

# Tram Project: Review of Truncation Options

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## The City of Edinburgh Council

### Date

## 1 Purpose of report

1.1 This report reviews potential savings from the Edinburgh tram project (line 1a) that might be achieved from:-

- curtailing the project at a point short of its full intended route from Edinburgh Airport to Newhaven;
- or through 'value engineering' measures that would involve reducing the scope or functionality of the project.

The above savings proposals would only be necessary if other actions to mitigate increases in programme expenditure were to prove unsuccessful and no additional funding could be identified. At present, the planning assumptions for the project remain that it will be possible to deliver the full intended line 1a route. However, additional measures will be required to mitigate the effect of delayed income receipts for the Council's £45m contribution to the project.

## 2 Summary

At the Council meeting of 30<sup>th</sup> August, 2009 an updated report on the progress of Edinburgh's tram project stated that it would now be very difficult to deliver the project within the approved budget of £545m. The report indicated that specific measures were available to the Council, including the use of its prudential borrowing powers, to assist project cash flow in the event that forecast income receipts were delayed. The report also indicated options such as leasing rolling stock could be used to mitigate any overspend in programme costs. In the event that programme expenditure ultimately were to exceed the approved £545m budget the Council Management Team agreed the need to investigate other mitigation measures including value engineering, reductions in scope or functionality, or curtailment of the route short of its full length.

The report concludes that there are very limited opportunities for value engineering at this stage of the project; it also reviews three options for curtailing the line short of its full length and concludes that these would carry significant risks including potential loss of profits claims, reduced economic

benefits and negative impact on future revenues. The options for curtailment identified are:-

- Option (a) Termination at Ocean Terminal – Gross saving £8.65m
- Option (b) Termination at Bernard Street – Gross saving £25.23m
- Option (c) Termination at Picardy Place – Gross saving £46.13m

Appendix 1 shows how these gross savings have been calculated. Whilst the savings are theoretically realisable, in practice, the impact of loss of future tram revenues, unquantified risks from loss of profit claims and the negative economic impact upon the city's aspirations for the development and regeneration of Edinburgh's Waterfront, mean that any savings to be achieved, would ultimately be outweighed by these other factors.

### **3 Main report**

- 3.1 The Council's Chief Executive instructed Tie Ltd to prepare an options report that would review scope for savings on tram line 1a, through value engineering and by infrastructure or service curtailment.
- 3.2 The tram project is currently funded 91.7% by Transport Scotland and 8.3% by the Council up to the budget limit of £545m. Thereafter, all costs will fall 100% to the Council's account.
- 3.3 At the Council's August meeting, officers reported that it would now be very difficult to delivery the line1a tram project within the available budget.
- 3.4 A reduction in project scope – through truncation or value engineering – would provide a safety valve in the event that costs were to rise above £545m and no further funding could be identified from the Council or other sources.
- 3.5 Value engineering measures seek to deliver the same functionality or outputs for less money, in a way that does not degrade the asset by increasing costs over the course of its life cycle. The design of tram line 1a, including consents and approvals, is now nearing completion and it seems unlikely that there are a significant number of new value engineering opportunities that have not previously been explored. Changes at this stage could, in fact, prove costly by delaying work on other parts of the project. Tie's conclusion is that any marginal cost savings to be had would almost certainly be offset by additional design costs and consequential time delays. Whilst **tie** will continue to seek ongoing value engineering opportunities, in the course of the project, these are unlikely to deliver significant savings relative to the overall cost of the project.

#### **Infrastructure or service curtailment**

- 3.6 The viability of line 1a both in terms of its economic costs and benefits was scrutinised using the Scottish Government's STAG appraisal methodology, as

well as being the subject of detailed analysis during the course of preparing the TEL Strategic Business Plan for integrated tram and bus operations from 2011 and beyond. The benefit cost ratio of the line 1a scheme was assessed at £592/£335m (PV in 2002 prices) – a ratio of 1.77. This provides a degree of comfort that, even if costs were to exceed £545 m, the benefit cost ratio is likely to remain above 1.0. It should also be recognised that the choice of line 1a was the result of over two year's work and any attempt to assess the impact on the TEL Business Case of varying options for truncation, will offer at best only broad estimates of the consequential impact on the strategic business case.

- 3.7 In reviewing options for truncation certain constraints also need to be acknowledged. Firstly, given the location of the tram depot at Gogar, and the fact that much of the line to the west of Haymarket is off street (and therefore less expensive) it is assumed that it would not make sense to truncate the line to the west. The extension of the tramway to Edinburgh Airport was also an integral part of the Scottish Government's deliberations in 2007 which lead to the cancellation of the EARL project. Since then, Transport Scotland has advanced plans to develop the Gogar Intermodal Station to facilitate passenger interchange between the Fife Railway line and the tram, and pressed ahead with the Edinburgh Glasgow Improvement programme which will see 13 train services per hour between Edinburgh and Glasgow, by 2016. Curtailment of the tram line west of Haymarket would therefore appear to be both politically and strategically unacceptable.
- 3.8 In **tie's** deliberations they have therefore focussed on truncation options at the eastern end of the line.

#### **Option (a) Curtailment at Ocean Terminal**

- 3.9 The section from Ocean Terminal to Newhaven was an 'add on' to the final scope of line 1a. The Final Business Case (FBC) patronage forecasts are for fewer than 1000 passengers per hour to board the tram at Newhaven in the morning peak, and even by 2031 the majority of traffic is forecast to come from the new residential development at Western Harbour. The capital savings achievable by deferring this section, would be in the region of £15m gross. However, there would be consequential delays arising from design amendments to turn back facilities and related works which would reduce any gross savings.

#### **Option (b) Bernard Street/Foot of the Walk**

- 3.10 Truncation at this location, stopping short of Leith Docks, is less easy to justify from a business case perspective. The regeneration of the Harbour at Leith Docks is a key priority for the Council and the delivery of line 1a to Ocean Terminal is an integral part of the detailed North Edinburgh Transport Action Plan that is essential to the sustainable development of this key growth hub in the city. The FBC forecasts are for hourly patronage of over 2000 passengers per hour in the morning peak at the Foot of the Walk, rising to 6,000 pax per hour by 2031. In addition, a significant proportion of the economic benefits attributable to line 1a originate in the Leith Docks area and the Foot of the Walk is also an important interconnecting location acting as a hub linking feeder bus services into the tram network. Gross capital savings from truncation at the Foot of the Walk are estimated to be £30m but these would also be reduced as

a result of additional costs associated with consequential programme delays and the design, approval and enhancement of turn back facilities.

### **Option (b) Picardy Place**

- 3.11 Terminating the tram at Picardy Place would incur the disbenefits highlighted for options (a) and (b) and, in addition, would have the significant drawback that Leith Walk offers the greatest opportunity to remove buses from the transport network, and replace them with trams thereby reducing congestion. FCB modelling suggests passenger loadings of around 8,000 per hour in McDonald Road. Truncation at Picardy Place would therefore be highly undesirable given the sheer volume of forecast demand at this location. The estimated gross capital costs savings from truncation at Picardy Place are around £50m. There are already turn back facilities in design for York Place. However, if it was decided to truncate the line at Picardy Place the tram terminus would be better moved to Picardy Place to interface with the existing and proposed leisure commercial and retail developments at the St James Quarter. This would incur additional costs.

### **Rolling stock reductions**

- 3.12 Truncation of tram line 1a at the locations described in options (b) and (c) above would lead to a reduced need for tram vehicles – 4 less, in the case of termination at the foot of the Walk, and 10 less in the case of termination at Picardy Place, at a capital cost per tram of around £2m per vehicle. However, these reductions are somewhat theoretical. There would be a need to renegotiate existing contact with the tram supplier CAF, and it is unlikely they would concede the entire cost of the vehicles without seeking compensation for loss of profit.

### **Additional bus service costs**

- 3.13 It is important to consider the full life cycle costs of any of the proposed curtailment options set out above. An important consideration is that any slack in the public transport system that is not met by trams will need to be addressed by additional buses (given the growth forecasts for Edinburgh's population and public transport usage). These new capital costs plus the associated incremental losses to tram revenues arising from people completing journeys by bus, would have a negative impact on the tram business case.

### **Commercial considerations**

- 3.14 It should also be noted that any significant curtailment of line 1a short of its intended full route will almost certainly give rise to claims for loss of profits from the Infraco consortium. It is very difficult to calculate the extent to which the settlement of such claims and the associated legal costs would impact upon the gross savings which could potentially be achieved from each of the identified options. However, it is clear that the realisable net savings that might be achieved would be significantly lower than the gross amounts identified above.

## **4 Financial Implications**

This review has identified potential gross capital savings varying from around £10m to £50m arising from three potential options to truncate tram line 1a at different locations at the eastern end of the route. In the case of options (b) and (c) additional savings might also be realised from a reduced need for tram rolling stock. However, in the case of all three options other factors, including the need to invest in new turn back facilities, costs associated with programme delays, potential loss of profit claims, a long term negative impact on future tram revenues, and a negative impact on regeneration plans would act as powerful counter arguments to pursuing truncation. In effect, net capital savings would be considerably less than the gross totals identified each of the identified truncation options would have a negative, long term impact on future tram revenues.

## **5 Environmental Impact**

- 4.1 Curtailment of tram line 1a short of its full length would also have a negative environmental impact on Edinburgh as the city's population and traffic volumes grow. Additional bus and car traffic notably in the Picardy Place – Ocean Terminal corridor would create on street vehicular emissions that would place further stresses on air quality in an area of the city where air quality hot spots have already emerged as a problem

## **6 Conclusions**

- 6.1 It has been necessary to review the scope for curtailment of tram line 1a to achieve savings in the event that the tram budget envelope of £545m is in danger of being breached. However, it should be noted that the BCR for the tram project would remain positive at a budget out-turn significantly above £545m. It is clear that the gross savings potentially achievable from the identified options carry significant risks in terms of delivering real net savings as well as impacting negatively on the tram business case and the city's wider transport and economic development objectives.

## **7 Recommendations**

- 7.1 It is recommended that the CMT should:
- a) Note the limited scope to achieve net savings in the tram programme budget from truncation options at the eastern end of the route;
  - b) Continue to monitor closely the progress of tie's DRP process and the impact on programme budget;
  - c) Instruct the Directors of City Development and Finance to work with tie on contingency plans should the programme budget come under threat; and,

- d) Note that, in terms of the benefits to cost ratio, the project retains a healthily positive BCR at the current budget level.

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Appendices

Contact/tel/Email

Wards affected

Single Outcome  
Agreement

Background  
Papers