

Edinburgh Tram Network

Draft Final Business Case

*Comments by Transport Scotland
30 March 2007*

i. Introduction

The draft final business case (DFBC) for the Edinburgh Tram Network (ETN) was presented during November and December 2006 by Tie Limited to the City of Edinburgh Council (CEC) and Scottish Ministers (via Transport Scotland). CEC considered and approved the DFBC in December 2006. Scottish Ministers considered the document during the period January to March 2007 and on 16 March gave approval for work to start on preparations for Phase 1a of Edinburgh's new tram line with the release of £60m pounds of funding. This document represents the comments of Transport Scotland on behalf of Scottish Ministers with respect to the DFBC.

ii. Background

Upon receipt, the contents of the DFBC were circulated to a number of officials within Transport Scotland across the various directorates that make up the organisation along with officials in the wider Transport Group of the Scottish Executive. This circulation included a number of advisers retained by Transport Scotland. The depth of circulation involved certain officials and advisers receiving the full document whilst others were requested to review certain sections relating to their specific professional knowledge and background. As would be expected for a document of this nature the review process produced a relatively intense level of comment, feedback and debate. This document does not set out to reproduce all the comments verbatim but is an attempt to distil the feedback into a constructive, coherent and non-repetitive format that can present real value as the development and implementation of the ETN moves forward.

iii. Context

It should be noted that the initial submission of the DFBC was followed by a further submission in February 2007 specifically relating to commercial affordability issues. This information was based on the content of competitive bids from prospective contracting organisations. This procurement process is ongoing and this document of course respects the restrictive nature of that process. Further feedback as a result of the ongoing process will be handled via the established processes between the appropriate parties.

Following the announcement from Scottish Ministers on 16 March 2007 an associated grant offer letter was issued on 19 March 2007 by Transport Scotland to the City of Edinburgh Council. As one would expect that letter lays out a number of conditions associated with the grant offer. Included in those conditions is a requirement for the Final Business Case (FBC) to be completed by 1 October 2007.

The comments contained within this document must therefore be considered in the context of the above. A constructive and open dialogue will obviously be required in order to ensure the completion of the FBC along the associated progress of ETN project.

1. General Comments

Content

The general requirements for the DFBC were laid out in the interim grant funding made by Transport Scotland in April 2006. It would have proved useful if more specific reference had been made to the nature and conditions of that particular grant ie one of the main purposes of that grant was to allow production of the DFBC along with other essential workstreams and therefore could have served as a baseline to the context of the DFBC. With specific reference to content it would appear some sections have yet to be produced although it is fully acknowledged that the final structure and presentation of the document the requirements deliberately contained meaningful levels of flexibility. Sections that are yet to be completed are highlighted in the section specific comments.

Presentation

The DFBC is generally well structured and presented. Individual sections would perhaps benefit from section specific content lists to aid reference. The treatment of inserts will require attention with respect to version control along with a few other minor presentational aspects.

Phase 1a & 1b

It is clear that a key aspect of this document was to address the business case of phase 1b of the scheme along with 1a. However, since the DFBC was first presented the criteria for any future consideration of phase 1b have been established. Any content with respect to phase 1b will therefore require careful consideration during drafting of the FBC.

Funding Availability

The Scottish Executive have agreed to provide a £375m contribution towards the construction of the core part of the network from Leith to the airport subject to production of a robust business case. Further to the initial commitment in principle, agreement was reached to index the contribution in line with inflation since the first quarter of the 2003 calendar year. An estimated range of potential funding from £450m to £500m could then be established.

However it is important to note that this range reflects uncertainty about future inflation rather than a negotiating range. It is vital that the FBC calculates costs and funding on a consistent basis. Transport Scotland notes that using the proposed construction programme and current estimates of future inflation in the construction industry the £375m figure would translate to £490m in outturn prices.

Transport Scotland would expect the conversion of £375m to be reported consistently in the FBC unless a different arrangement is agreed between City of Edinburgh Council and Scottish Ministers in finalising the funding agreement between the 2 parties.

The following comments are presented with the same section numbering as used in the DFBC for ease of reference. Specific comments on Section 1, Executive Summary have not been made as this section was essentially a direct summary of the other sections.

2. Introduction

This section is simply a contents list and so requires no substantive comment. It would benefit from sub-section contents for ease of reference (including appendices).

3. Project Development & Phasing

This section provides a good summary of the history to the project. It is a valuable contribution to the context of the DFBC.

4. Project Justification

We note that the case for trams has been drawn up in line with standard appraisal practice. The case for Phase 1a founds on the importance of tackling congestion in Edinburgh for the benefit of the greater Scottish economy.

The assumptions made in the DFBC are key to the positive economic appraisal. It must be acknowledged that the appraisal is very sensitive to those assumptions. Transport Scotland has also taken note of the independent due diligence report must also be noted and its principal conclusion that the modelling work has been “developed in a professional and diligent manner with due regard given to current best practice guidelines.”

Construction Impacts

It would appear no account is taken of the construction impacts of the scheme. Transport Scotland note there is evidence from elsewhere that careful management and information provision during construction of similar schemes can mitigate the impacts significantly (or in some circumstances be beneficial) but the DFBC does not provide detail of any such plans. The scenario of *not* managing construction impacts well with subsequent additional congestion being sufficient to impact the BCR must be avoided.

Transport Scotland will therefore expect the Final Business Case to contain specific proposals for mitigating construction impact together with a full description of the process to keep mitigation measures under review and manage them effectively.

Bus Alternatives

Comparison of the reference case that contains bus priority measures not now in place or committed with a formal do-minimum that represents the current situation shows that around two-thirds of the benefits achieved by the tram scheme could, in theory, be achieved by a bus priority scheme at lower cost (although this cost has not been calculated).

Transport Scotland understands the practical constraints around continuing to improve bus services in Edinburgh in terms of road capacity and the challenges of securing further bus priority measures. We acknowledge that the capacity of key thoroughfares such as Princes Street and Leith Walk could not sustain continuing increases in bus vehicle numbers in order to accommodate the projected demand. The Final Business Case could usefully strengthen the narrative that explains this.

Edinburgh Airport Rail Link (EARL)

This section also contains a number of relevant and valid observations with respect to the Edinburgh Airport Rail Link (EARL) project. The ongoing development phase of the EARL project will, naturally, need to be observed as the FBC is produced. For example, since the DFBC was produced the Scottish Parliament has completed its consideration of the EARL Bill.

5. Project Scope

This is one of the areas where greater clarity is required. It was Transport Scotland's understanding that this section would effectively form the functional specification of the project. It would therefore effectively define the baseline scope of the project from any changes (for whatever reason) could be formally considered.

We have, however, also been presented with a separate document entitled 'functional specification' to which we have provided comments. The status of section five of the DFBC needs to be clarified with the various comments to date addressed. On a practical note, it should be feasible that section five of the DFBC represents the functional specification of the project with suitable presentation and process control allowing revision and refinement at appropriate times.

We would imagine early clarification of the functional specification is desirable to help ensure the smooth execution of the on-going procurement processes.

Although references to interchange are made within the DFBC in terms of location and functional success criteria, little detail is given with respect to interchange. Now that design is advancing clear information about the proposed interchanges must be included in the Final Business Case. Section five may prove the appropriate place for such information.

A number of useful and valid observations are made with respect to interfaces with other projects and infrastructure. Naturally, these will need to be re-visited during the production of the FBC as all these projects move forward.

6. Governance

This section needs to be strengthened significantly. We were hoping that the broad governance arrangements laid down in September 2006 would have been developed both in terms of detail and scope to provide specific reference to how the project would be managed and controlled. This relates to the original requirements to provide project management plans. We are aware that such workstreams are underway and we consider their execution to be vital to ensure the success of the project both in the short and long term.

It should also be noted that the details laid out in section six have been modified and this section needs to reflect the up-to-date governance arrangements for the project as they are being applied in practice.

7. Procurement & Implementation

On a general point although this section addresses procurement issues and processes it does not fully cover 'Implementation'. Following the commentary on procurement this section addresses required consents, land assembly and environmental management. It would be better to separate these out into their own section or sub-sections of a wider and more comprehensive description of implementation arrangements.

The timing of the FBC means that it comes at the end of the procurement process and the FBC need only cover a description of the process used and the risk transfer achieved. At that point Transport Scotland will be more concerned with evaluating the practical implementation proposals.

Clearly, in the intervening period there will be very substantial procurement activity and the following comments are not intended to be reflected in the FBC. Rather they represent areas where Transport Scotland is looking for clarification of the approach to be taken in the period to financial close.

The broad arrangements set out within DFBC with respect to and the development of the project procurement strategy are not only well known and understood but have effectively been endorsed by Transport Scotland on a number of previous occasions. Our main comments regarding procurement now appertain to the associated risks and consequences of

failing to achieve the planned convergence and closure within the required timescales.

Many of these risks relate to progress of design and perhaps interfacing utility design to core infrastructure. It will also be interesting to understand how infrastructure contract bidders are being able to input to design development over the coming period (a key part of the strategy) whilst maintaining programme and managing the ability to achieve novation.

It would be appropriate to include in the commentary references to Tie Limited's ability to sustain certain methods of procurement which helped inform some of the initial procurement selection criteria.

Further detail is required with respect to the options contained within main contracts and how they will be considered (mainly with respect to the functional specification and future phasing).

Clarification is required with respect to the tendering and award of the proposed maintenance contracts. Reference exists to the procurement of separate but related agreements but which is followed by reference to novation. Confirmation is required with respect to the funding and awarding body for these contracts.

Further minor clarification would be desirable with respect to the definition of substantial completion with respect to these contracts and the proposed nature and level of liquidated damages. It would also be beneficial to further understand the levels of true incentivisation contained within the proposed contracts: much of the DFBC appears to describe sanction.

The final but important comment with respect to the procurement section relates to the omission of any reference to the actual contracting strategy in use / proposed. This is important in order to understand the risks associated with actual implementation of the scheme and perhaps how the risks retained by the employer will need to be managed.

8. Operational Plan

Transport Scotland note with interest the well presented contents of this section and do not intend to comment other than on a few specific issues.

We note the assumption that concessionary fare scheme will be extended to include the ETN and Scottish Ministers intend to bring forward the necessary changes to the secondary legislation governing concessionary fares.

As the FBC is produced we would expect to see further development of the patronage issues surrounding interchange (covering tram to bus, heavy rail, park and ride and indeed air transport) along with interface to other transport operators.

We require one minor clarification with respect to ticketing strategy and how incentivisation to buy before boarding will be established with respect to proposal provide one ticket with a single fare structure (other than for premium journeys).

9. Financial Analysis

As previously alluded to in the general comments section much of the content of section 9 has been superseded and remains in a commercially sensitive environment. We propose to continue our feedback via the existing established arrangements as the project moves towards financial close.

However, the comments made in section 1 on the calculation of the value of the Transport Scotland contribution in outturn prices need to be reflected in this section also. As a result of this and other data made available to Transport Scotland much of the headline figures contained within section 9 will now require revision.

The section should also include an analysis of the proposed nature and drawdown of the funding being provided by CEC. This will help to ensure that the draw on funding will service the spending requirements of the project.

10. Risk

General Comments

It is clear that significant degree of consideration has been given to the section of the DFBC. We are concerned, however, how the process of risk management will be taken forward (taking into consideration our previous observations around governance and project management processes). Also on a 'rule of thumb basis' a risk allowance equating to approx 12% for a rail-related project just entering detailed design may be viewed as being a little optimistic but this has to be qualified to the extent that it is possible there may be separate allowances for risk type items in the base costs.

Specific Comments

- Tramco maintenance cost uncertainty does not appear to have been fully developed.
- The cost QRA shows that the biggest risk drivers are the cost of delay and a higher than expected inflation figure. It is not clear how these will be addressed.
- It is not clear how confident we are that the tram network will be operating in time to realise the revenue expected – there has been no schedule QRA info provided.
- There are approximately 17 very high probability/low impact risks in the risk register. The impact ranges for these risks is £1k to £5k. The adequacy of these impact ranges is not understood. Items with such high probability should be in the cost estimate rather than the risk register.

- The management of stakeholder expectations is key, there is only passing reference to this and no mention of a stakeholder strategy
- Some risks are described as 'shared' (e.g. soft FM), who will fund what proportion of these risks?
- Many risks are described as 'mitigated'. This does not give an indication of the extent to which they are mitigated, there could still be significant risk exposure
- The P50 and P90 cost risk confidence figures are expressed as percentage uplifts to the base cost. This gives a false impression. Risk exposure is a discrete figure not a percentage of the base cost as is the case with Optimism Bias.
- P90 figure is expressed where we would expect the P80 figure. The P90 figure from the cost QRA is £5.3m more than the P80 figure.
- The cost QRA has been undertaken at the whole project level. It is not clear what confidence tie has of achieving each of the project elements within the cost estimate
- It is unclear how the cost of 'unknown' risk will be managed. How will the contingency be managed (as opposed to risk)?
- Although mentioned, it is not clear how the residual Optimism Bias cost uplift be addressed.

Key Recommendations

- The cost of tram planned maintenance and defect rectification should be quantified to allow informed decision making on the transfer of this risk
- Actions to address the cost of delay and increased inflation should be identified.
- Evidence of tie's confidence in meeting the project key milestones should be provided
- The very high probability/low impact risks should be reassessed to ensure that they are appropriate. Where risks are assessed as having 95% probability, they should be transferred to the cost estimate where appropriate
- A Stakeholder Management Plan should provide evidence that appropriate actions are planned to address stakeholder expectations
- The cost QRA should be undertaken at the MUDFA, TRAMCO level to understand where the major areas of risk lie.
- Funding of the quantified 'shared' risks should be identified/agreed
- An indication of tie's confidence that the mitigation that they have put in place will be effective should be provided together with an indication of what the residual risk is.
- The risk confidence levels should be expressed at the P50 and P80 levels as costs
- Details of how a fund for 'unknown' risk (contingency) will allocated should be provided.

- Details of where will the residual Optimism Bias cost uplift will be allocated should be provided.

11. Programme

General Comments

It is clear that the programme is tight. The list of assumptions is informative and will be of high value in the ongoing project and risk management processes of the project.

Initially two pdf-files were submitted of the programme showing only summary bars and no critical activities, no linking and no float figures. Following a further request a soft copy in Primavera-format submission was made. The following specific issues have been identified:

- In general, use of P3e is applicable. The developed WBS and project structure seems adequate as shown in the submitted schedules (section 11.2). After a preliminary review of the soft copy it is clear that Tie has produced a comprehensive and very detailed programme with more than 2,800 activities. It is assumed that this P3e programme contains all relevant activities and considers all project phases and sections required. This schedule also appears to have all the necessary links required. The programme is not cost loaded yet, because only 4 activities have been assigned with small amounts of cost.
- Section 11.3 highlights that “only little float exists within the programme”, which can be acknowledged after a review of the schedule. It appears that the programme provided describes only a “Best Case” scenario with no real feasible mitigation of delay or additional time for any secondary works required. This is a very critical programme issue and if the key early milestones cannot be achieved the delay will be extended to months.
- The programme with its dates and planned work flow for the SDS Design, INFRACO and MUDFA works is based on a large number of assumptions, as detailed in section 11.7. Additionally, Tie highlight in section 11.3 that “the programme is based on assumptions of ‘right first time and on-time delivery’”. Edinburgh Tram Network Project is a unique project in Scotland. Therefore the assumptions and preconditions appear optimistic.
- The milestones for the delivery of the TRAMCO contract appear realistic if the contract award can be achieved in October 2007, as indicated in the schedule.
- The programme shows that the entire Detailed Design for this project will be completed in October 2007 - is this realistic?
- The procurement process for the INFRACO contract is running parallel to the design stage. The award of the INFRACO contract is scheduled for October 2007 and the commencement of the main construction works will be in December 2007, is this realistic?

- The construction works of the first line (line 1a) will be completed in July 2010 (early finish date assumes no delays and right first time). The first rolling stock cars will arrive in December 2009. Further clarity is sought as to the activities with these tram units over the following 7 months.
- In summary the overall durations for the construction works and procurement look reasonable. The durations for design, procurement, approvals and commissioning however look very compressed. The lack of float or mitigation opportunities and 'right first time' planning would appear optimistic.

Key Recommendations

- Based on the detailed schedule the main key milestones should be separated and be reviewed.
- Tie should clarify the durations allowed for review, revisions and approval processes that have already been taken into consideration.
- Tie should clarify the responsibilities and feasibility in regard to their achieving their key assumptions.
- Tie should show and clarify the interdependences that exist in relation to the other Major Projects (e.g. EARL and Airdrie – Bathgate).
- The programme needs to be baselined in the first instance at this DFBC stage.
- The programme also needs to be cost and risk loaded at an appropriate level.
- A detailed monitoring process of the key milestones is essential.
- A schedule QRA requires to be undertaken and findings shared with Transport Scotland as a matter of urgency.

12. Communications Strategy

Overall Comments

- Compared to previous submissions this version of the Communications Strategy has improved in style, format and content.
- The majority of elements that Transport Scotland envisage should be included within a Communications Strategy have been incorporated into this submission.
- Overall however the strategy does lack detail and evidence of how outputs are going to be achieved and who is accountable e.g. no programme/timescales, specific media plan.
- No specifics are given on roles and responsibilities of individuals for tasks.
- No contact protocols or information on how people will work together are provided.
- There is evidence of good terminology but no substance is provided to back up stakeholder engagement proposals.
- There is vague information on collation of survey data – how and why this will be used; who will be approached etc.

- Reference is made to specific media plans and campaign timelines yet these are neither included nor annexed.

Key Recommendations

- Spell-check the document.
- Include the Mission Statement at the beginning (Introduction Section) of the document in addition to appearing at the end.
- We would prefer to have no abbreviations.
- Include team details, protocol and procedures section. Crisis management could also be incorporated within this section.
- Remove the “New” title at the end of the work plan tables and have these “new” items” fully integrated with the previous entries.
- Include a list of who the key stakeholders are within the ‘Stakeholders’ Section.
- The plan must also include details of how contractors and sub-contractors will integrate into communications strategy.
- Reference needs to be made to the TEL ownership, TEL business plan and Communications strategy.
- The author of the strategy, the draft number and the last date of revision should also be stated at both ends of the document.