Edinburgh Tram Network

Interim Outline Business Case, May 2005

Main Report

Draft for Discussion

30 May 2005

Edinburgh Tram Network ("ETN")

Interim Outline Business Case ("IOBC"), May 2005

Main Report

Draft for Discussion

30 May 2005

Important Notice

This document is a working draft of the Edinburgh Tram Network ("ETN") Interim Outline Business Case ("IOBC"), prepared by **tie** limited ("**tie**"), with the assistance of their Financial Advisers PricewaterhouseCoopers LLP, ("PwC") for discussion with The City of Edinburgh Council ("CEC") and the Scottish Executive ("the Executive"). The content has not been approved by either CEC or the Executive and there should be no presumption of approval by either organisation of the text or financial structures and related proposals contained in this draft Document.

tie has classed this IOBC as containing commercially sensitive information and work-in-progress, the public release of which would risk seriously and substantially prejudice the financial and commercial interests of **tie** and CEC, in particular their ability to structure, conduct and complete competitive procurements.

Any request for information from this IOBC should be referred in the first instance to **tie,** for the attention of FOI(S)A Manager**. tie** reserves the right to decline disclosure on the basis of qualified content exemption.

Certain sections of this report have been provided by PwC, and the following important notice applies to those sections. This report has been prepared by PricewaterhouseCoopers LLP ("PwC") for **tie** limited ("**tie**") in connection with the ETN under the terms of **tie's** agreement with PwC dated 18 February 2005 (the "Agreement") and its contents are strictly confidential.

This report contains information obtained or derived from a variety of sources. PwC has not sought to establish the reliability of those sources or verified the information so provided. Accordingly, no representation or warranty of any kind (whether express or implied) is given by PwC to any person, except as expressly set out in the Agreement, as to the accuracy or completeness of the report.

PwC accepts no duty of care to any person, except as expressly set out in the Agreement, for the report. Accordingly, regardless of the form of action, whether in contract, tort or otherwise, and to the extent permitted by applicable law, PwC accepts no liability of any kind and disclaims all responsibility for the consequences of any person, except as expressly set out in the Agreement, acting or refraining to act in reliance on the report or for any decisions made or not made which are based upon such report.

Contents

Executive Summary

Statement of Sponsor Support

Officials of the sponsor (CEC) have been involved in a series of discussions with **tie** during the preparation of this IOBC and the Director of City Development and the Director of Finance are prepared to endorse the conclusions and recommendations of this document; judgement is however reserved on the preferred financing route(s) and risk allocation until the submission of the final OBC in early 2006.

Background and Objectives

In September 2004, **tie** submitted Updated Preliminary Financial Cases for the proposed Tram Lines 1 and 2 in support of Private Bills before Parliament. Since that time, **tie** has analysed in detail the options for the procurement and funding of the tram system.

The purpose of this Interim Outline Business Case ("IOBC") is:

- Reconfirm the strategic case for the Tram projects and the high level needs as set out in the September 2004 PFC;
- Set out and analyse procurement options in terms of the organisational structure of the procurement and contract packaging, concluding with a preferred option to meet the project requirements and demonstrate VfM;
- Build on the options for the funding and financial structures supporting this overall procurement structure;
- Identify programme governance, project management and risk management structures to deliver the projects and implement subsequent contracts;
- To identify the steps required to confirm the requirements set out above and the further programme of work required prior to making the major contractual commitments on the project.

This document also describes:

- the strategic context and objectives of the project
- **tie** and CEC's proactive approach to transport service integration
- the extensive and rigorous project risk management procedures in place
- the results of benchmarking of key assumptions carried out by **tie**'s advisers
- the sources of funds available and methods of financing the project

tie has also assessed Audit Scotland's recently reported findings in relation to Holyrood and believes that the principal recommendations have been embedded in the procurement and project management approach to the tram project.

Economic Appraisal

The Scottish Transport Appraisal Guidance (STAG) 2 analysis is contained within a separate document prepared by **tie**'s technical advisors, namely, Mott MacDonald for Line 1 and Faber Maunsell for Line 2. The IOBC has been informed by the work undertaken by Mott MacDonald and Faber Maunsell in preparing the STAG 2 documents. The STAG 2 analysis demonstrates that the proposed lines meet the key appraisal criteria and the advisors concluded that the introduction of the tram into Edinburgh is consistent with the objectives of CEC and will contribute well to the realisation of the Vision for Edinburgh.

Historical development of project

The following figure summarises the key dates and milestone documents which precede the preparation of this IOBC and to which reference should be made:

1998	White Paper – "Scotland's Transport Future"
	City of Edinburgh Council Local Transport Strategy (LTS) - Inception
1999	City of Edinburgh Council Integrated Transport Initiative (ITI) - Inception
2000	City of Edinburgh Council LTS 2000 – Published
	Waterfront Edinburgh Limited (a Joint venture between City of Edinburgh Council, Scottish Enterprise Edinburgh and Lothian) commissions the Feasibility Study for a North Edinburgh Transit Solution (Anderson, Steer Davies Gleave and Mott MacDonald are appointed as advisors)
2001	Feasibility Study for a North Edinburgh Transit Solution – Published
	City of Edinburgh Council commissions the Edinburgh LRT Masterplan Feasibility Study (Ove Arup & Partners are appointed as advisors)
2002	Transport Edinburgh Limited (now tie) Incorporated
	Scottish Executive 'Approval in Principle' of the City of Edinburgh Council's ITI
	Scottish Executive funding grant awarded to support the introduction two Bills into Parliament - Tram Line 2 and Tram Line2
2003	Edinburgh LRT Masterplan Feasibility Study - Published
	Transport Minister announces £375 Million 'available in principle' for the Edinburgh Tram'.
2004	Tram Line 1 and Tram Line 2 Bill submitted to Parliament
	City of Edinburgh Council LTS 2004 – Published

Procurement strategy

In developing its procurement strategy, **tie** has had to deal with certain key issues that make Edinburgh's context different from that of other promoters of light rail schemes including the effects of the project running through an historic city centre with World Heritage Status, and

consequentially, significant constraints in terms of aesthetics, environmental impact and restrictions on possessions along the proposed route. The objectives of the procurement strategy are to achieve:

- Best value for money
- Timely delivery of the system
- 'Win/Win' solutions for relationships with the private sector
- Meaningful integration of light rail and bus services
- Flexibility for future expansion of the network/phasing of delivery

tie has developed a procurement strategy which learns the lessons from past tram procurement exercises and recent investigations by NAO, Audit Scotland and HM Treasury and deals with issues specific to Edinburgh. Overall the procurement strategy is well designed to serve the objectives of the project and is suitable for market testing.

The key elements of the strategy were initially developed by the Procurement Working Group (PWG) during 2004, that group comprising **tie**, Partnerships UK, **tie**'s financial adviser at the time, Grant Thornton, **tie**'s legal adviser, DLA and **tie**'s technical advisers.

Having already opted for early operator involvement, the PWG considered that an Infrastructure and Integrator Consortium Option which now forms the basis of the procurement strategy best met the objectives. The above process has involved significant involvement of CEC and SE. The key documents which have been produced throughout this process are set out in Appendices B and F.

The strategy has been further developed and tested over the last year and will be tested again during formal market sounding during the summer of 2005. **tie**'s intention is to reflect on the feedback received from the proposed market consultation and to critically review the procurement strategy in the light of the messages received.

This will require a review of the approach to the key contracts which will still need to be let at that stage namely the infrastructure and vehicle supply contracts.

In addition, **tie** will consider the views of key stakeholders, including CEC and the Executive on the procurement strategy as set out herein, and on the basis of feedback a specific strategy on the split of funding between grant and private finance (and consequential risk allocation) will be finalised.

The key distinguishing features of the preferred procurement strategy are as follows:

1. Early operator involvement

   A contract was signed with Transdev to undertake this role in June 2004, and they are co-located in **tie**'s office working on a consultancy basis. This gives **tie** access to the operator's knowledge and experience during the parliamentary approval, business case, planning, bus/tram integration, design, and commissioning phases to ensure that the system will be capable of being operated effectively.

2. Separation of operations and systems delivery

   When the project moves into the operations phase Transdev's will assume a portion of the risk of short term farebox and operating cost risks. However these risks will largely fall to the public sector via CEC. There are a number of methods by which CEC can mitigate this risk as detailed under "Allocation of Financial Risk between CEC and SE" below. Risk

premia required by the private sector to assume these risks have been a major contributor to affordability problems on other schemes in the UK.

3. Establishment of Joint Revenue Committee

The Joint Revenue Committee (JRC) will develop a comprehensive and interdependent hierarchical public transport modelling suite to support the development of the Tram network. The JRC will be responsible to **tie** along with the design contractor on a jointly and severally liable basis. The modelling suite to be delivered to **tie** by mid 2006 will, inter-alia, consider the impact of specific system design features and of service and frequency changes on revenue predictions, analyse the effect of changes in passenger numbers on revenue, report on the integration with other public transport modes. During 2006 the output from this "Stage 2" transport modelling will facilitate the development of an integrated business plan for integration of buses and trams.

4. Early involvement of designer

This allows **tie** to advance design work for sensitive sections of the lines and following award of the design contract in June 2005 the designer will focus activities on the section of the network between Ocean Terminal and Haymarket via Princes Street. The early involvement of the designer will reduce the planning and estimating risks that bidders for the infrastructure contract are exposed to and so will contribute to eliminating the substantial risk premia they would charge. It will also facilitate the advanced works on utility diversions, another area where both programme and costs would present considerable risks and therefore premia to be paid to the private sector but which **tie** and CEC can manage without such transfer. The strategy calls for novation of the design contract to the infrastructure contract when the latter is awarded with all risks in relation to design work (as shown in the risk allocation matrices in Appendix G completed pre-novation passing to the infrastructure contractor.

tie will monitor the solutions being prepared by the design contractor with the assistance of the Technical Support Services Contractor, Transdev, and drawing on the significant experience of other schemes within **tie**. The purpose of this will be to avoid 'gold plating' of the system, and any tendency towards high risk, high cost options which do not provide the overall best value for money that **tie** is seeking. **tie** will track the cost of the system throughout the design period, so that cost overruns can be identified quickly and mitigating actions taken while there is still scope to change the solution.

5. Utilities undertaken as advanced works

A significant benefit arising from undertaking design early is that **tie** can procure utility diversions early, thereby reducing programming and cost risk pricing by the infrastructure providers, and creating the best opportunity to minimise disruption and maximise construction productivity. **tie** therefore propose to retain and manage the significant risks associated with utilities and implement the major identified utilities diversions through a single framework contract with a contractor approved by all the affected utilities.

tie and CEC will use their powers under the tram Acts and as the roads authority to negotiate with the utilities allowing works to be carried out on all of the utilities assets at a single site under a single contract. Many of the most complex issues regarding utilities are already being progressed through negotiations with the utility companies, with whom **tie** has agreed heads of terms for utilities diversion works. These negotiations have resulted in a number of innovative solutions for utility issues, highlighting the benefits of early engagement with the utilities companies.

6. Separate selection of infrastructure and vehicle providers

tie's approach of having separate competitions for infrastructure and vehicles means that it will be able to select its preferred option for each of the vehicles and the infrastructure. There are a relatively small number of vehicle providers in the light rail market, and asking them to partner with infrastructure providers would restrict the range of choice available to **tie**. **tie** also believes that separate procurement of these two key elements of the system will increase competition for the infrastructure contract because the relatively small number of vehicle providers would otherwise limit the number of integrated consortia that could bid. **tie**'s approach therefore allows it to select both its favoured rolling stock choice and its favoured infrastructure provider. As with the design contract it is **tie**'s intention to novate the vehicles contract to the infrastructure contract with all interface risks passing to the infrastructure contractor.

Risk management

As part of the overall procurement process **tie** has examined in detail what has been effective risk identification, mitigation and management in projects of the nature of the Edinburgh tram project, in the context of the UK Tram Market and the wider industry best practice. **tie** has also embraced principles of the Department of Transport guidance on the same subject.

In addition to published technical guidance **tie** recognises the importance of, for example, the National Audit Office report on light rail which has been a timely reminder of why effective risk management is key to project deliver success **tie** has reviewed its approach and has implemented the recommendations of the NAO report. The findings of Lord Fraser in his analysis of the Holyrood project, which are applicable to any complex construction project, have also been reviewed by **tie** and the lessons learnt are incorporated into **tie**'s procurement and risk management strategy.

At the heart of **tie**'s approach is ensuring that the risks for the project are identified early on and mitigated with a view to driving effective risk transfer where appropriate to the party best able to manage it. The results of poorly thought out risk transfer on other Tram projects has clearly demonstrated that the sector is not fully accomplished in dealing with certain risks, for example revenue, planning and utilities diversion, or where they are capable there is a substantial premium for the transfer. In response to this **tie** has built into its strategy a balanced portfolio of risk management and transfer mechanisms and has sought to encourage as wide a market appetite for the tram project as possible to ensure an effective competition and value for money.

As part of the continuing development of the project **tie** is continuing to keep risk management at the core of its activities.

Financial projections

The financial projections have been developed with extensive input from experienced advisors:

Capital expenditure and lifecycle (long term maintenance) costs

Estimates have been prepared by **tie**'s technical advisors; Lines 1 and 2 have been benchmarked against each other and been benchmarked against other systems' actual costs. The capital expenditure estimates include a specified contingency of approximately 10%; **tie** and its advisors believe this contingency to be sufficient.

The estimates of capital expenditure are considered in the context of available Executive funding and the HM Treasury guidelines on Optimism Bias under "Phased Approach" as described below.

Farebox revenues

Farebox revenue projections are based on patronage numbers drawn from a public transport model, which although complex has been independently assessed as fit for purpose. These projections have also been benchmarked against other UK tram systems.

However, due to their nature there is still significant uncertainty surrounding these projections. **tie** and CEC have a clear strategy to improve the certainty of the modelling in the context of service integration with Edinburgh's bus network (see below). This work will take place in stages between now and the presentation of the Final Business Case in late 2006, ensuring that the latest available information is submitted before financial commitment to the infrastructure and vehicle contracts.

Operating costs

Where available operating costs are now based on the costs estimated by Transdev in developing the DPOF Agreement, and largely supports those initially estimated by the technical advisors.

Other income

tie and CEC have conducted a comprehensive review of other possible sources of revenue or funding for the Tram project. These sources principally comprise advertising revenues and contributions from property development activities in proximity to the Tram network. Reasonable estimates of such income have been included in the financial projections. Again there is still considerable uncertainty regarding these financial projections and outcomes will become clearer during the period between now and financial commitment to the infrastructure and vehicle contracts.

tie and CEC are satisfied that the financial projections and risk assessments are as firmly based as is possible at this stage during the development of the project.

Further transport modelling and service integration

A critical element of 05/06 activity for **tie** and CEC is the progression of both further transport modelling (under the JRC contract) and the plan to achieve operational and financial integration of the tram and bus networks. This work is critical to give all stakeholders further comfort regarding the robustness of the financial case for the tram network prior to both the issue of tenders for the main infrastructure and vehicles contracts proposed in April 2006 and the issue of the Final Business Case in late 2006.

Effective integration of the tram with the bus network is key to patronage stability and growth as well as to delivery of wider social policy aspirations. Uniquely in the UK, **tie** and CEC have instigated a programme of early involvement of the tram operator and bus companies and will develop in due course a similar dialogue with other transport operators. The main bus operator in the Edinburgh bus market is Lothian Buses plc (LB), owned by the Council (91%), which delivers approximately 80% of bus services in the City, with the balance primarily serviced by First Group. This market structure offers an exceptional opportunity to achieve effective integration, subject always to full compliance with competition law. **tie** and CEC have established a detailed process to maximise this opportunity for the benefit of customers.

A wholly-owned subsidiary of CEC – Transport Edinburgh Limited (TEL) will oversee and drive progress with the assistance of **tie** in terms of procurement and project management. It is intended that this structure will be fully implemented during the period between Royal Assent and the issue of the Final Business Case in late 2006. Thereafter TEL will drive the tram project in the period immediately prior to commissioning and during operations. This approach will also have the effect of reducing risk for CEC by maximising cost and revenue efficiencies between the tram and bus networks and managing the service patterns of both modes in the most effective way for customers.

The corporate and governance structure of TEL will be finalised during 05/06.

tie's modelling strategy now envisages the development of a more detailed suite of models. These will be required to support the design of the system by the design contractor and also the work of the JRC. This more detailed modelling will reduce the forecasting risk referred to above and thereby serve to provide more robust projections to validate the financial and economic viability of the tram project prior to the issue of both the final OBC in early 2006 and Final Business Case in late 2006. The Stage 2 modelling will permit clear assessment of the patronage and revenues on different configurations and phasing of the project and the implications for the patronage and revenues of Lothian Buses.

Impact of EARL on Line 2

The Stage 2 patronage and revenue modelling described above will also include work to mitigate risks identified in recent reviews of the first phase projections with regard to the planned implementation of the proposed heavy rail link to Edinburgh Airport (EARL). This rail link would provide direct routing from the Airport to the national railway network. EARL would therefore provide links on a regional and national basis, whilst the tram would provide the local connections.

The airport market is an important part of tram line 2 demand and EARL does have the potential to capture a significant proportion of passenger trips between the airport and the City Centre. Fare policy will be a key decider of the relative attractiveness for users. The business case for EARL is still at an early stage of development and the full implications for the patronage and revenues on tram line 2 will need to be understood before financial commitment to the infrastructure and vehicle contracts. This work will seek to deliver a scenario which optimises EARL's revenue generating performance but still allows tram line 2 to generate sufficient revenue to cover its operating costs. There is good reason to believe that tram line 2 and EARL can serve different market demands, tram line 2 serving the local price sensitive and time insensitive market and EARL the National, price non-sensitive and time sensitive market.

Funding and Affordability

tie's financial modelling has so far assessed affordability for 4 network configurations, Line 1 only, Line 2 only, a network of Lines 1&2 and a network of Lines 1&2 excluding the Newbridge Shuttle. Each of these configurations were assessed under 2 funding scenarios as follows:

1. **Conventional Funding: tie** procures a fixed price Infrastructure Contract with all capital costs being funded upfront by the public sector.

2. **Hybrid PFI** (60% conventional funding): **tie** procures a PFI contract for the construction and maintenance of the Project. The concessionaire receives payments from the public sector during construction for 60% of the capital expenditure and finances the residual amount with private debt and equity.

This IOBC does not propose a definitive structure for a PFI arrangement or that a PFI structure should be selected. This will be subject to further analysis, both qualitatively and quantitatively, and discussion between **tie**, CEC and the Executive in the period up to presentation of the final OBC in the spring of 2006. For the purposes of the current analysis **tie** and its advisors have taken advice from the Executive on the likely method by which the Executive grant, or a portion thereof, would be translated into support for availability payments under a PFI arrangement.

The PFI modelling completed so far has been prepared to support high level affordability conclusions only. Further, this document does not address any issues which the balance sheet treatment of the Tram might present for the public sector.

Other key funding assumptions are:

- The Executive grant for construction of the Tram network is fixed at £375m in nominal terms (ie with no indexation). The Executive have reiterated that this is indeed the case. It is assumed that the Executive grant will in principle be available to fund any network or phasing thereof including any or all of Lines 1 and 2 or potentially an alternative configuration, subject always to a "robust business case" being available for the preferred configuration

- CEC does not have the capacity to contribute to the capital expenditure in relation to any element of the project unless and until the receipts from projected surpluses from operations and property development are realised. Further, CEC does not have the capacity to assume the risk of borrowing against those future revenue streams, and therefore contribute to the immediate capital expenditures on the project, due to the uncertainties with regard to farebox revenues and other income discussed above.

tie and CEC have appraised these key issues and assessed the funding which has reasonable visibility and can be delivered for the scheme. This has been done for both of the individual lines and for a network of Lines 1 and 2. It is **tie**'s and CEC's conclusion that:

- Both Line 1 or 2 as standalone projects are fully affordable within the approved Executive funding of £375m – either under conventional funding or as a hybrid PFI as described above.

- A network of Lines 1 and 2 is not affordable, at least as an entire first phase, within the approved Executive funding of £375m. Under conventional funding the financial model shows a shortfall in funding for capital expenditure in nominal terms of £206m for a complete network of Lines 1 and 2 and £152m for a network excluding the Newbridge Shuttle.

- There is a need for further detailed evaluation of the initial system scope and phasing in the light of these affordability issues and the normal mitigation of the risks of large scale development through a phased approach. This phased approach is detailed below.

Phased Approach

The inherent risks associated with the cost estimates for a project of this scale and complexity remain, despite the detailed work that **tie** has carried out to ensure that the current estimates are the most accurate available and the range of benchmarking against outturn costs on completed projects. It has now therefore become all the more important to achieve as much certainty as possible on the likely price for the different elements of the network before entering into commitments.

tie is consequently proposing a phased approach which would be applied to the procurement of Lines 1 and 2, as well as any possible future extensions which are subsequently identified. The aim of the phased approach would be to

- Ensure maximum clarity around the likely costs associated with sections of the network.

- Allow for the option of retaining the same infrastructure contractor for each Phase, including later extensions.

- Ensure that at each stage of phasing the 'network' as defined will be completely sustainable should no further phases be undertaken for whatever reason.

This will allow CEC and then the Executive to take decisions about the precise committed scope of Phase 1 in the light of actual prices competitively bid by the private sector, *before* any contractual commitments. It will also provide the possibility that future extensions can be facilitated without the need for further costly procurement, and avoiding potential issues associated with system interface and integration.

The precise scope of each Phase is subject to further discussion but the aim will be to agree first with CEC then with the Executive the scope of a Phase 1 which should be reasonably affordable *within* the current affordability constraints (i.e. £375m without indexation). Specifically this will be a scope which on current estimates builds in sufficient 'headroom' below £375m to allow a degree of confidence as to deliverability allowing for prudent provision for unforeseen cost increases.

The approach described above will allow informed decisions to be taken in the light of emerging affordability at key points during the procurement process. For example, at the point of initial receipt of the bids **tie** will have detailed information as to the likely costs of both the defined Phase 1, and the various further subsections which may comprise a Phase 2, with indicative prices for future phases.

The Procurement Strategy, and in particular the scope of design and other implementation activities programmed for the year to 31 March 2006, is entirely compatible with the phasing approach now proposed. In summary, the initial design work under the SDS contract would be targeted on the key sections of the proposed Phase 1. Similarly, the early work on utilities diversions would all be carried out within the defined Phase 1.

For illustration this IOBC considers a situation where Line 1 in its entirety was to be procured as Phase 1 by conventional funding.

The base case outcome (that expected by **tie** and CEC) would be that the capital cost of Line 1 is confirmed within **tie**'s best estimate totalling **£292.4m** which includes a specified contingency of 10.8%. This would leave **£82.6m** unspent from the fixed Executive grant of £375m as funding for capital expenditure on Phase 2.

The headroom which such an phasing would give is illustrated by the fact that if the capital cost of Line 1 increases to **£327.2m** representing **tie**'s base cost estimate plus optimism bias at **24%** (calculated by **tie** in accordance with HM Treasury Guidelines taking account of the progress which has been made to date in the development of the project) there would be £47.8m unspent from the Executive grant. An increase in the capital cost of Line 1 to **£375m,** being the maximum committed Executive funding, would represent an increase of approximately **42%** over **tie**'s base cost estimate. This compares to HM Treasury's recommended starting value of 44% for optimism bias and therefore would provide a very high confidence that Phase 1 would not require the committed £375m to be exceeded.

tie and CEC believe this "headroom" provides a sound basis for expecting that at least Line 1 can be delivered within the existing approved funding of £375m in accordance with the expectations of the SE. **tie** and CEC also believe that this forms a sound basis for proceeding with the design and other procurement activities programmed in the period up to receipt of tenders for the infrastructure contract in accordance with the programme described below.

The presentation of Line 1 as an illustrative Phase 1 does not in any way confirm an intention by **tie** and CEC to exclude any or all elements of Line 2 from Phase 1 when it is presented for approval by SE. The current programme calls for a definitive phasing plan to be developed by **tie** and CEC (in consultation with Lothian Buses and Transdev) between now and January 2006 prior to submission of the final OBC. The phasing plan would be reviewed again

following receipt of tenders for the infrastructure and vehicle contracts as part of the Final Business Case.

Allocation of Financial Risk between CEC and the Executive

Under conventional funding and prior to the commencement of operations of Phase 1 of the Trams, CEC has no resources available to contribute to the capital costs of the Tram project and Phase 1 must at this stage be contemplated as being provided entirely from the fixed Executive funding of £375m.

However both **tie** and CEC submit that the SE's risks in this regard are mitigated by the procurement strategy developed by **tie** to deliver a value for money Tram network taking full cognisance of the lessons learned from the procurement of other public transport projects, the Phased approach to implementing the project characterised by the funding headroom described above, the process by which the Executive will approve progress of the project at various stages only after being satisfied by **tie** and CEC as to the continuing adequacy of that headroom during the progress of design, Phasing definition and receipt of tenders, SE's right to satisfaction that the extent of the Tram network being delivered represents good value for money with respect to the level of investment and the rigorous regime of cost control being implemented by **tie** and its advisors and with CEC to manage the design and construction process.

Under conventional funding CEC will retain the risks associated with farebox revenues (to the extent they are not shared with the operator), other income, operating costs and lifecycle costs. Again taking Line 1 as a proxy for Phase 1, the forecast net cash inflow to CEC over the 30 year forecast period is £102m representing a cushion of 22% of forecast farebox revenues before CEC would experience an overall cash deficit. This simple analysis does not however reflect the risk of cash deficits occurring in individual years especially in the initial years of operation and the risks being borne by CEC are considerable. CEC's risks are also mitigated by the phasing approach under which the elements of the network most likely to be economically sustainable will be constructed first. In addition early involvement of an experienced operator (Transdev) and Lothian Buses in the context of the TEL service integration plans will provide CEC with a considerable additional level of assurance.

It is CEC's intention to convert realised or reasonably anticipated cash surpluses from operation of the Tram into funding available to provide future Phases of the network.

Under a PFI arrangement CEC would no longer be responsible for paying Lifecycle costs directly but would expect to contribute, in an equivalent manner, to the availability payments made to the PFI contractor.

Disbenefits of phasing the implementation of Edinburgh's Tram project

Whilst **tie** and CEC recognise the advantages to a phased approach to implementation, there are a number of associated disbenefits that include:

- The loss / deferral of economic and social (STAG) benefits
- The increased cost in nominal terms to build future phases due to the impact of inflation on deferred costs
- Inefficiencies of implementation with the potential reduction in economies of scale and requirement to undertake elements of the procurement more than once
- Potential for a more fragmented approval process that in itself may prolong the programme and increase costs.

Programme

The following are the key dates from the programme at which decisions with regard to phasing will be made and approvals sought to proceed from CEC and then SE:

Activity / milestone	**Dates**
Commencement of design and related activities	June 2005
Preparation of agreed phasing plan by tie, CEC (with Lothian Buses and Transdev)	May 2005 – Jan 2006
Delivery of Outline Business Case (OBC) which defines phasing of the project to be tendered and the proposed funding structure (Conventional Funding or PFI)	End Feb 2006
Issue of tenders for Infraco and tram vehicle contracts following Executive approval of OBC and Royal Assent	April 2006
Return of tenders for Infraco and tram vehicle contracts	Aug 2006
Decisions on scope for inclusion further sections of network in Phase 1 in light of prices received	Sep 2006
Input from transport modelling which underpins farebox revenue projections for selected phasing and in the context of revenues for an integrated Tram and bus network	Feb 2006 – Sep 2006
Delivery of Final Business Case (FBC) reflecting tender prices and any consequential adjustment to the proposed phasing of the project	Sep 2006
Award of Infraco and tram vehicle contracts following Executive approval of FBC and final negotiations with tenderers	June 2007

This indicative timetable reflects a conventional procurement process. A PFI approach could extend this by 6-12 months, depending on the process adopted.

This programme also indicates a 30 month construction programme from July 2007 to meet an operational date for the tram by the end of 2009.This is a challenging timescale which will be constantly under review in detail up to the date of award of the infrastructure and vehicle contracts in light of the actual phasing plan adopted, the construction methods developed by **tie** and its contractors and the practicalities of limited sections of the Tram being operational prior to completion of a full Phase 1. This will be assessed in more detail in the Final OBC.

Funding requirement for 2005/06

To progress the activities detailed in this IOBC, **tie** requires access to limited additional funding in the current financial year. The detailed procurement evaluation has identified the critical path of expenditure which requires to be followed if the programme is to be met. The estimate is **£21.9m** for 2005-06 which net of £2.4m Executive funding carried forward from 2004-05 and a £1m contribution from CEC results in a net additional funding requirement of **£18.5m**.

The theme of the overall strategy is to ensure that risks are aggressively managed and in particular that **tie**'s stakeholders are not asked to commit to either contractual or financial obligations until each stage has been thoroughly analysed and approved. It is important to note that no commitment of new funding beyond the costs described in the previous paragraph is sought at this stage. All **tie**'s contractual commitments both now and during 2005-06 are capable of being terminated within a reasonably short period of time.

An important area requiring further urgent assessment is that of utility diversion work. **tie** is sensitive to the need for curtailment of large-scale expenditure prior to Royal assent and the implications of this for programme require further debate.

In relation to land acquisition, **tie** has not included in the funding request the cost of any land acquisition in FY 2005-06. It should however be noted that there may be specific cases where early purchase is sensible to all parties. These will be subject to individual assessment of the merits in each case and where appropriate an addition funding request will be issued.

The issues of utility diversion and land acquisition require further discussion as part of the assessment of this document. It is hoped that the recommendation in this document will provide a convincing basis for release of the limited short-term Executive funding to enable the project to proceed according to programme with optimum risk mitigation.

1 Introduction

1.1 Background

The delivery of an Edinburgh Tram Network is regarded by the City of Edinburgh Council ("CEC") as a key element of its overall Transport Strategy for the city. The project has been in development for over five years, with the aim of having trams operational by the end of 2009.

Key to the delivery of the project, and to enable the promoters of the ETN, **tie** limited ("**tie**"), to secure the required funding from the Scottish Executive ("the Executive") is the development of a robust Business Case. This Interim Outline Business Case ("IOBC"), provides evidence of the work that **tie** has undertaken in building upon the Preliminary Financial Case documents submitted to the Scottish Executive in September 2004. It is anticipated that, following the submission of this IOBC to the Executive and a detailed review by both the Executive and CEC, a Final OBC ("FOBC") will be submitted by February 2006.

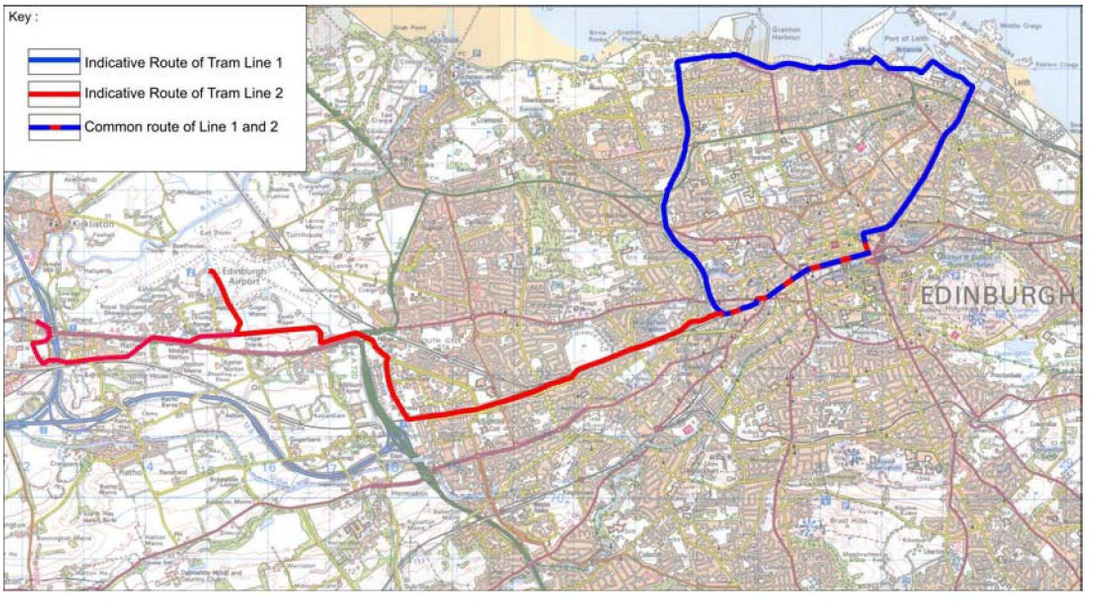
1.2 The proposed ETN

The system currently proposed comprises two lines as follows:

- Line 1 which provides a circular connection around the North Edinburgh development area, Leith Walk, Princes Street and around the Roseburn to Granton loop. The overall route length is 15.6km with stops at 22 locations. Stop spacing varies along the route with an average spacing of around 700m outside the City Centre; and

- Line 2 which extends from Roseburn through the Edinburgh Park business park and out to the Airport with a shuttle extension from the Airport to Newbridge. In total the line covers 17.8km and has stops situated at 18 locations.

A map of the proposed lines is provided in the Figure below.



An extensive programme of work resulted in the submission of a Private Bill for each of Line 1 and Line 2 to Parliament in December 2003. Both Lines 1 and 2 have passed through the initial stages of the parliamentary bills process, with Royal Assent anticipated in December 2005.

The focus of this IOBC is on the following line configurations:

- Line 1 Only
- Line 2 Only
- Lines 1 and 2 (Enhanced Investment Option)
- Lines 1 and 2, excluding the Newbridge Shuttle.

1.3 The Business Case process

The Business Case approval process is being progressed through the formal submission of the following documents:

- Preliminary Financial Case (for both Lines 1 and 2), December 2003 ("Dec 03 PFC's"). Outline initial options to procure and finance the project.
- Updated Preliminary Financial Case (for both Lines 1 and 2), September 2004 ("Sep 04 PFC's"). Present the assessment of a preferred procurement strategy and structure, and identify the preferred funding and financing options.
- Interim Outline Business Case, March 2005 ("March 05 IOBC"). Outline the preferred procurement structure, funding and financing option and highlight issues to be resolved in developing a Final OBC.
- Updated IOBC, May 2005 ("May 05 IOBC"). Identify the preferred approach to procurement and funding to be approved by CEC and the Executive, and identify the requirements to develop a Final OBC.
- Final Outline Business Case, February 2006 ("Feb 06 OBC"). Finalise the preferred procurement, funding and financing option for approval by CEC and the Executive.

1.4 The Interim Outline Business Case

The purpose of this IOBC is to:

- Reconfirm the strategic case for the Tram projects and the high level needs as set out in the September 2004 PFC;
- Set out and analyse procurement options in terms of the organisational structure of the procurement and contract packaging concluding with a preferred option to meet the project requirements and demonstrate VfM;
- Set out the options for the funding and financial structures supporting this overall procurement structure;
- Identify programme governance, project management and risk management structures to deliver the projects and implement subsequent contracts;
- To identify the steps required to confirm the requirements set out above, to the development of a completed OBC by February 2006; and
- To support tie's separate funding application for ETN activities during the financial year 2005-06.

The IOBC has been prepared by **tie** limited on behalf of CEC. The overall process has been led and directed by the **tie** Board, with day-to-day supervision provided by the Finance Team within **tie**. A project team has been responsible for producing inputs for inclusion in the IOBC, representing expertise in Finance, Risk, Technical Analysis, Operations and Programme Management, supported by **tie**'s technical, legal and financial advisers.

This IOBC forms a part of the formal Governance structure for the procurement, following Scottish Executive and Office of Government Commerce ("OGC") best practice. Relevant approvals are required prior to formally launching the procurement and approaching the marketplace through the placement of an advertisement in the Official Journal of the European Union.

Approval of the IOBC, in advance of the development of a Final OBC anticipated in February 2006, will be by:

- The **tie** Board
- City of Edinburgh Council
- The Scottish Executive

1.5 Structure of the document

The remainder of this document is structured as follows:

- **Section 2: Strategic Context** – summarises the key policy developments and service issues driving the procurement
- **Section 3: Project Objectives, benefits and constraints** – sets out high level objectives and expected benefits for this procurement. Then goes on to summarise the key issues and constraints facing the procurement that may impact on benefit realisation.
- **Section 4: STAG Appraisal** – Summarises the assessment of Tram Lines 1 and 2 undertaken to meet the requirements of the Scottish Executive Transport Appraisal Guidance.
- **Section 5: Procurement Strategy** - reviews the procurement options identified to deliver the outputs required to meet the objectives. Draws on the rationale set out in the September 2004 PFC and records the options development and assessment process.
- **Section 6: Risk Management** – identifies the risks associated with the project, mitigations through the proposed procurement strategy and overarching framework for the management of risk.
- **Section 7: Value for Money (VfM) assessment** – Identifies and assesses the main factors impacting the VfM review.
- **Section 8: Funding, Financing and Affordability** – Assesses affordability and the necessary sources of funding and the potential for a phased approach to the project.

- **Section 9: Programme and Management Arrangements –** Concludes the main body of the IOBC by providing a description of the procurement organisation, management structure, project management methodologies, key personnel and the roles and responsibilities of external advisors.

- **Appendices –** Supporting briefing papers that provide additional detail to the arguments presented in the main body of this document