

Delivery Confidence

The project budget

tie have in place a commercial team with many years experience on both public and private sector procurement projects. The capital budget contained within the dDraft fFinal bBusiness eCase has been carefully constructed at each stage of the design and development programme. As the level of design detail and certainty improves, so does confidence in the the capital budget. The main budget categories are:

- Design
- Advance works & utility diversions
- Infrastructure & trams
- Project management
- Land costs
- Risk allowance

The budget has been benchmarked against similar tram schemes and reviewed in an independent 'Gateway' review during 2006. Furthermore, as the current procurement phase has got underway, the confidence levels in the estimates have improved. This results from the use of bidders' figures rather than the figures prepared by the tie estimating team.

Within the budget, are significant monetary allowances for project risks – some 10%. These have been derived from a QRA process (a "quantified risk assessment"). The QRA produces a long list of risks currently around 400 in total. Probability judgements are then made against each one together with an estimate of the financial impact. The QRA then models all of the risks using a multiple random event generator. The modelled results produce an aggregate financial risk sum with a range of confidence levels. In its business case budget tie have conservatively used the risk sum at a 90% confidence level.

OR

A rigorous Quantitative Risk Assessment has been applied to identified Project Risks to derive a risk allowance to deliver a very high level of confidence (statistically at a 90% confidence level meaning that there is a 90% chance that costs will come in below the risk-adjusted level). The level of risk allowance so calculated and included in the updated estimate represents 12% of the underlying base cost estimates. This prudent allowance for cost uncertainty reflects the evolution of design and the increasing level of certainty and confidence in the costs of Phase 1 as procurement has progressed.

The design element of the budget is based on a fixed price contract with Parsons Brinkerhoff (an international design firm based in the US). This work is now reaching the final stages so that the Council will be able to sign off the design packages and bidders able to price the works with a high degree of accuracy and certainty.

A large part of the budget results from the main works procurements:

- Initial procurements have already been concluded in respect of the advance works packages (such as depot excavation, invasive species removal); and utility diversions. So both of these are The cost estimates for these elements costs have a high degree of certainty, being based upon firm prices or rates in concluded contracts. However, it should be noted that the utility diversions contract is a standard remeasurable contract (appropriate for this type of work) and final costs will be subject to the actual quantity of work undertaken by the contractor under tie's supervision. The risk allowance for utility diversions amounts to so costs are variable. Because of this there is around 20% of the base cost, allocated for risk in the budget.
- Between now and contract finalisation later in the year, The focus of procurement effort is now to negotiate and effort is underway to conclude the two principal tenders: contracts for the trams vehicles; and for the infrastructure. At the point of contract award, the tram vehicles contract will be novated to the infrastruxcture contract. These

Comment [SMcG1]: Did a gateway review look in detail at the capital costs?

Comment [SMcG2]: DFBC says 12%??

Comment [SMcG3]: See alternative para cribbed from DFBC

Comment [SMcG4]: Is the 20% correct?

separateresulting in a single .procurements will result in single 'novated' fixed price, fixed time contract.

So far, the bid evaluation process has led to the shortlisting of two preferred bidders for each of these procurements. The trams contractors are CAF (Spanish) or Alstom (French). The Infrastructure contractors are the Bilfinger Berger and Siemens consortium (both German companies); and Laing O'Rourke (UK/Irish), Grant Rail (UK) and Bombardier (Canadian). In each case, the bidders' proposals have been systematically analysed using a structured and objective evaluation process. The process itself has also been independently reviewed – demonstrating support for the approach taken by **tie**. During the bid evaluation, contractual amendments, scope, engineering, programme and price are each assessed. The proposals are 'normalised' so that they are directly comparable, adjusting for bidders' assumptions and qualifications and scope that has not been included. At the same time, engineering and programme proposals are scrutinised to confirm deliverability.

Comment [SMcG5]: Is this a confidential briefing? We have not disclosed the identities of the Infraco bidders publicly before.

Comment [SMcG6]: Is it worth saying the evaluation process has been approved by the TPB (incl CEC and TS).

The project management costs are based on **tie's** forecast management structure looking forward. The structure grows or contracts as the scheme moves from phase to phase. Some are permanent employees, whereas some are resourced through management and technical consultancies. A common feature is that each team member has been selected because of their specific competences and expertise. Over the last 2 years the **tie** leadership team believe that they have found some of the best individuals in the business. Recruitment and resource development will continue throughout the project. The team currently has around 90 direct and indirect project staff because it is managing several major contracts and many of the interface risks. When the works gets underway under a single novated infrastructure contract, the **tie** team will be able to reduce in size. Towards the end of the construction process, recruitment will start again for the operations and maintenance team.

Land costs are based on estimates provided by the District Valuer. The outcome of purchases underway at present (Tranche 1) and those planned for the summer Tranches 2 and 3 will depend on current land /property prices and negotiations with the owners. The budget includes an element for risk.

Targets

In order to be certain of reaching or beating the budget targets by contract close, **tie** are undertaking a comprehensive value engineering (VE) process. A large number of potential savings initiatives have been identified by the team. Although many of these schemes will turn out to be unworkable, a small number will result in practical, better value designs with a lower overall cost. The VE work has three elements: opportunities on the current design; opportunities through discussion with the bidders; and opportunities that are jointly developed.

Comment [SMcG7]: Not a very convincing statement at all.

Project management

The project has a well-defined and rigorous governance and management structure with clear accountabilities including a Project Board with representation from all the main stakeholders, a nominated Senior Responsible Owner for the project and a Project Director, all with documented and unambiguous delegated authority. The contractors under consideration have UK and world-wide project management experience in delivering high quality light rail systems on time and budget. The **tie** project team also have direct experience of delivering light rail systems and their work is monitored by the **tie** Board, which includes both elected members of the City of Edinburgh Council and business people with directly relevant experience.

The **tie** team have developed a comprehensive suite of project management procedures and plans covering all disciplines and processes necessary to effectively manage the project to cost, schedule and quality objectives with a high degree of certainty. Risk management, cost control and change control procedures are already in routine use across the project to track budgets and authorise changes.

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