- An Inclusive and Outward Looking City - *enhancing accessibility.*

Consultees

17. The City Planning Officer, the Comptroller & City Solicitor, the Head of Access and the Chamberlain have been consulted in the preparation of this report.

Conclusion

18. The existing Inclinator cannot cope with the current demand and any remedial work cannot guarantee long term improved reliability

19. The inclined lift is very much a bespoke product for which there are few standard applications. Manufacturing companies for this type of product within the EU are limited. Butler & Young Lift Consultants Ltd have identified one company, Hütter Aufzüge, which has experience, products and knowledge who are willing to further the design for a replacement solution.

20. It is recommended that that a Capital Bid Report be submitted in due course so that all options can be explored further. The subsequent detailed Evaluation Report would look at the success of this initial review with the possibility of a final design development in partnership with Hütter Aufzüge.

21. It is anticipated that consideration would also given to the development of outline proposals for a conventional lift.

22. It has become apparent that the Paralympic HQ is to be located in the St Pauls Cathedral area and due to the specialist nature of this project it is considered advisable that works not be undertaken until these games have been completed. The maintenance and administration of the existing Inclinator for that summer period will be significantly enhanced with the associated estimated cost of £6,000 being met from my Bridge House local risk budgets accordingly.

Background Papers:

None

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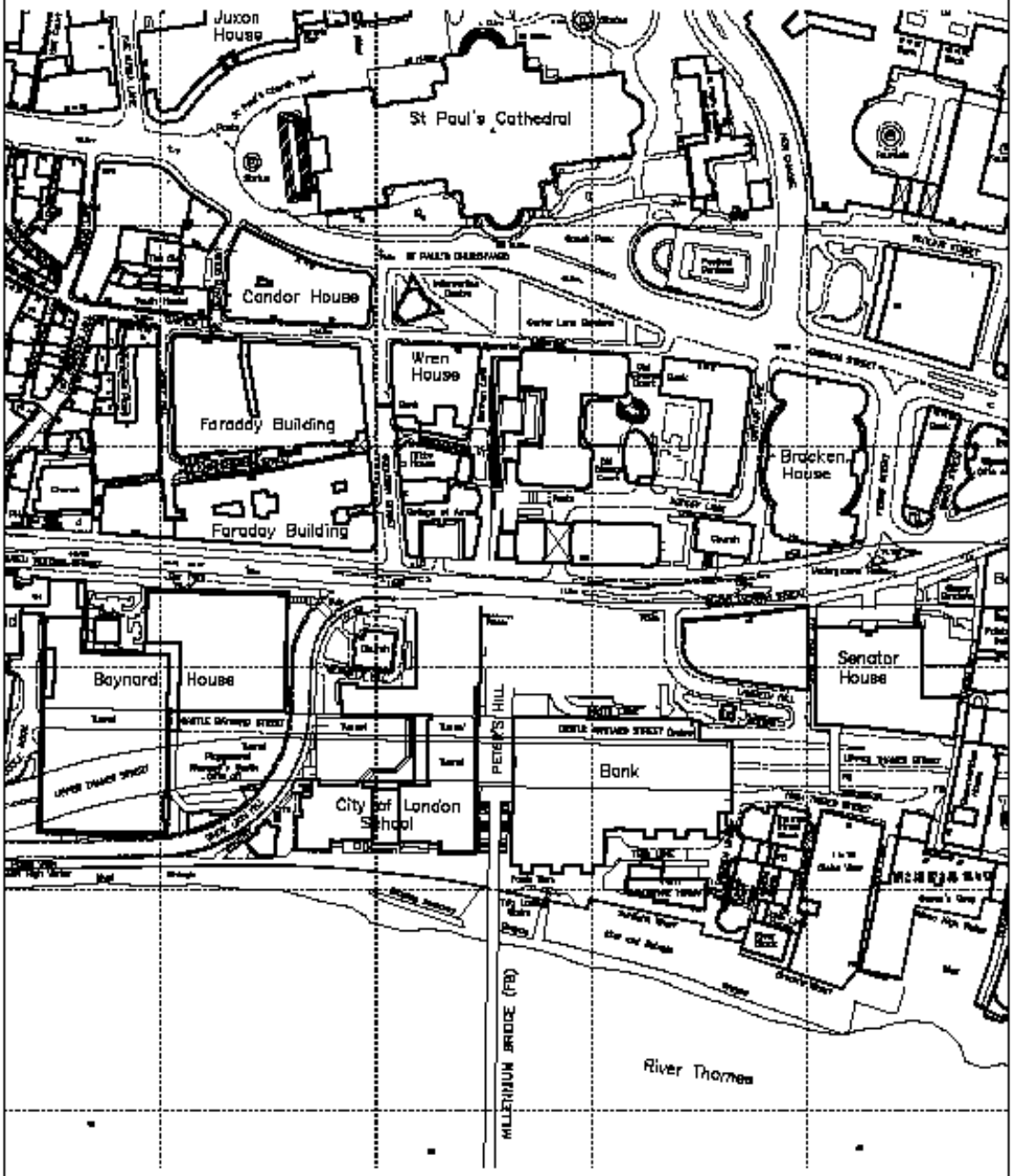
APPENDIX A

Scale at A4 1:2500



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