

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

The results of this review are as follows:

(a) Cost management

All costs will be further developed as the proposed works move towards implementation and beyond. Bearing in mind the strategy of moving forward with critical elements of design, in order that risk and therefore cost increases are mitigated, more detailed estimates shall be prepared throughout the pre-tender period as design information becomes available.

As the accuracy of costs estimates is linked to the stage of development and detail of proposals, costs shall be continuously reviewed, reported and managed at the end of each design stage to reduce cost risk.

The Capex includes costs benchmarked against other completed and estimated tram projects in the UK. The costs used from other completed projects have included the impact of difficulties experienced on these projects, which we have addressed through the Procurement Strategy.

The main cost risks to the project are planning approvals, utilities work and parliamentary approval. The separation, at an early stage, of the design mitigates the impact of design delay on the Infraco contract as that contract may commence at the most advantageous stage e.g. when planning and parliamentary risk have been removed / reduced.

The OBC shall be regarded as an early baseline budget around which all elements of design shall develop and from which all changes shall be measured. Cost control management is already in place with weekly meetings and consideration of any proposed change with changes only being allowed on a value management basis e.g. potential cost increase may be offset against risk where this would reduce the financial exposure to **tie**. The current estimated costs shall be continuously updated with the next stage being a complete review, from a bottom up basis, upon award of the SDS and TSS contracts.

The baseline for design quality shall be supported by the design manual and detailed specifications and the cost control strategy currently measures cost against the capex. The baseline quality effectively freezes the quality contained within the project and shall be additionally managed through the design gateway review process, included in the SDS contract.

There is a stringent cost control process in place for the scope of the SDS work together with the impact of SDS on the Infraco contract. This is also supported by the Procurement Strategy which has been developed to mitigate Infraco cost slip by having sufficient design developed to ensure that the Infraco Tenderer can price with confidence whilst allowing competition. As the design quality will be largely frozen at the point of Infraco tendering, the risk to Infraco of unclear design choices will be generally eliminated and which should lead to a greater cost certainty for the Infraco contract.

(b) Benchmarking

The capital costs of light rail / tram schemes vary due to the uniqueness of each scheme and this creates challenges when building up cost estimates for future schemes. Capital costs of completed and proposed schemes may vary due to a number of reasons including:

- The capital costs reflect the state of the contracting market at the time that contracts were signed. Therefore, the higher levels of cost in the most recent contracts reflect the high level of activity in the civil engineering and railway contracting market i.e. the level of activity in the PFI market and the West Coast Main Line upgrade. The increased number of opportunities can lead to an increase in tender prices. In

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

contrast the early schemes are likely to have benefited from a new market effect, where the keenness of bidders to enter could have been reflected in the price.

- The positioning of a project in the industry cycle. The rail sector in general has been subjected to an increased level of risk assessment and design scrutiny in light of the rail incidents at Potters Bar and Hatfield in particular. Light rail has suffered its own problems with the fallout from the Rowe case on the Sheffield system. Early starter schemes such as Manchester and Croydon preceded the fallout from these incidents.
- Data available for analysis is variable in quality and content. For example, some figures may include financing costs, while others will be a straight construction cost and for schemes still in development, the use of contingency costs or optimism bias may differ.
- The physical geography of the location. This will determine the requirement for more technically complex, risky and expensive civil engineering components of a scheme. For example, the South Hampshire Rapid Transit ("SHRT") and some of the Docklands schemes have included tunnels (or, in SHRT's case, an immersed tube), which can significantly increase the cost per km.
- The schemes inherit different assets. Manchester Phase I involved only a few kilometres of new alignment through the City Centre, although the overall length of this system is significant because it takes over existing rail lines serving suburban destinations. In contrast, Manchester Phase II involved on street running, with a large number of new structures, and therefore the cost per kilometre was significantly higher on a scheme nearly a third the size of Phase I.
- The requirements of those who neighbour the new lines can be different. Trams which run directly to key destinations, such as town centres, are more popular, but they create more technical problems with the diversion of intensively laid utilities, requirements for sympathetic street furniture and management of current leakage risks.
- The prices will reflect the level of quality of the system – and this is often driven by the availability of funds.

Benchmarking of completed projects in excess of 10km long, base dated at 2004, indicates a construction cost of between £6.16m/km and £12.86m/km. Manchester Metrolink Ph 2, with a cost of £22.22m/km was 8.2km long and involved two river crossings and one underpass. The average was £7.54m/km. This value provides a high level comparison with the Edinburgh Tram Line Cost of £15.5m/km to £16.5m/km, including contingency. The values used for the Edinburgh tram costs incorporate the specific challenges facing this unique project.

Benchmarking of costs for four proposed projects in excess of 10km long, base dated at 2004, indicates an average cost of £14.17m/km. The Edinburgh Tram Line Cost of £15.5m/km to £16.5m/km, taking into account the specific project costs and contingencies, offers a reasonable comparison with other projected project costs.

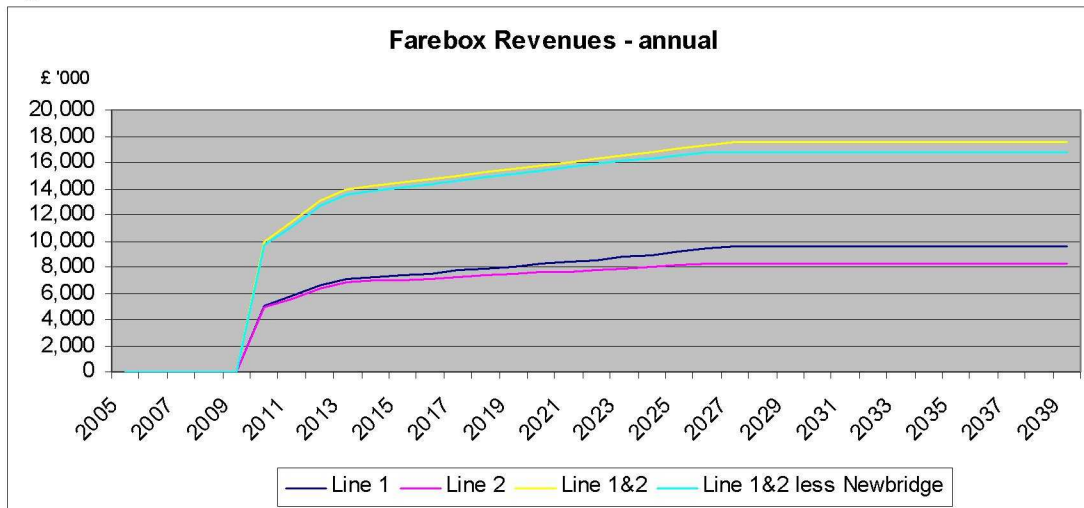
8.2.2 Farebox Revenues

Each project configuration is characterised by a different farebox revenues and operating costs forecast. The resulting operating margin flows to CEC, as the project operations are excluded from the infrastructure contract.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

Figure 8.1 below shows the forecast farebox revenues for each of the four network configurations.

Figure 8.1– Farebox Revenues



As the diagram shows, Tram Line 1 and 2 produce approximately the same level of revenue. The loss of gross revenues due to the exclusion of the Newbridge section is significantly outweighed by the decrease in operating costs which arises from that exclusion.

Farebox revenues are assumed to rise with RPI in the financial model.

Approach to Farebox Revenue modelling and risk management strategy

Revenue forecasting has proven extremely unreliable on other tram systems procured and is in any case a notoriously inexact process.

tie has therefore taken the following steps:

- 1) Developed a two phase approach to creating a robust suite of patronage/revenue models;
- 2) appointed the DPOFA contractor to bring practical experience to bear on the projections and incentivised them to exceed those projections (see procurement strategy section 5);
- 3) proposed the development of an integrated bus and tram network by combining the tram network and LB under common ownership;
- 4) applied a prudent approach to the projections, in particular the level of fares (see below);
- 5) identified a significant number of areas of further work to improve the robustness of the projections (see below); and
- 6) carried out a number of independent reviews of assumptions and a benchmarking exercise to compare the key parameters with experience on other schemes (see below).

tie's revenue modelling in respect of the Tram project has involved two phases. Stage 1 of the revenue modelling, which is now complete, involved the production of system wide patronage forecasts to support the preliminary business case work in assessing the viability of the proposed tram lines. The Stage 1 modelling was delivered for the four configurations considered in this document and is not therefore suitable for assessing alternative network configurations. Independent review has confirmed that these Stage 1 forecasts are fit for purpose and **tie** therefore believes that they are appropriate for this stage of the project. However there remain uncertainties which will be addressed by the completion of the Stage 2 modelling described below.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

The Stage 1 revenue forecasts were developed by a Modelling & Appraisal Working Group ("M&AWG") and initially used the specialist consultants MVA and subsequently SDG and Faber Maunsell to run patronage forecasts using several models. Each of the input parameters has been agreed through discussion at the M&AWG and checked against known UK observed data.

The main models used in the Stage 1 patronage and revenue analysis were:

- Land Use and Transport Interaction ("LUTI") model, which incorporates,
 - DELTA land use model; and
 - Traffic Restraint Analysis Model ("TRAM"),
- Highway Detailed Assignment Model (Highway "DAM"); and
- Public Transport Detailed Assignment Model ("PT DAM").

tie's modelling strategy now envisages the development of a more detailed suite of models during Stage 2. These will be required to support the design of the system by the SDS contractor and also the work of the Revenue Setting Committee in planning the development of the system and agreeing triennial targets with the DPOF Contractor. 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 commitment by CEC and the Executive to the main infrastructure contract in late 2006. The Stage 2 modelling will permit clear assessment of the patronage and revenues for different configurations or phasings of the project as well as the and interaction with the patronage and revenues of Lothian Buses.

Stage 2 of the revenue modelling will commence in Q3 2005 and it is currently estimated it will be complete by Q2 2006. The output from this process will include both wide area modelling to forecast strategic impacts eg modal shift and detailed site specific local models of demand eg at key junctions to be able to simulate the impact of local factors affecting congestion and capacity.

Establishment of Transport Edinburgh Limited (TEL)

CEC wishes to ensure that the tram network is part of an integrated transport system for Edinburgh. Its key objective is to maximise total public transport modal share – not just that of tram or bus at the expense of the other. The current regulatory regime means the tram will always face the risk of competition from bus (unless operators are deterred by the planned tram fare strategy) but it is possible to take positive action to promote integration.

Accordingly, subject to formal legal clearance, Lothian Buses (LB) and the tram networks will be brought together under the common ownership of TEL, a new company wholly owned by CEC, which will have the objective of delivering the most financially and operationally successful public transport network possible. It is clear this will involve a need to reconfigure LB services to take account of the switch of passengers to tram and to ensure that interchange opportunities are provided. This re-planning will have the twin goals of optimising the integrated service offering and mitigating the net loss to LB arising from revenue abstraction by the tram. LB may suffer from the loss of demand on some of its most profitable routes but there may be some property or bus resources which can be released for other purposes and LB and Transdev will need to take maximum advantage of synergies available between the two operations. Transdev and LB have now agreed heads of terms to facilitate exchange of information and these have been cleared by the OFT.

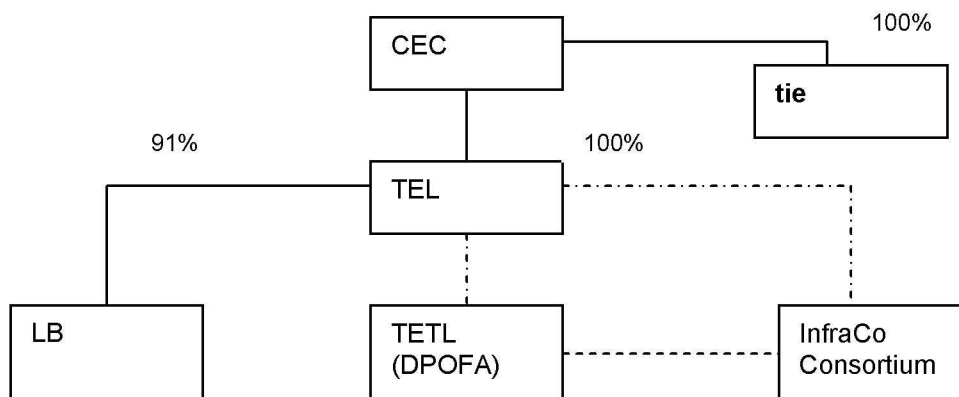
Common ownership will not entirely remove the risk of competition to trams from buses since operators other than LB will be free to run services along the tram line of the route unless prevented by legal or physical restraints. However it can significantly mitigate the forecasting error inherent in the modal split assumptions in that if passengers do not switch from bus to

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

tram, the revenue will still benefit CEC. Furthermore, proper planning of an integrated network will promote the use of the tram where volumes indicate that it is the more efficient mode.

tie is likely to act as agent for TEL for the purpose of procurement and construction and it is currently anticipated that key contracts will be directly between third parties and TEL.

Under this scenario, the relationships between the companies would then be as follows:



The detailed structure of TEL has however yet to be finalised. During the period from May 2005 to June 2007 the corporate structure of TEL will be further developed to allow the proposed contractual arrangements to be accommodated, and will also be subject to more detailed assessment of critical areas including taxation and competition issues.

Fare assumptions

On other tram systems the pricing of the tram fare was set at a premium on the basis that there was a perceived 'enhanced experience' value of travelling by tram. Whilst this may be true, the nature of competition and economics for these systems meant that the additional revenues were not actually delivered as the modal shift to trams was not as successful as it could have been if the pricing policy had been set competitively. Equally, previous schemes have failed to address the benefits that can be gained from true integration with other modes of transport with patronage and revenue suffering as a result. As described above, **tie** sees as key, the development of a truly integrated transport system that provides the correct economic drivers for all parties to deliver interoperability.

The Phase 1 revenue modelling has assumed that the tram fares across a network model will be at parity with comparable intra urban bus fares. The underlying assessment for the Line 1 standalone forecasts reflected a fare equal to the bus fare policy, but for the Line 2 standalone forecasts a more discretionary approach was developed on the basis that the route to Edinburgh Airport is competing with premium bus service and taxis. Accordingly, a premium fare was modelled at 33% above the intra urban bus fare in respect of patrons travelling to and from the airport on Line 2.

In designing a network, however, consistency of fare policy will be important. Similarly, as service integration thinking is developed, mode premia will prove unattractive. Accordingly, bus fare parity is assumed in the financial and economic assessment of combined Line 1 and Line 2 network configurations. The parity for Airport trips is set against the 100 bus service which carries a significant premium to the average Edinburgh bus fare.

Opportunities to enhance projected revenue and/or confirm the robustness of the projections

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

In the Phase 2 modelling, which will go alongside the current phase in the work of the DPOFA Contractor, Transdev, **tie** and its advisers will further investigate and evaluate the following opportunities. This includes a premium on airport journeys as is the case for the airport bus service:

(i) Improved traffic management

It has been proposed that if inter-urban buses and coaches were removed from Princes Street, the environment for passengers and pedestrians would be improved and the speed and reliability of urban bus and tram would both be improved. Speed and reliability are two of the key drivers of patronage and therefore revenue. Improvements to bus and tram are complementary not competitive and contribute to growth in demand for each other if both are part of an integrated network.

Quality Bus Contracts and Traffic Management Orders banning all buses from certain street sections may assist in both reducing congestion for road traffic and diverting passengers on to tram thus increasing revenue. It is accepted that such proposals may not be acceptable if they worsen bus provision. However Quality Bus Contracts, which offer exclusivity and therefore greater revenue to the operator in return for investment in vehicles and infrastructure, may serve to enhance bus provision in a way that is complementary to the tram.

CEC may also wish to evaluate the more interventionist approach common in many French cities. In Transdev's experience it is common for French cities to fully pedestrianise the city centre allowing vehicle access only for trams. This gives trams a much greater advantage over other modes and therefore contributes significantly to patronage. Despite the obvious environmental benefits, this approach may remove significant journey opportunities and potentially force those whose origin and destination are not on the tram route to have to interchange. The approach is legally straightforward, requiring traffic orders, but its feasibility would depend on the availability and cost of sufficient sites for interchange from other modes.

(ii) Improved positioning at the airport

Current plans envisage that the stop for the airport bus (route 100) will be positioned very near the terminal building whilst there will be a longer walk to tram and EARL boarding points. There is normally a bus waiting for passengers which will not be the case for the tram which cannot afford to wait for longer than is necessary for boarding (unless extra trams are purchased). Improved facilities (eg a closed waiting area, marketing and presentation of the tram opportunity) will help to encourage passengers.

(iii) Incremental revenue generation

The following specific opportunities are being investigated to assess their potential:

- increased provision of Park & Ride spaces;
- enhanced revenue protection activity;
- revenue from tourist events eg rugby matches not included in base projections; and
- benefit from extra planned marketing activity.

The level of bus fares remains a matter of policy for CEC.

(iv) Detailed modelling and design

Transdev believe that more detailed modelling of demand by journey purpose will improve forecasting accuracy and either enhance demand or reduce risk uncertainty. This is being reviewed. Transdev are also reviewing patronage forecasts in relation to individual tramstops to ensure that assumptions about trip generation are valid. In conjunction with the SDS

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

contractor, Transdev will also validate the service proposition in terms of speed and headways.

(v) Revenue risk mitigation and the impact of EARL

The next phase of patronage modelling, due to be completed in 2006, will also include work to mitigate risks identified in recent reviews of the first phase projections.

For example, the current model assumes that the level of bus provision remains as now when in fact it will evolve in response to exogenous changes such as new property developments. This will have both positive and negative effects on tram demand.

The proposed heavy rail link to Edinburgh Airport has just completed STAG appraisal, in support of the EARL Bill submission. This airport 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.

Both EARL and the tram would provide links to Haymarket and Waverley. The tram has the advantage of providing links to intermediate locations as well as more transfer connections to bus services.

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.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE**Review of Farebox Revenue Assumptions**

tie has conducted a review of the demand and revenue assumptions to gain further re-assurance on the robustness of estimates at this stage of the development process. This review included the following elements:

- (a) Review by Professor Roger Vickerman
- (b) Review and benchmarking conducted post DPOFA

(a) Professor Vickerman Review

To gain wider comfort in the overall process of patronage and revenue calculation, **tie** engaged the one of UK's leading transport economists, Professor Roger Vickerman of the Centre for European, Regional and Transport Economics at the University of Kent. Professor Vickerman was asked to assess the modelling methodology used in Edinburgh's ITI, in support of the Congestion Charging Public Inquiry. This is the same model structure as was used to develop tram patronage forecasts. Professor Vickerman's comments on the models were that they were:

- 'Fit for Purpose';
- 'High Quality'; and
- 'State of the Art'.

(b) Benchmarking**Patronage and revenue benchmarking**

The number of passenger journeys per kilometre of network is a measure of how busy a system is. Analysis for the existing UK tram networks at Manchester, Sheffield, Nottingham, Birmingham and Croydon produces the following results:

Measure 1 – Annual passenger journeys per km of infrastructure

Tram system	Annual patronage per km (M)
UK average	0.49
UK highest	0.71 (Croydon)
UK lowest	0.26 (Birmingham)
Edinburgh Line 1	0.6
Edinburgh Line 2 (with Newbridge)	0.30
Edinburgh Line 2 (without Newbridge)	0.38
Edinburgh (network)	0.71
Edinburgh (network without Newbridge)	0.81

Croydon is currently the leading UK system, because it has good town centre penetration but operates mostly on segregated infrastructure (only 3.5km of street running in a 28km network) in a well-populated area with significant traffic congestion, and is hence very competitive. Birmingham is worst – even though it is segregated and fast, because its city penetration is poor at both Birmingham and Wolverhampton, and it has had some reliability issues. However, the average trip length is higher in Birmingham, so the trams will be busier than these figures might suggest. Each Edinburgh line alone looks credible, though line 2 is affected by the Newbridge Shuttle. The network options are much better, partly because of enhanced patronage and partly because the shared corridor means that there are rather less kilometres to spread it over. The Network without Newbridge will need to be reviewed further in light of the well above UK average levels forecast.

Using the same five UK reference networks as for the patronage, the revenue yield per network kilometre and average fare paid (revenue divided by patronage) gives the following:

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE**Measure 2 – Annual passenger revenue per km of infrastructure**

Tram system	Annual revenue per km (£M)
UK average	0.42
UK highest	0.58 (Croydon)
UK lowest	0.26 (Birmingham)
Edinburgh Line 1	0.42
Edinburgh Line 2 (with Newbridge)	0.38
Edinburgh Line 2 (without Newbridge)	0.47
Edinburgh (network)	0.45
Edinburgh (network without Newbridge)	0.51

For measure 2, both lines look reasonable against UK benchmarks, although as the fare review above indicates Line 2 alone, with or without Newbridge, is reliant on a premium fare.

Car Ownership and travel behaviour

The table below provides a summary of car ownership and travel to work behaviour in selected towns in the UK.

	Manchester	Sheffield	Birmingham	Croydon	Edinburgh
Households without car/van	48%	36%	38%	30%	40%
Household with 1 car or van	40%	43%	42%	46%	45%
Household with 2 or more cars/vans	13%	22%	20%	25%	15%
Travel to work by car ¹	68%	73%	72%	54%	59%
Travel to work by public transport ¹	32%	27%	28%	46%	41%

¹% shown is of those who travel to work by either car or pt only

One of the key drivers to the use of public transport is car ownership. Car ownership levels in Edinburgh are broadly reflective of those observed in other UK towns were a Light Rail system has been introduced. Travel to work data indicates that public transport already has a high capture rate in Edinburgh, comparable to the high public transport utilisation evident in Croydon, that should provide a robust base level for patronage on ETN.

8.2.3 Operating Costs

The assumptions utilised in relation to Operating costs in each of the Project's configurations are briefly indicated in Table 8.3 below.

Table 8.3 – Operating costs in 2011 (first full year of operations)

£'000s	Tram Line 1	Tram Line 2	Tramline 1&2	Tram Line 1&2 Less Newbridge
Operating Costs (1 st year of operations 2011)	6,287	6,097	11,766	10,725
Total Operating Costs (2003 Prices)	188,610	182,910	377,903	344,477
Total Operating Costs (Nominal)	334,249	324,249	674,857	615,164

Operating Costs are indexed within the financial model using RPI.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

Operating cost assumptions

The five main operating cost drivers are:

- Infrastructure Length;
- Number of stops;
- Annual service kilometres and total kilometres;
- Annual operating hours; and
- Fleet size.

Operating cost is a major component of the business case. However, this element is often difficult to assess as it varies a lot from network to network. Moreover, it has been recognised that engineering consultants have limited access to the accounts of public transport operators. Nonetheless, the costs under DPOFA compare well to original estimates provided by the Line consultants. Each of the main parameters will be reviewed further by Transdev and the process will be ongoing throughout the development and design phase and will shape the final system configuration and tram operations that are eventually tendered.

It is important to note that the DPOFA contains gain and pain share arrangements whereby performance which is better or worse than agreed targets will result in a sharing of the impact of the variance between CEC and the Operator. For modelling purposes, it is assumed that the revenue and operating cost estimates represent the targets. This will be clarified and better defined through future dialogue with Transdev under the DPOFA. Under DPOFA Transdev will be paid preset operating costs and a fixed profit element monthly on the basis of the target operating costs and a fixed profit element. The annual target operating costs will be agreed in advance with Transdev.

The pain/gain element of the mechanism is intended to achieve mutuality of interest in the financial performance of the network. The intention of this mechanism is to offer Transdev and **tie** the opportunity to share in savings on operating costs generated from operating the system more efficiently and in the generation of any additional revenues above targets. The mechanism also offers Transdev an element of protection against downside revenue risk and cost escalation.

The comparison of target and actual costs and revenues, and the ensuing payment to or from Transdev will be performed by **tie** semi-annually. It is proposed that the targets are reviewed during the course of the contract on a three yearly cycle and if necessary reset by agreement between **tie** and Transdev.

8.2.4 Lifecycle Costs**Lifecycle Cost assumptions**

Lifecycle costs are borne by CEC under the Conventional Funding scenario and by the infrastructure contractor under the Hybrid PFI scenario.

tie's approach to preparing lifecycle cost estimates has been similar to the process for developing capital costs, namely using a combination of benchmarking, previous experience and engineering judgement. In addition, detailed discussions between Line 1 and Line 2 Consultants have taken place to ensure consistency of approach. The rates used for the various components are those derived for the capital cost elements, and thus reflect the team's experience in a wide variety of LRT and highways projects throughout the UK and Europe.

The lifecycle costs encompass all costs associated with operating and maintaining the tramway that are outwith the standard operating costs. These include the replacement of

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

civil, electrical and stop installations, tram vehicle refurbishment and other non-routine maintenance activities. Lifecycle costs include “heavy maintenance” whereas operating costs contain “routine maintenance”.

The build-up of lifecycle costs has been based around a standard list of lifecycle cost headings agreed between **tie** and the Consultants for Lines 1 and 2. Lifecycle costs have been determined by specifying maintenance intervals for “minor” or “major” refurbishment of each item, and by applying a cost as a percentage of the original value.

In the financial model, the total amounts shown below have been spread equally over the operating phase in order to avoid peaks. The resulting annual amounts will build up a reserve during the contract period to provide for the lifecycle costs when they arise. This is an acceptable simplification for IOBC purposes.

The assumptions utilised in relation to Lifecycle costs in each of the Project's configurations are briefly indicated in Table 8.4 below.

Table 8.4 – Total Lifecycle costs

£'000s	<i>Tram Line 1</i>	<i>Tram Line 2</i>	<i>Tramline 1&2</i>	<i>Tram Line 1&2 Less Newbridge</i>
Total Lifecycle Costs (2003 Prices)	41,625	51,493	92,359	81,711
Total Lifecycle Costs (Nominal)	79,083	91,254	163,765	144,806

Lifecycle costs are indexed within the financial model using RPI.

8.2.5 Other Income

Development related

It is widely recognised that the introduction of a tram or light rail network has a positive effect on the value of property in near proximity to the routes. **tie** has examined how best to exploit this feature and develop additional funding for the tram project. Colliers CRE were engaged to provide professional support.

The steps have been as follows:

(a) CEC-owned Development Sites

Colliers CRE have assessed the potential in CEC land holdings along Lines 1 and 2. The potential of many sites has been assessed as either too small and / or too difficult to extract but a number have been identified for further development activity. The sites have widely differing characteristics and potential. The potential value is very subjective, but an early assessment is that this portfolio could directly or indirectly contribute up to £5m to tram funding in 2004 prices, with £2m accruing on Line 1 and £3m on Line 2. The cash would be realised partly before and partly after tram construction.

Realising this value will be partly dependent on a joint venture arrangement with EDI (an arms length CEC owned company with significant development expertise). The key principles are:

- EDI and **tie** collaborate on achieving planning permission for site development through normal planning procedures;

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

- Once achieved, CEC contribute the land holdings to **tie** at market value, mandated by an option agreement entered into by CEC and **tie**. The consideration is additional share capital in **tie** to be owned by CEC;
- **tie** then contribute this land to a company established by EDI to execute development. **tie** therefore receives cash or other consideration for the land which is available for tram project funding; and
- The company develops the land and sells on to the private sector. After a developer return to EDI, incremental profits are shared, potentially providing additional cash for project funding.

It is anticipated that further sites will be identified and developed jointly with EDI under these arrangements.

(b) Section 75 negotiations

These have been handled by CEC planning officials under normal process and could yield land contributions to the value of £12.6m in 2003 prices, split £7.8m to Line 1 and £4.8m to Line 2.

(c) Non-statutory developer contribution policy

A proposal is before CEC following a consultation on the subject, setting out how this mechanism could operate. The policy offers an attractive long-term cash-flow from all future development related to the tram route above a specific size. Developers are given clarity in advance of submitting applications as to the level of contribution required, rather than being subject to more ad hoc negotiations. The estimated cash flow is difficult to estimate at this stage but an early estimate, based on recent development experience, points to £0.5m-£1.5m pa at 2003 prices for each line. The modelling assumes an annual contribution of £1.0m and that this is hypothecated to tram development and funding.

The policy consultation specifically provides for "large-scale" developments to be subject to specific negotiation relevant to the circumstances of each site.

There are a number of key locations around the tram routes which, because of their scale, demand specific attention. Negotiations conducted to date have produced contributions which are reflected in the S75 number at b) above. Further examination of these opportunities is continuing.

(d) Small-scale development

The potential for small-scale property development around tram stops will be examined once the planning guidelines are settled. This would incorporate retail and vending facilities and would be focussed on the major transport interchanges and stops.

The estimation is again highly subjective but is modelled at £30k pa on each line.

Further work is anticipated on all of these opportunities during 2005 and 2006.

Other sources – Commercial income

There are two potential sources of incremental commercial income:

- advertising; and
- marketing driven revenues.

a) Advertising (in-tram, tram stop and exterior)

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

In total, the system will have up to 31 vehicles carrying up to 220-300 people per tram (depending on final specification decisions) with total expected passenger journeys initially of approximately 15m pa. The captive nature of the audience and the lack of distraction make in-tram advertising attractive.

tie has taken advice to assess how much space might be of potential value, while maintaining consistency with the objectives for tram décor quality and assessed how much revenue this might produce. The DPOFA structure leaves control over the development of these sources of income under the control of **tie** and accordingly all revenues less direct costs of delivery will flow to the tram project.

The value of tram stops as advertising media varies depending on location and passenger volume but again holds significant potential. There are important planning and legal aspects to address but these should not prevent progress.

The market for exterior vehicle advertising, either in panel form or “wraparound”, is also well-developed. This will also require to respect design and image constraints.

Based on estimates provided by an independent third party, **tie** estimates that the potential income from these sources could be between £0.3m to £0.4m pa (2003 prices), split evenly between the two lines.

b) Marketing driven revenues

The revenue projections in the model are based on transport usage patterns and availability rather than the subject of specific targeted marketing in favour of tram patronage. **tie** anticipates the appointment of marketing management to develop and drive incremental revenues. In addition to Edinburgh public patronage, this would also focus on the tourist potential, both normal usage and tourist-trip specific and the use of the tram, perhaps in conjunction with Park and Ride facilities and feeder buses and for major events at Edinburgh’s main sports arenas. **tie** reasonably estimates that revenues could increase above those in the public transport model by £0.2m-£0.3m pa, split evenly between the two lines. Clearly, this in particular is highly subjective at this stage, but experience from other schemes does support the potential.

These additional revenues are summarised in the table below.

Table 8.5 - Other Income

£'000s	Tram Line	Tram Line 2	Tramline 1&2	Tram Line 1&2 Less Newbridge
Enhanced Farebox	3,600	3,600	7,200	7,200
Commercial / advertising	5,264	5,264	10,499	10,499
Policy Gain (“non-stat contrib”)	16,875	16,875	33,750	33,750
Dev Gain (i.e. council sites via EDI)	2,000	3,000	5,000	5,000
Small Scale Dev (eg Tram stop retail)	923	923	1,800	1,800
Land Contributions (S.75)	7,800	4,800	12,600	12,600
Total (2003 Prices)	36,461	34,461	70,849	70,849
Total (Nominal)	57,242	55,008	112,145	112,145

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE**8.3 Funding scenarios and key funding assumptions****8.3.1 Introduction**

There are two main funding scenarios that have been considered in the analysis below, independent of the specific network configuration that is considered. These are:

3. **Conventional Funding: tie** procures a fixed price Infrastructure Contract with all capital costs being funded upfront by the public sector.
4. **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 (an illustrative) 60% of the capital expenditure and finances the residual amount with private debt and equity.

In the following paragraphs the above scenarios are discussed in detail. For each of these options, the proportion of each of the main capital related contracts allocated to advance works managed directly by **tie**, including the works of the SDS Contractor, the purchase of land and the utility diversions, and those undertaken within the InfraCo contract is defined.

8.3.2 Conventional Funding

Under this scenario, 100% of the funding requirement for Capital Expenditure is covered with public grants. The potential funding sources that could be accessed for this purpose are the following:

- Upfront Grants by Scottish Executive, to cover the capital expenditures; and
- Project Cash Flow (farebox and other revenues minus operating costs).

Project cash flows would also be required to cover the Lifecycle costs that, under this scenario, would need to be funded by CEC.

8.3.3 Hybrid PFI

Under this scenario, the Project is tendered as a PFI scheme delivered by a private Special Purpose Vehicle (SPV). 60% of the SPV's funding requirements are covered by construction contributions from the public sector. This significantly reduces the required Debt funding and therefore the cost of financing the project.

The purpose of this structure is to achieve substantial risk transfer to the private sector whilst minimising the cost of private finance which facilitates that risk transfer.

It is worth pointing out that in a PFI scheme funders will require that the public sector commits to the payment of the construction contributions into the Project according to a schedule, which will be subject to demonstration of progress on the construction project. The most straightforward way of achieving this would be to use the same milestones for payment as the lenders do for the drawdown of their loan facility. This approach avoids the need for additional construction period financing to bridge the period between the SPV incurring costs and receiving milestone payments.

The SPV's shareholders would inject 10% of the total funding requirement as Equity and would raise the remaining 30% on the Debt markets project. The SPV would be remunerated with a periodic Availability Payment.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

The Return on Equity expected by the shareholders in the SPV is assumed to be 15%. The financial model also assumes that PFI debt is provided by a Commercial Bank or raised on the Capital Markets at market rates. The following key assumptions used in the model have been informed by terms offered for other projects with a similar risk profile elsewhere in the UK. They reflect that the Infraco Contractor will be paid on the basis of system availability and will not be exposed to revenue or tram operating risks:

Tenor	32 years
Interest Rate	
Base Rate (swapped)	5.35%
Margin	1.00%
Credit margin	0.15%
All in interest rate	6.50%
Arrangement Fee	1.00%
Commitment Fee	0.50%
Repayment Profile	Customised
Min ADSCR	1.25x

A more detailed description of the funding issues related to a PFI option is provided in Appendix C to this IOBC.

8.3.4 Key Funding Assumptions

SE Grant

The financial model assumes that the grant from Scottish Executive (SE) is capped at £375m, to be paid either upfront as a capital grant, as LPFS during operations, or as a combination of both. Under project configurations "Tram Line 1 only" and "Tram Line 2 only", as total capital expenditures are lower than £375m, we are assuming that the total available grant is capped at the total nominal capital expenditures in each of these scenarios.

The £375m funding is based on the award announced in April 2003 by the Minister that the £375m grant "will secure at least the completion by 2009 of the north Edinburgh loop (Line 1), the first tram line for the city in almost 50 years."

It should be noted that neither **tie** nor CEC have received any direct written confirmation of the award from the Scottish Executive. For the purposes of this IOBC, it is assumed that the upfront grant will in principle be available to fund a system of Line 1 and 2 or potentially an alternative configuration, subject always to a "robust business case" being available for the preferred configuration. In addition, **tie** has been informed by the Executive that an upfront grant would not be indexed. The upfront grant is therefore treated as a fixed sum in this IOBC, with no indexation.

Borrowing by CEC

In developing the financial model consideration was given to whether CEC might raise loans against its forecast future operating surpluses from the project either under the Prudential Borrowing regime or from SE. Such funds would be used to make construction contribution payments to Infraco. CEC has concluded that it does not have the capacity at this stage in the development of the project to assume the risk that such loans would entail, primarily due to the uncertainties regarding the forecast farebox revenues, which will be the primary driver of the operating surpluses used to service such borrowings.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

Leasing

tie has considered possibilities for introducing lease based financing into the financing methodology set out in the Interim Outline Business Case of March 2005, and the impact that this might have on the procurement strategy for the tram Project. **tie** have done so to assess whether leasing can help make the Project more affordable and help bridge the funding gap which exists if both Lines 1 and 2 of the Project are to be built simultaneously.

The potential for leasing is described in more detail in Appendix D to this IOBC. The primary conclusion of this work is that notwithstanding that a cash collateralised lease may produce some benefits, **tie** believes that leasing is not a viable financing alternative because:

- 1) It is unlikely that **tie** could:
 - a) achieve contractual certainty of procurement of the equipment to be leased (regardless of the level of lease financing contemplated) before the 1 April 2006 tax law change;
 - b) conduct an OJEU notification process and funding competition to select a lessor whilst leaving enough time before the 1 April 2006 tax law change to negotiate a financing transaction to financial close; and
 - c) overcome the uncertainty surrounding the nature of the transitional provisions for the 1 April tax law change (grandfathering) given that they are unlikely to be released by the Treasury / Inland Revenue until Christmas 2005; and
- 2) **tie** can never be certain that a lease financing transaction would be grandfathered through the 1 April 2006 tax law change, even if contractual standards previously regarded by the Revenue as sufficient were met.

Development of PPP options

The Scottish Executive Financial Partnership Unit have provided a note (Appendix I) on the application of PPP Funding for the ETN, identifying a number of areas where further discussion will be required as part of the development of a Final OBC document. The issues identified will be addressed by **tie** in discussion with the Executive and CEC during the period up to submission of the final OBC in February 2006.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE**8.4 Key Financial Results**

This section includes an overview of the key assumptions utilised in the financial model and the results derived for each of the Project's four configurations for each of the two selected funding options..

Results are expressed in terms of affordability for the public sector (ie. funding requirements, funding sources and resulting funding surplus/gap). The tables presented should be read in conjunction with the explanatory notes below and the cash flow summaries provided at Appendix E.

Table 8.2 – Summary Financial Results for Conventional Funding

£000's Nominal	Line 1	Line 2	Line 1&2	Line 1&2 Ex Nbridge
Construction Period Cashflows				
Capital expenditure				
Requiring public financing	292,422	335,976	581,211	527,421
Privately financed (by INFRA CO)	0	0	0	0
	292,422	335,976	581,211	527,421
SE cash outflows (from £375m grant)				
Upfront capital expenditure	76,129	93,767	154,440	141,763
Construction payments to INFRA CO	216,293	242,209	220,560	233,237
Net SE cash outflow	292,422	335,976	375,000	375,000
Shortfall in Public Sector Capital Expenditure Funding	0	0	(206,211)	(152,421)
SE Grant unused after construction (balance of £375m)	82,578	39,024	0	0
Operating Period Cashflows				
CEC cash (inflow) / outflow				
Farebox revenues	470,398	418,850	862,676	831,525
Operating costs	(334,249)	(324,147)	(674,857)	(615,164)
Other income	57,242	55,008	112,145	112,145
	193,392	149,711	299,965	328,506
Direct Payment of Lifecycle costs	(79,083)	(91,254)	(163,675)	(144,806)
Net CEC cash (inflow) / outflow	114,309	58,457	136,290	183,700

A full cashflow summary is provided in Appendix E.

The table shows the cumulative cash flows over both the construction and operating periods of the financial model ie from 2005 to 2040.

In the conventional funding scenario all capital expenditure is financed by the public sector. As previously stated the CEC's forecast net cash inflows are not available to make a contribution to the capital expenditure of the projects because:

- They occur in the period beyond commencement of operations of the Tram
- There is currently significant uncertainty surrounding these cash flows and CEC does not have the capacity to assume the risk of borrowing against these cash flows to contribute to capital expenditure.

The cash flow summaries at Appendix E show relatively small amounts of cash being received in respect of 'Other income' during the construction period. However these are proceeds in respect of development contributions and S75 agreements and cannot at this stage be relied upon with any degree of certainty. The Executive grant of £375m is therefore the only certain source of public sector funds to pay for capital expenditure.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

The table shows the Executive grant being used in two ways; firstly to pay for 'Upfront capital expenditure', being those elements of the project which tie will procure separately from the Infraco. These primarily comprise design costs (pre-novation), utility diversions, the costs of acquiring land and tie's project management costs.

The results demonstrate that both Line 1 on its own and Line 2 on their own are affordable within the constraints of a fixed Executive grant of £375m, with £82.6m and £39.2m respectively headroom within the available funding of £375m. Both a full network of lines 1 and 2 and a network excluding the Newbridge shuttle are unaffordable as single phase projects presenting a shortfall of £206m and £152m respectively compared to the fixed Executive funding.

In each of the four project configurations presented it is assumed that tie's Capital Expenditure estimates prove to be robust and therefore that the specified contingencies included in these estimates will prove sufficient.

Table 8.3 – Summary Financial Results for Hybrid PFI

£000's Nominal	Line 1	Line 2	Line 1&2	Lines 1&2 Ex Nbridge
Construction Period Cashflows				
Capital expenditure				
Requiring public financing	205,905	239,093	410,503	373,158
Privately financed (by INFRACO)	86,517	96,883	170,708	154,263
	292,422	335,976	581,211	527,421
SE cash outflows (from £375m grant)				
Upfront capital expenditure	76,129	93,767	154,440	141,763
Construction payments to INFRACO	129,776	145,326	220,560	231,395
SE Payments for Capital Expenditure	205,905	239,093	375,000	373,158
Shortfall in Public Sector Capital Expenditure Funding	0	0	(35,503)	0
Privately financed capex which can be supported by SE Grant (via PFI availability payments)	86,517	96,883	0	1,842
Operating Period Cashflows				
CEC cash (inflow) / outflow				
Farebox revenues	470,398	418,850	862,676	831,525
Operating costs	(334,249)	(324,147)	(674,857)	(615,164)
Other income	57,242	55,008	112,145	112,145
	193,392	149,711	299,965	328,506
Contribution to Availability Payments for Lifecycle costs	(79,083)	(91,254)	(163,675)	(144,806)
Net CEC cash (inflow) / outflow	114,309	58,457	136,290	183,700
SE cash outflows				
PFI Availability Payments	347,499	388,643	0	7,151
INFRACO cash inflow / (outflow)				
Availability Payments	426,582	479,897	827,318	743,593
Construction Payments from SE	129,776	145,325	256,062	231,395
Capital expenditure	(216,293)	(242,209)	(426,771)	(385,658)
Lifecycle costs	(79,083)	(91,254)	(163,675)	(144,806)
spc operating costs	(28,629)	(28,629)	(28,629)	(28,629)
spc financing and return on capital	(232,353)	(263,131)	(464,306)	(415,896)
Net INFRACO cash outflow	0	0	0	0
Availability Payment Analysis				
Availability Payment Requirement	(426,582)	(479,897)	(827,318)	(743,593)
Availability payments from SE	347,499	388,643	0	7,151
Availability payments from CEC	79,083	91,254	163,675	144,806
Availability payments unfunded	(0)	(0)	(663,643)	(591,636)

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

Again a full cashflow summary is provided in Appendix E.

Capital expenditure estimates are identical to those presented under the Conventional funding scenario and the same amounts would be 'Upfront capital expenditure' being those elements not procured via the Infraco and which are paid for by draw down from the Executive Grant. For the balance of capital expenditure the table reflects a proposed structure for a Hybrid PFI whereby 60% of the capital expenditure is met by payments to the Infraco (from the Executive grant) during construction with the Infraco financing the remaining 40%.

The Infraco also assumes responsibility for paying Lifecycle costs and finances its operations with a mixture of debt and equity in the manner described at section 8.3.3 above. The result is a calculated Availability Payment Requirement which the Infraco would require during the period of operation of the Tram.

CEC cash flows are identical to those under the Conventional Funding scenario; these cash flows occur during the period after commencement of Tram operations and the modelling assumption is that CEC will make a contribution to the required Availability Payments equal to the sums it would pay for lifecycle costs under the Conventional Funding scenario.

The model assumes that Executive support for availability payments in the form of Revenue Support Grant (RSG) would be available insofar as it relates to capital expenditure financed by the Infraco and insofar as the Executive Grant has not otherwise been utilised to pay 'Upfront capital expenditure' or make payments to the Infraco during construction.

In the case of Line 1, Executive payments for capital expenditure total £205.9m leaving £169.1 (£375m - £205.9m) of the total Executive Grant available to provide RSG in respect of the capital expenditure financed by the Infraco. Since that is less (£86.5m), RSG is available to meet the Infraco Availability Payment Requirement insofar as it is not met by CEC by annual payments in respect of lifecycle costs. Similarly for Line 2 the availability payments are fully met by either RSG (in respect of capital costs) or by CEC in respect of lifecycle costs). On the basis of these assumptions either Line 1 on its own or Line 2 on its own would be affordable under the PFI structure presented.

In the case of a network of Lines 1 + 2 the full amount of the Executive grant is required to meet either 'Upfront capital expenditure' or payments to the Infraco during construction (in fact there is a shortfall of £35.5m) leaving none of the Executive grant to provide RSG. In the case of a network of Lines 1 + 2 less the Newbridge shuttle, there is a relatively small amount remaining of £1.8m which for modelling purposes has been converted into RSG on pro-rata basis. In both cases of a network of Lines 1 + 2 there is a very significant proportion of the required availability payments which are unfunded.

The calculation prepared have not taken account of any requirement there may be to discount the availability payments requiring support and then calculate the RSG as a level annuity.

The Hybrid PFI models presented in this IOBC have been prepared by tie and its advisors based upon preliminary discussions with Executive and are for the purposes of drawing overall conclusion as to whether a PFI arrangement would be affordable. Between now and presentation of the final OBC in February 2006 the option to enter into a PFI arrangement will be the subject of further discussion and analysis to determine:

- Whether **tie**'s initial conclusions that a PFI structure would represent Value for Money is supportable by a quantitative analysis
- The precise method by which support for availability payments under a PFI arrangement would be available and would be calculated
- The amount of the fixed grant of £375m which would remain available should only part of the network be constructed (eg Line 1 only).
- The implications for affordability following an analysis of the impact a PFI arrangement would have on the public sector balance sheet

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

8.5 Phasing and risk management/allocation

8.5.1 Introduction

In considering procurement options for the Edinburgh tram scheme, **tie** was always conscious of the possibility that the ultimate tram network may extend beyond the proposed initial Lines 1 and 2. Later procurements of additional lines or extensions have a number of potential implications:

- Further procurement/s take time and resources (financial and other);
- A new procurement creates the strong possibility that a different consortium may be selected;
- A new consortium is likely to be reluctant to take the risk of integrating the new with the existing network; and
- The public sector consequently either:
 - retains any integration risk; or
 - pays a premium to transfer the risk to the new (or possibly original) consortium.

For these reasons, **tie** has previously considered the option of packaging Lines 1 and 2 as 'Phase 1' for the purposes of an infrastructure procurement which would also include further defined phases in order to create the possible option of retaining a single private sector partner/consortium capable of delivering later extensions without the need for a further procurement. This would complement the position already established with regard to the operation of the system under the DPOFA (whereby Transdev's appointment as prospective operator applies to the network as a whole).

Given the inherent uncertainty on costs for a project as large and risky as a tram scheme, this phased approach would also have had the important benefit of enabling decisions on extensions to be taken in the light of the best available information on costs: competitive bids from the market.

8.5.2 Current need for phasing

Recent developments have clarified the affordability constraints for the project:

- The Scottish Executive have confirmed that £375m (without indexation) remains the current limit of their support for the project;
- Whilst **tie** have assessed the future sources of income to CEC which may be available to the Tram project, all are subject to a degree of uncertainty and in any case are not available in the period prior to Tram operations to pay for Capital Expenditure; and
- CEC have indicated that there is no significant additional support available to fund the Capital Expenditure requirements of the project.

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.

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

tie is consequently proposing a revised 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.

8.5.3 Aim of proposed approach

The aim of the proposed approach is threefold:

1. to ensure maximum clarity around the likely costs associated with sections of the network comprising Phases 1 and 2;
2. to allow for the option of retaining the same Infracore partner for each Phase, including later extensions; and
3. to 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 the Scottish Executive and CEC 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 integration.

8.5.4 Outline of approach

The approach will require a specific approach to Infracore procurement. In the first instance, **tie** will be setting out a series of defined Phases in the tender documentation.

Definition of Phase 1

The precise scope of each Phase is subject to further discussion but the aim will be to agree first with CEC then with 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, and in particular, agreed levels of optimism bias.

The programme of work and timetable for agreeing the scope of Phase 1 is detailed in section 9.

Phase 2 and other future phases

The scope of the next section of the network will become Phase 2, but **tie** will also be subdividing the scope of Phase 2 into a series of sub-sections. The aim is to achieve maximum certainty and flexibility for decisions to be taken on the extent of any Phase 2 once prices are received from the market. Definitions of further Phases are subject to further analysis but the aim is to be clear in the tender documentation as to the fullest extent of the network including any element which may lie outside the scope of the Lines which are currently before Parliament.

Pricing Information

The detail of pricing information that **tie** can reasonable expect from the market for the different Phases will vary. For Phases 1 and 2 (including each subsection), the aim will be to achieve as close to fixed prices as possible. There is likely to be a degree of variation based

STRICTLY CONFIDENTIAL & COMMERCIALY SENSITIVE

upon the extent of detailed design that **tie** is able to provide as part of the tender documentation.

The focus of design work under the SDS contract in the period up to issue of tender documentation for the Infraco will be on the elements of the project that can be predicted with reasonable certainty to be part of Phase 1, in particular the sections of the tram stretching from Ocean Terminal to Haymarket via Princes Street. However, the intention is that **tie** will be in a position to proceed to detailed negotiation of contracts with a large measure of certainty on price and therefore affordability.

For any future phases which may lie outwith the scope of the Lines which are currently before Parliament, it is more likely that **tie** will only be able to achieve a degree of indicative pricing. Nevertheless, the aim would be to achieve as much information as possible as to the methodology for the build up of prices for these phases by reference to the detailed pricing provided for the elements of the network which have already been defined. In particular, the aim would be to create a transparent framework through which **tie** would achieve maximum visibility over the evolution of committed prices for the initial phases into a committed price for all future phases.

Decision points during procurement

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 comprising Phase 2, with indicative prices for future phases.

At this stage in the process, there will therefore be a much clearer view of the accuracy of the pre-tender cost estimates. This should provide a degree of reassurance for both CEC and for the Executive as to the deliverability of Phase 1 within the defined affordability constraints. It will also provide detailed information as to the likely cost of further incremental commitments.

To the extent that the prices bid for Phase 1 match up with pre-tender estimates i.e. preserving the built in 'headroom', there will be the opportunity to commit to further subsections of Phase 2 immediately, with a degree of confidence that overall costs can be maintained within affordability constraints. Phase 1 and any additional subsections of Phase 2 would then form the scope for the first contract with the eventual preferred Infraco partner.

In parallel, there would be agreement around the indicative prices applicable to any remaining phases, and the methodology for the translation of the committed price rates for Phases 1 and 2 into committed prices for any remaining sections. This methodology is likely to be based around an 'open book' approach to pricing, but leading to substantially the same type of fixed price contract agreed for Phase 1.

A second approach would be to follow the analogy of the Docklands Light Railway, where phases of construction are let separately to individual concessionaires. Therefore, a different Infraco could be responsible for building and maintaining phase 2 than that for Phase 1.

The proposed structure could accommodate this approach, subject to the following:

- The Infraco for Phase 1 would have to take responsibility for all vehicles;
- Integration risk for the vehicles with the infrastructure would rest with each of the Infracos; and
- The proposed payment mechanism would have to distinguish between the Phase 1 Infraco's responsibility for vehicle availability and infrastructure availability.