



# EDINBURGH TRAM Highlight Report to the Internal Planning Group 27 September 2007



## 1 Background

This report sets out the terms of reference of the tram approvals process and requires 'highlight reports' to keep the Chief Executive's Internal Planning Group informed about progress on this project, and any decisions required.

## 2 Executive Summary

### 2.1 Matters Arising

- Revised programme (version 18) shows increasingly compressed timescales for Planning Prior Approvals with majority of approvals required over Christmas/New Year holiday period. This may require additional resources to be identified to undertake this work.
- Following submission of the Outline Planning Application for the Leith Docks Development Framework area early discussion is required regarding Developer Contributions.

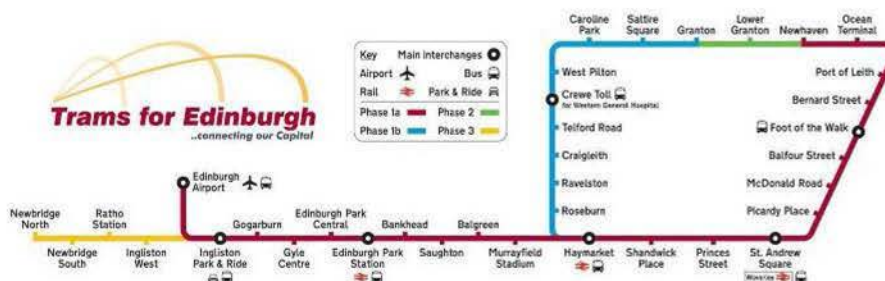
### 2.2 Key Dates

5 <sup>th</sup> September 2007	Utility diversion works commenced on Leith Walk
19 <sup>th</sup> September 2007	Preferred Tramco contractor announced
20 <sup>th</sup> September 2007	Tram Governance Paper presented to Full Council
4 <sup>th</sup> October 2007	Planning Committee to approve consultation on changes to the Developer Contributions policy
10 <sup>th</sup> October 2007	Business Case Paper and preferred bidders presented for Tram Project Board approval
25 <sup>th</sup> October 2007	Business Case Paper and preferred bidders presented for Full Council approval
22 <sup>nd</sup> November 2007	Any TRO Objections for the advanced works at St Andrew Square to be put to Full Council
11 <sup>th</sup> January 2008	Financial Close

### 2.3 Recommendations for Decisions

To approve the following:

- To approve the TEL's paper (appendix 2) with regard to Tram & Bus Integration with cyclists.





## 2.4 Matters to Note

- The position with regard to the Mudfa works.
- CAF has been selected as the preferred bidder for the tram vehicle contract.
- Tram Communications Plan update.
- The programmed route to financial close.
- That a Council report is being prepared to present the Final Business Case (Version 1) to the meeting on 25 October 2007.
- The position with the Planning Prior Approvals, particularly the compression of the programme for their approval.
- Issues with regard to the Transport Scotland Tram Funding Agreement need to be resolved.
- That the side agreement with Network Rail is progressing very slowly and that urgent resolution is required.
- The continuing underspend/slippage of staff costs.
- That further work is required by *tie* and CEC on the Roads Demarcation Agreement.
- The position with regard to the Developer Contributions.

## 3 Update on Major Contracts

### 3.1 MUDFA

- **Programme**

Works in an around Forth Ports commenced on the 9 July, 1 week later than programmed. Works on Ocean Drive had to stop during the August embargo but the contractor continued his operations off road during this period. Work in this area is programmed to be completed by 12 October.

The utility diversion works on Leith Walk (northbound between Croal Place and Iona Street) commenced on the 5th September. This work was preceded by trial holes being undertaken along Leith Walk to ascertain the available space for diverted services within the footway area. Congestion of existing services within the footway has resulted in some re-design of proposed diversions particularly SW utilities. SW has agreed to combine two of the mains thereby affording additional space within the footway for proposed diversions. Section works have been delayed due to this exercise by approximately 3 weeks. It is anticipated that this will be recovered within the programme duration for Leith Walk.

Diversion works on Roseburn St, Russell Rd and Balgreen Rd commenced on the 20 August. This work is currently on programme.





Phase II of the earthwork operations at Gogar Depot were awarded to McAlpine. This work is anticipated to be completed by mid-October.

The CCTV surveys of the sewers are due to be completed by the 12 October.

• **Communications**

Current communications is being driven by the MUDFA works. The team is undertaking face to face communications and this is paying dividends demonstrated by the low level of calls to the tram help line.

Most of the activity is concentrated in the Leith area and the team have attended community meetings with:

- Leith Community Council
- Leith Harbour and Newhaven Community Council
- Leith Central Community Council

A full page article will appear in the autumn edition of Outlook and a full page of the stakeholder team will be published in 'The Leither', a local publication in Leith.

• **Additional stakeholder signs**

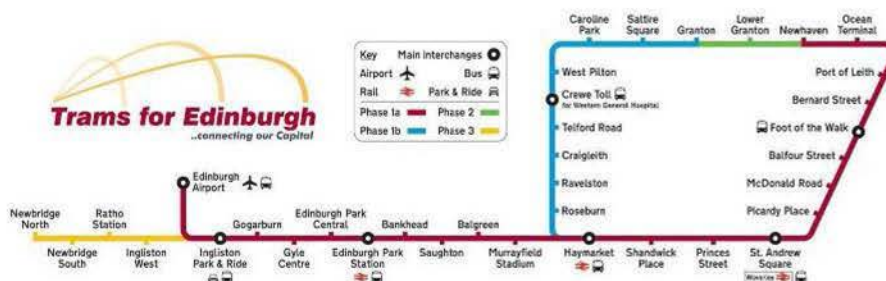
Additional advanced signs are being installed to inform the public that the businesses in Leith Walk can be accessed during the course of the works.

Steps are also being taken to install information signs adjacent to the works. These signs will both promote the tram and provide information on the project.

**3.2 TRAMCO**

A preferred bidder for the Tramco (tram vehicle contract) has been announced. World leading tram manufacturer, CAF, will be recommended by *tie* to the Council as the company that can fulfil the Capital's unique requirements.

CAF is best known in the UK as the company that provided the trains for the Heathrow Express. It has recently supplied trams to Seville's new tram system and has recently put into service a fleet of diesel trains for Northern Ireland Railways. An image of the CAF tram is shown below.





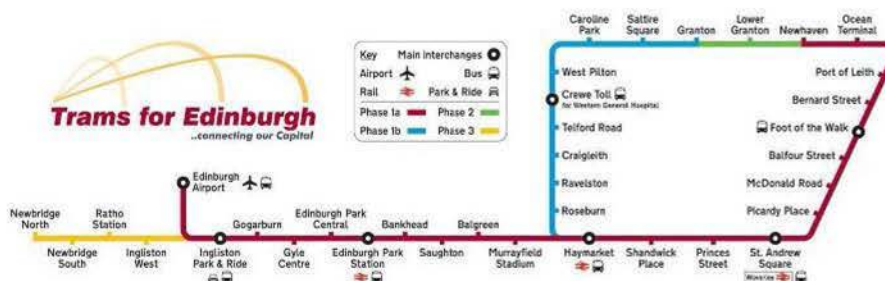


### 3.3 INFRACO

The Infraco Stage 2 consolidated bids were submitted on schedule on the 8 May 2007. A review of the documents is being concluded with evaluation and negotiations ongoing. It is planned to nominate a preferred bidder for Infraco this week and report to the Tram Project Board in October.

- *tie* are undertaking a value engineering exercise, especially for structures, to determine where cost savings could be made and are preparing a report which will be presented to the Tram Project Board. Whilst this is an important exercise, it will be necessary to balance any cost cutting against system quality, future operating costs and the necessary statutory approvals.
- The design development of the Picardy Place is still ongoing and is continuing to cause delays to the tram project and particularly the utility diversion works. The two alternatives, the gyratory and the T-junction, are being designed by *tie* and their designers and a final decision will be required from the Council once this information is available.
- **Detailed Design Review Process**

Initial meetings were held on the 7<sup>th</sup> and 13<sup>th</sup> September to discuss and agree the review process, which is being split into two separate areas; Planning and Policy related or technical. A trial submission highlighted some serious gaps in the quality of information being brought forward at this stage. CEC have emphasised that this needs to be resolved as a matter of urgency to allow the resource implications highlighted in the previous IPG report to be addressed.



## 4 Tram Communication Plan Update

### 4.1 CEC and *tie* Communication Strategies

Work on the tram communication strategy is ongoing. *tie* have produced a redraft to the existing strategy and circulated it to CEC communications. The version sent requires some more redrafting and CEC communications have submitted some suggestions for improvement. We are currently awaiting the next version.

CEC communications are carrying out a review of their internal and Councillor communications strategies.

### 4.2 Media Announcements

Two positive proactive media announcements have taken place:

- Announcement of preferred Tramco bidder, 19<sup>th</sup> September.
- Tram Accord: two new employees from week commencing 17<sup>th</sup> September with press activity planned to coincide.

### 4.3 Communications Cycle – Start of Works

Regular works communications have continued to residents and businesses along Leith Walk with update letters being issued to residents close to the works on Ocean Drive.

### 4.4 Councillor Communications

Ward Councillor briefings are ongoing. Two general tram briefings have also been held, one on 15<sup>th</sup> August which had attendance from six Councillors and one event on the 28<sup>th</sup> August with 12 Councillors attending. Both events went well and more are planned leading up to the full Council meeting on the 25<sup>th</sup> October.

### 4.5 Council Tram Correspondence and Phone Calls

Draft protocols on how to handle CEC tram enquiries and what needs to be done in order to forward the enquiries over to the Contact Centre have been prepared. The draft protocols have been issued for comment with a view to the Contact Centre taking over the correspondence work by the end of September.

### 4.6 Open for Business

The open for business campaign budget has been increased to £100k per year. CEC have committed to £20k and *tie* have matched this using project funding. We are currently awaiting a draft marketing strategy.





## 5 Timetable to Financial Close

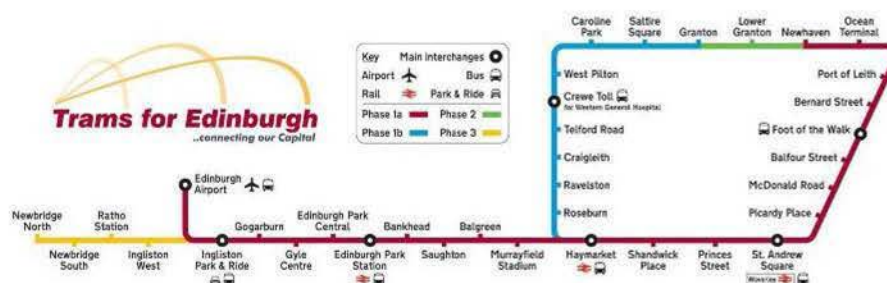
In order to meet the project programme and budget, financial close is required in January 2008. To achieve this, the following programme must be adhered to:

Date	Milestone
26th September 2007	Tram Project Board approval of FBCv1 and preferred bidder selection, with recommendation to CEC and TEL
Early October 2007	OGC Gateway review 3
4th October 2007	Planning Committee approval of consultation for revision to Tram contribution policy, to allow for the continued collection of tram contributions when the tram is operational.
25th October 2007	Full Council meeting to approve FBCv1 and preferred bidder selection.
29th October 2007	Scottish Executive approval, including additional funding. (Transport Scotland Officials plus Cabinet).
Nov - Dec 2007	Completion of all contractual and funding documentation and completion of FBCv2, based on final deal.
5th December 2007	Tram Project Board approval of FBCv2 and final deal, with recommendation to CEC and TEL
6 <sup>th</sup> /12 <sup>th</sup> December 2007	Planning Committee approval of revisions to tram contribution policy.
20th December 2007	Full Council approval of FBCv2 and final deal, which should include only minor changes from FBCv1, reported in October.
11th January 2007	Finalisation of documentation, signing of contracts and any required guarantees from CEC

### 5.1 Business Case

Currently *tie* is preparing the final business case. The outcome of the Government decision to make the Council 'Funder of Last Resort' significantly changes the risk profile of the Council. Consequently it will be incumbent upon the Council working with *tie* to determine the risks inherent in the bespoke Infraco Contract (including novation of the Tramco and SDS contracts) and assess what headroom is to be recommended for budgeting purposes. The time available to do this is very short.

A Gateway Review and a costed CEC risk review are to be undertaken and the results fed into the Council report on 25 October 2007.



## 6 Co-ordination with Other Developments

### 6.1 Capital Streets project in St Andrew Square

As previously reported, a programme which co-ordinates the Mudfa, Infraco and Capital Streets works has been agreed and plans are being developed to progress the advanced works on the west side of the Square.

Agreement has been reached on the urban design related elements between the Capital Streets and the Tram project.

### 6.2 Forth Ports Development

Negotiations are ongoing with Forth Ports regarding the design development at Lindsay Road. Detailed discussions are being undertaken by *tie* on betterment related costs which need to be agreed with Forth Ports to allow the design to progress.

### 6.3 Haymarket Improvements

Work is ongoing to determine the possibility of obtaining two plots of land at Haymarket to assist with improving pedestrian links at Haymarket. This is not directly related to the tram project, but it would significantly improve the pedestrian provision. Once the report has been considered at management level a summary will be presented at a future meeting. It is worth noting that no funding has been identified for this at this time. City Development supports the need for advanced preliminary urban design and is seeking matched funding from the Scottish Executive.

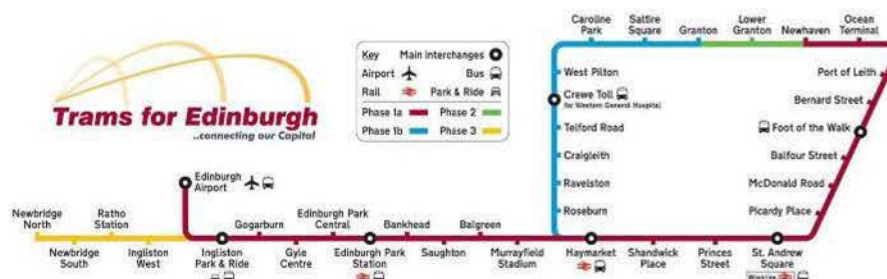
## 7 Miscellaneous

### 7.1 Side Agreements

- **Network Rail (NR)**

There is slow movement towards NR being willing to grant a lease. Despite repeated requests the Council are not able to establish a timeline to achieve either a lease or a licence and lease. This is now a real risk situation which requires urgent resolution. The options to reduce this risk include:

- Invoking the CPO procedure whilst continuing to negotiate, asking for NR agreement to use this twin-track route if the milestone dates are not met by a long stop date so as to ensure certainty for the tram scheme.
- Continuing to negotiate.
- Escalating the issues.





A meeting between *tie*/Dundas & Wilson and Network Rail/MacRoberts took place on 10 September. Network Rail indicated that they are not willing to grant a lease or licence to enter upon their land for construction purposes until several issues are progressed. These are:

**The Depot, Station and Network Change process**

This is a set of protocols operated by Network Rail. The main element being the impact which the construction works and subsequent operation of Tram will have upon First ScotRail operations at Haymarket Depot. These processes will require input from First ScotRail and sign-off by the Office of Rail Regulation so the timescale for their conclusion cannot be identified or controlled. Input from the successful Infraco bidder to explain the proposed method of working has been requested by NR. This is a significant concern in programming terms. Unless this can be resolved it is now unlikely that entry to the land will be achieved by January 2008, as was anticipated. This must increase the risk of a claim by Infraco arising from any delay.

**Immunisation**

The relative positioning of heavy rail and Tram electrical equipment, were also discussed. NR have asked for further information from *tie*, which will call for design input possibly over several months. There is concern that discussions on this issue may also impact on conclusion of the lease or licence.

**Asset Protection**

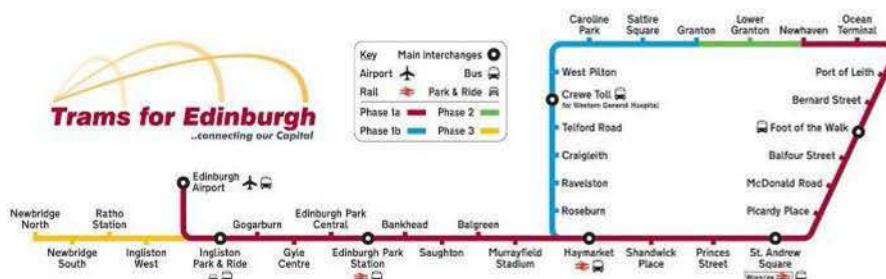
Network Rail have, in addition, indicated that the Asset Protection Agreement currently being negotiated between *tie* and themselves should be in place before a lease/licence is entered into. The Agreement is at an advanced stage of negotiation but may require review for the Council's interests if the suggestion by *tie* and Transport Scotland that the Council should be the direct surety for *tie*'s obligations is carried forward. This issue is being considered by Finance but remains unresolved at present.

**Irritancy clause in the lease**

A revised version has been drafted by Dundas & Wilson. Network Rail's solicitors expressed the view it was drafted as a dispute resolution clause and would respond in writing. Concern was also expressed that CEC may wish to assign interests to others who are not as reliable and therefore NR cannot relax their position.

NR may be unable to prove Title to all of the land and this may lead to need for GVD to clean up title. NR are to approach the Keeper to seek a P16.

In order to get some clarity on issues network Rail have agreed to prepare a Contractual Arrangements Map which will provide "milestones" for lease and contract negotiations and this is to be considered at the next meeting between the parties on 25 September.





- **BAA/Edinburgh Airport Limited (EAL)**

Negotiations with BAA on the lease are continuing and good progress is now being made with an agreement in principle being achieved. There remain some outstanding issues as between the Council and BAA but these are presently under consideration by the Council and may be capable of resolution. A further meeting with BAA is to take place shortly.

## 7.2 Tram Operating Agreement

As regards the Operating Agreement with *tie*, detailed discussions are now taking place between Legal Services and City Development and Finance, focussing on the next stage of identifying the role to be undertaken by *tie* during construction and delivery of the project. The first draft of the agreement should be available in early October, with conclusion in December.

The TEL Operating Agreement has progressed further and is expected to be concluded in the same time frame as that for *tie*. Both agreements are being informed by the ongoing development of the funding agreement with Transport Scotland and the project business case. The final Infraco and Tramco contracts may also influence the detailed terms of the operating Agreements.

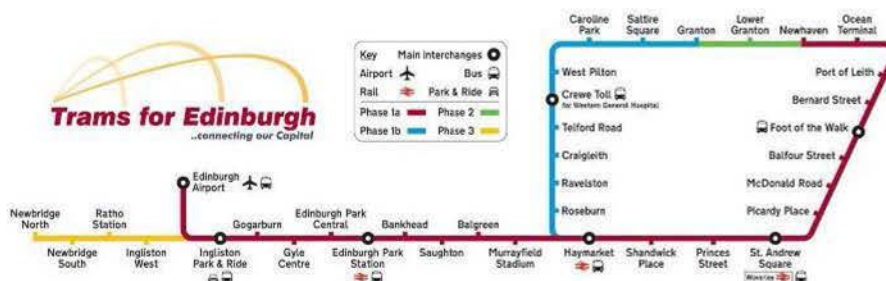
## 7.3 Third Party Contracts – Infraco And Tramco

DLA have provided both a detailed and summary version of a risk allocation matrix of the Infraco contract. These were distributed and discussed at a meeting of the Legal Affairs Group, which included representatives from the departments of City Development and Finance, on 30 August.

Further meetings of the Legal Affairs Group have taken place on 10 September and 18 September.

Andrew Fitchie of DLA has been in regular contact with the Council Solicitor advising of progress. The latest meeting took place on 14 September.

At present, *tie* have proposed a procedure and programme for Council approval of the Infraco and Tramco contracts, leading up to a recommendation to full Council on 25 October on the preferred bidder for the contracts. However, the programme provides that the contract documentation should be provided to the Council and that a response on any issues which the Council may have should be given by officers by 21 September. Essentially, this requires the Council officers to be satisfied in terms of the allocation of risk in terms of the risk matrix from a legal, client department and financial perspective by this date. *tie* have advised that the date of 21 September is required to adhere to their current programme in terms of selection of preferred bidder. Work is ongoing in considering the contracts, risk allocation matrix and risk from legal, client department and financial perspectives.





From a legal perspective, in essence, DLA are being requested to provide advice directly to this Council on whether the contracts can reasonably be recommended for acceptance to the Council and of any particular risks which require to be brought to Council attention, whether due to their financial scale, likelihood, impact with or other material factor. Advice is also sought on any Letter of Comfort which may be sought from the preferred bidder and the interface with the final terms of the funding letter from the Scottish Executive. Advice is also sought on the total and individual legal risk exposure for both *tie* and the Council, that which is and is not covered in terms of project insurance (referred to as “OCIP insurance”) or otherwise, with any reasoning for the exposure, i.e. whether it is necessary or commercial expectation, cost issues regarding bidding and whether or not risks are prudently insurable. DLA are available throughout this process to liaise with the Council Solicitor’s Division, Financial Services and City Development as required. A further meeting is arranged for Friday, 21 September for final review.

It is expected that the Council will be in a position to receive further advice from DLA which will assist in the Council providing additional comfort to *tie* by 21 September. The level of comfort required is that necessary to be reasonably and prudently comfortable with the risk allocation matrix in terms of the choice of preferred bidder. Though there will not then be a competitive situation, a fuller and further assessment of risk can and will continue until financial close.

The Scottish Power and Telewest agreements are not as yet signed off by the Council. It is understood that Scottish Power have raised technical concerns which had not previously been identified. The impact of this on programming, specifically in relation to the MUDFA contract, cannot be quantified at present. It is however anticipated that the Telewest agreement will be signed off shortly.

#### 7.4 Vesting & Compulsory Purchase Process

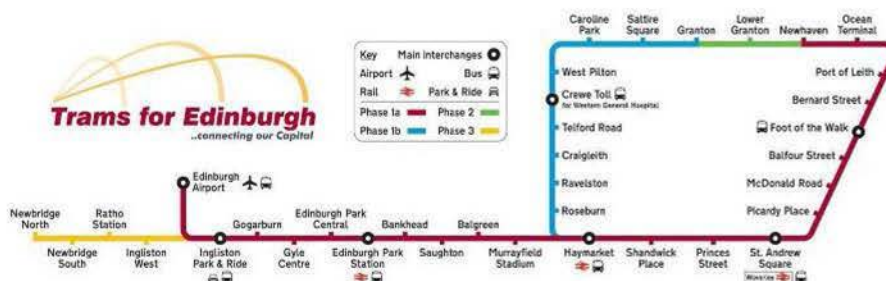
The GVD Notices for Tranche 4 were signed off on 7 September and issued on 10/11 September. The vesting date is 19 October. Tranche 5 (the last phase of the GVD process) is programmed for December 2007.

#### 7.5 Roads Demarcation Agreement

Work is ongoing drafting the main body of the roads demarcation agreement (RDA). In the meantime CEC have drafted a schedule which will allow Infracore bidders to include costs for long term maintenance in their bids. The drafting of the final RDA will be a significant body of work for CEC that will require input from several Departments.

#### 7.6 Planning Prior Approvals

The decision on a third Prior Approval is now pending, with a full planning application being received for Cathedral Lane Sub Station on 3 September 2007. Informal consultations now taken place on some forty five elements in total.





A revised Prior Approvals programme was tabled by *tie* on 6<sup>th</sup> September. This differs to the previously agreed programme which extended until the end June (as outlined in the previous Report) in that a significant proportion of the Prior Approval determination dates have been bought forward to the end December/end January. This reflects the need to have Prior Approvals in place in advance of the letting of the INFRACO contract.

Discussions regarding design detail of Prior Approval submissions are ongoing and it is felt the many issues can be resolved before Informal Consultation stage. However, the compressed timescales will still place a significant burden on those staff with sufficient knowledge of the project during the Informal Consultation period. As currently envisaged the number of staff working on Prior Approvals may need to be significantly increased between October 2007 and end January 2008, with large number of Prior Approvals requiring determination over the Christmas/New Year Holiday period.

CEC Planning has expressed their immediate concerns to *tie*/SDS in terms of the revised programme and the implications this will have in terms of staff resources or delays to the project (£2.5M/month).

### 7.7 Tram & Bus Integration with cyclists

A paper was put to the TEL Board on 5th September (see Appendix 2) setting out the policy for cycle integration into the tram and bus network. The decision was reached to prohibit cycles on both trams and busses with the exception of those fully enclosed in a bag where space permits.

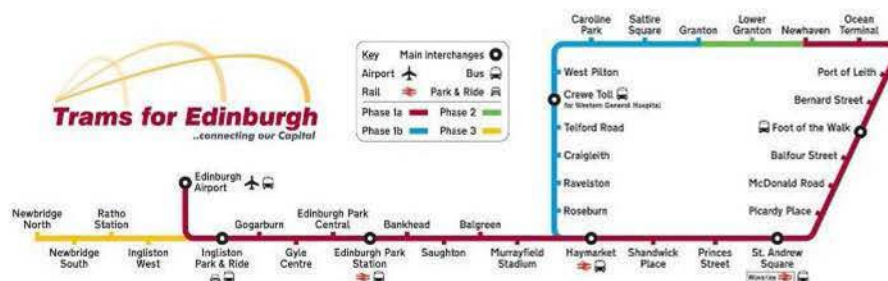
This policy is supported by hazard identification and risk assessment along with experience from other cities across the UK and Europe.

The intention is for the project to benefit cyclists in other ways such as cycle parking facilities at tram stops where space permits (outwith Haymarket to Picardy Place), to retain or enhance cycle routes along the tram route and to provide information relating to opportunities for onward travel by bus and tram for cyclists.

### 7.8 CEC Resources

A review of the internal resources may need to be undertaken now that the Council is the 'Funder of Last Resort'. The current approvals team may need to be developed to take on board the financial risks that the Council now bear. Further work on this is to be developed following the *tie* governance paper presented to Full Council on 20 September.

- Two issues continue to cause difficulties when reporting staff costs (both internally and to *tie*). The main concern is caused by managers not receipting timely on the Oracle system (and in fact the Oracle system itself). This is particularly relevant to Lighting and Network in SfC, and Planning in City Development. These delays are causing a





slippage in actual spend of £88k which makes budget monitoring very difficult to manage.

The other issue relates to staff not submitting timely time sheets (mostly Legal and SfC). Having incomplete information makes it difficult to report actual monthly costs, both internally, and to *tie*.

- **Internal Resources**

Existing CEC staff are carrying out the statutory approvals process and the related necessary administration for the tram project. Over fifty individual internal members of staff are directly involved in the tram project at this time. A total of 4396 staff hours has been utilised on the tram project since April at a cost of £147K. These costs are being borne by CEC and contained within existing budgets.

- **Additional Resources**

To assist with the approvals process additional staff have been brought in to either carry out the necessary work directly or alternatively free-up existing resources to do that work and use the extra resources to cover that shortfall. A total of 18 FTE have been employed – the total cost since April 2007 is £322,132 which is being contained within the tram budget costs.

## 7.9 Tram Governance

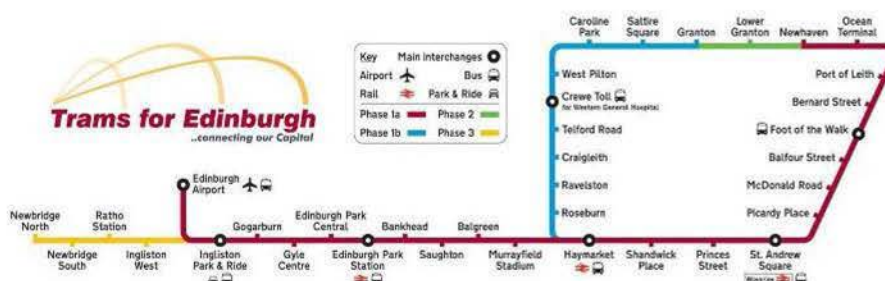
A report on tram governance was presented to full Council on 20<sup>th</sup> September. This report sets out the current situation with operating agreements and proposals for delegation of powers.

Following on from the full Council meeting of 23 August 2007, a subcommittee of the Transport, Infrastructure and Environment Committee is to be established to oversee decisions with respect to the tram project. This report sets out the role and responsibilities of this subcommittee.

## 8 Financial Contribution & Funding Agreement between Transport Scotland & CEC

Negotiations on the funding agreement are continuing with Transport Scotland. A draft grant award letter has been produced by Transport Scotland, which did not reflect terms previously agreed with Council officials. This was partly due to change of personnel at Transport Scotland and the failure to communicate previous verbal commitments that had been made to CEC. A meeting between Transport Scotland and the directors of Finance and City Development is scheduled for Thursday 20th September at which the urgency of resolving funding issues will be highlighted.

CEC is still committed to £45m of funding, the majority of which coming from developer contributions (see over). However, there is a need to find further funding to meet any cost overrun and/or to pay for phase 1b.



## 8.1 Developer Contributions

There have been some developments regarding the use of developer contributions as a funding stream, although the position remains largely the same as when reported to the Tram Project Board on the 9th of August 2007. These developments are as follows:-

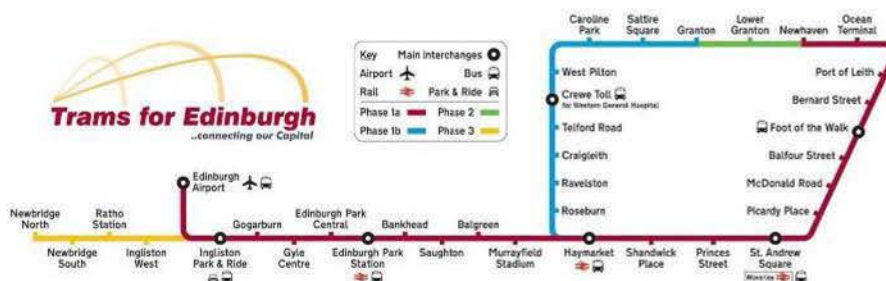
The Tram Developer Contribution Guideline has been revised as a draft for consultation and is to be put before the Planning Committee on the 4th October 2007. It is intended that the Guideline will be put before the Planning Committee again in early December 2007 for full approval. Following the first of these Planning Committee reports will be a report to Full Council on the estimated level of borrowing to be secured against developer contributions. This will be reported along with the Final Business Case. Following full approval from the Planning Committee a further report to Full Council will seek approval to borrow money on this basis and provide a final amount. It is anticipated that this report will be put forward at the same time as the final report on the Infraco Contract.

Forth Ports have recently submitted an Outline Planning Permission for the Leith Docks Development Framework area. Forth Ports are identified as a key contributor under this approach and early discussion is required. The Director of City Development will lead in these discussions with Forth Ports.

## 9 CEC Risk Register

The current CEC Risk Register is attached in Appendix 1. This specifically details risks to CEC, not risks to the tram project. The risk table has been sorted with the highest residual risks first.

No updates have been made during the last period, however the risk numbered 38 (Network Rail side agreement) is considered critical at this time and requires urgent action to avoid delay the project.





Date Added	ID	Risk Description	Effect on CEC	Risk			Treatment	27Aug07			Date Reviewed	Due Date	Owner
				S	L	#		S	L	#			
08Jan07	1	Funding not identified for betterment to the council resulting in a shortfall of funding or not taking advantage of opportunity costs.	Delay to construction and additional funding required. Negative public view due to lack of continuity.	3	3	9	Determine scope of essential tram works and desirable additional works. CEC may need to provide additional funding for areas of betterment.	3	3	9	18Jul07	31Aug07	Sandy Wallace
27Aug07	45	Pressure to reduce capital costs through Value Engineering could lead to increased maintenance or running costs.	Reduction in revenue income. Increased ongoing maintenance & costs.	3	3	9	Value Engineering process to consider future impacts of cost savings.	3	3	9	27Aug07	Ongoing	Duncan Fraser
14Feb07	9	Council delays or fails to make decisions.	Delay to programme. Increased Costs. Potential for abortive works.	3	3	9	Ensure necessary information available to make decisions. Decision making process and delegated powers within CEC require further clarification.	3	3	9	15May07	Ongoing	Andrew Holmes
06Jun07	41	Increased costs because of political uncertainty.	Delay to MUDFA and INFRACO works and contracts. Increased costs (including inflation)	3	3	9	An audit has been undertaken by Audit Scotland to determine cost over-run risks. A further report on the Final Business case will be provided later this year.	3	3	9	18Jul07	Ongoing	Andrew Holmes
08Jan07	15	Inadequate time to consider approvals to meet tie's programme.	Delay to approval process Additional resources may be required Substantial additional costs required	3	3	9	Programme has been provided by tie which has prior approvals being delayed by 5 months. Additional managerial support now being provided by Planning. Discussions are ongoing with tie/SDS to have a Prior Approvals manager.	3	2	6	06Jun07	Ongoing	Ian Spence Linda Nicol
08Jan07	2	Increase in costs over contract cap levels.	Additional funding may be required Need to reduce scope of works.	3	2	6	Identify scope of works with the INFRACO works and compare to emerging design. Review INFRACO tender costs. Tie to monitor / manage budget to stay within caps.	3	2	6	01May07	N/A	Alan Bowen
08Jan07	3	Risk of delays due to the Public hearing process for TROs with potential for a large number of objectors. Delay in final design holding up promoting TROs. Potential legal challenge due to TROs mirroring TTROs. Members may support objections to traffic management proposals.	Delay to INFRACO completion. Increase in costs.	3	2	6	Tie/DW to re-programme/re-resource to meet set timescales. QC advises on road works can progress without TRO subject to approval from Council Solicitor. This would allow progression of TRO in parallel with INFRACO works. Scottish Executive appear to be consulting on a change in secondary legislation to remove the need for a mandatory hearing.	3	2	6	27Aug07	N/A	Duncan Fraser
08Jan07	7	Excessive delays and disruption to traffic post construction	Adverse PR/increased media costs. Additional design and construction work required.	2	3	6	CEC to review. Provision of additional funding for corrective actions.	2	3	6	01May07	Ongoing	Alan Bowen
27Aug07	43	Delay in signing side agreements for Scottish Power / Telewest	Delay to start of MUDFA works.	2	3	6	Council Solicitor to pursue tie for prompt resolution.	2	3	6	27Aug07	27Aug07	Colin MacKenzie

Date Added	ID	Risk Description	Effect on CEC	Risk S L #	Treatment	27Aug07 S L #	Date Reviewed	Due Date	Owner
08Jan07	21	Increases in the cost, outside budgeted risk contingency, of utility diversions due to finalisation of or changes to the scope. The MUDFA contract is effectively a re-measurement contract. Potential for delay due to unforeseen physical conditions.	Additional funding required above that identified in business case.	2 3 6	Careful management/monitoring by tie. Change request process. Closer liaison required between CEC and tie. Additional utilities found in trial area - if this is replicated throughout the route, then this may cause cost over-runs.	2 3 6	18Jul07	Ongoing	Tom Clark
08Jan07	28	Delay to construction works caused by objection to abnormal working hours by public.	Delay to INFRACO & MUDFA	3 2 6	CoCP highlights planned works which includes a comprehensive communication strategy. Legal requirements exist which restricts out of hours working.	3 2 6	06Jun07	Ongoing	Sandy Wallace
08Jan07	29	Adverse PR caused by delays to public transport or the travelling public during the course of the works. tie's comms team downsized. Concern over integration with CEC comms team.	Adverse PR/increased media costs.	2 3 6	More effective engagement with media.	2 3 6	18Jul07	Ongoing	Wendy Bailey
15May07	38	Delays caused by constraints from the Network Rail Side Agreement.	Delay to MUDFA works. Delay to INFRACO works.	3 2 6	Transport Scotland are engaging with NR regarding their irritancy clauses within the lease.	3 2 6	18Jul07	31Aug07	Colin MacKenzie
15May07	40	Financial Risk to CEC being party to major contracts, where CEC are to act as guarantor.	Liability on CEC.	3 2 6	A Council decision and a funding agreement with Transport Scotland will be required. tie operating agreement for tram also being sought. Ongoing risk assessment analysis being undertaken by DLA.	3 2 6	18Jul07	30Sep07	Andrew Holmes Gill Lindsay Donald McGuigan
08Jan07	4	Failure to form a demarcation agreement	Increased liability to CEC. Lack of clarity between CEC and TransDev, required for INFRACO contract.	3 2 6	CEC to engage with tie & TransDev to agree as many demarcations as possible. First time in use. Draft Road Demarcation Agreement being consulted on internally.	3 2 6	18Jul07	Ongoing	Alan Bowen Sandy Wallace Tom Clark
08Jan07	6	Failure for contractor to gain access to site causing delay to agreed programme. Delays to "GVD Notice 2" being issued.	Delay to INFRACO	2 3 6	Land ownership for Tranche 1 taken 24/04/07. GVD notices have been issued for Tranche 3 (incorporating CEC land previously included in Tranche 2) with a vesting date of 26/09/07. Tranche 4 and 5 to follow once design progresses.	2 2 4	27Aug07	Ongoing	Stephen Sladdin
08Jan07	12	Design not ready for formal submission to CEC for Statutory Approvals.	Delay to MUDFA Delay to INFRACO Additional internal resources required	2 3 6	Closer liaison with tie with CEC taking part in their document review process. Programme has now been supplied. Critical Issues meeting set up with tie and CEC to address ongoing issues.	2 2 4	15May07	Ongoing	Duncan Fraser
08Jan07	16	Traffic modelling results not acceptable to statutory body.	Delay to MUDFA Delay to INFRACO Delay to programme	3 2 6	Closer liaison with tie with CEC taking part in their document review process. Programme has slipped. Process is ongoing.	2 2 4	15May07	Ongoing	Duncan Fraser



Date Added	ID	Risk Description	Effect on CEC	Risk S	Risk L	Risk #	Treatment	27Aug07 S	27Aug07 L	27Aug07 #	Date Reviewed	Due Date	Owner
08Jan07	17	Poor project governance by tie.	Delay to programme Increased cost	3	2	6	<p>Close liaison with tie. CEC to take part in tie's document review process. Detailed feedback from DPD and tram project boards. tie operating agreement being prepared by Legal Services.</p>	2	2	4	15May07	Ongoing	Andrew Holmes Gill Lindsay Donald McGuigan
08Jan07	18	Delay due to lack of co-ordination with CEC departments.	Delay to INFRACO Delay to MUDFA Negative public & Councillor view of project	3	2	6	<p>Effective governance within CEC Effective management/co-ordination Support of Chief Executive</p>	2	2	4	19Feb07	Ongoing	Andrew Holmes
08Jan07	24	Correspondence dealt with to CEC's timescales	Adverse PR possible increased media costs, plus increase CEC staff costs to assist with the process.	2	3	6	<p>Communications strategy to be developed further to recognise the extent of this work. Procedures to be put in place by tie and Clarence by 6Aug07 to deal with Mudfa related correspondence.</p>	2	2	4	18Jul07	Ongoing	Wendy Bailey
01Mar07	37	Adverse PR caused by lack of understanding of frontager requirements during construction works	Adverse PR and possible increase in MUDFA works costs. Delay to works while issues are resolved.	2	3	6	<p>Provide effective comms strategy along with survey/meetings with frontages. Further frontager survey required. Tram packs issued &amp; tram helpers on site at works.</p>	2	2	4	18Jul07	Ongoing	Tom Clark Wendy Bailey
08Jan07	10	Inadequate budgets within the Business Case to cover the full cost of area wide traffic impacts, before and after tram construction.	Delay to the promotion and implementation of the TROs. If the area wide effects are not managed correctly the public and press will criticise the scheme.	2	2	4	<p>Identify scope and impacts utilising traffic model information. £0.5m already allocated in business plan. Likely to exceed this amount.</p>	2	2	4	18Jul07	Awaiting tie input	Alan Bowen
08Jan07	14	Statutory consent cannot be granted due to difference of opinion between tie and CEC.	Delay to programme	2	2	4	<p>Design must be fit for purpose as directed by statutory body (CEC). Closer liaison between tie and CEC required. Critical issues meeting between tie and CEC ongoing to resolve issues.</p>	2	2	4	06Jun07	Ongoing	Andrew Holmes
08Jan07	20	Cost increases due to changes to the scope and design required by tie (effectively CEC)	Delay to programme. Increased Costs	2	2	4	<p>Manage through change request process with time and costs approved by board.</p>	2	2	4	19Feb07	Ongoing	Andrew Holmes
08Jan07	22	Risk of delay from utility providers due to necessary planned and emergency works	Delay to Programme	2	2	4	<p>Tie to manage through effective project management techniques and to gain ownership over project. Reschedule works, if required. SfC to co-ordinate other works and occupations on the road network. CEC GIS system being developed for coordination purposes.</p>	2	2	4	15May07	Ongoing	Sandy Wallace
08Jan07	23	Delay by utility companies in carrying out agreed utility works as per the programme	Delay to MUDFA completion Consequential Delay to INFRACO	2	2	4	<p>Tie to manage through effective project management techniques and to gain ownership over project. Work packages being broken up into smaller units. Reschedule INFRACO works.</p>	2	2	4	26Apr07	Ongoing	Tom Clark
08Jan07	31	Lack of funding for part of the public realm works resulting in not providing a European quality tram	Loss of support from politicians and the public and the design criticised. Negative public view due to lack of continuity. Potential loss of tram revenue.	2	2	4	<p>Urban Designers now appointed to work with SDS and investigate wider area public realm and identify essential works to be undertaken by making bids for additional funding from Scottish Exec Capital Growth Fund. Process was delayed due to the political uncertainty.</p>	2	2	4	27Aug07	Ongoing	Ian Spence

Date Added	ID	Risk Description	Effect on CEC	Risk S	Risk L	Risk #	Treatment	27Aug07 S	27Aug07 L	27Aug07 #	Date Reviewed	Due Date	Owner
08Jan07	32	Adverse PR caused by lack of adequate information on construction works and consequential impacts to public and local members	Adverse PR possible increased media costs.	2	2	4	Provided an effective communication strategy and adequate provision of support to members in addressing concerns of their constituents.	2	2	4	18Jul07	Ongoing	Leanne Mabbertley Wendy Bailey
08Jan07	33	Not fit for purpose reinstatements by AMIS requiring remedial works.	Delay to MUDFA completion Consequential Delay to INFRACO Disruption to general traffic	2	2	4	Performance based design. Construction and testing period to be adopted by contractor. Trial area undertaken by AMIS - a report on the success is awaited from tie.	2	2	4	06Jun07	Ongoing	Sandy Wallace Duncan Fraser
08Jan07	26	Delay of MUDFA adversely impacting on INFRACO delivery	Delay to INFRACO	3	2	6	Tie to manage through effective project management techniques and to gain ownership over project. Reschedule INFRACO works.	3	1	3	19Feb07	Ongoing	Andrew Holmes
08Jan07	25	Act of God type events (contractually force majeure events)	Additional funding required Delay to MUDFA Delay to INFRACO	3	1	3	Board to approve all additional costs.	3	1	3	19Feb07	Ongoing	Andrew Holmes
08Jan07	30	Changes to junction priority that are specified to achieve the stipulated run time.	Adverse PR/increased media costs.	1	3	3	To be agreed with CEC	1	3	3	01May07	Ongoing	Alan Bowen
08Jan07	13	Quality of submissions not fit for purpose, as set out in the various protocols, delaying the approval processes.	Delay to approval process Additional resources required Substantial additional costs required	3	2	6	Closer liaison with tie with CEC taking part in their document review process. Progress has been made to improve the quality of the submissions.	2	1	2	06Jun07	Awaiting tie input	Duncan Fraser
24Jan07	8	Council unable to provide full £45m contribution. Due to factors such as shortfall in capital receipts/developers contributions. Changes in planning legislation or legal challenges could reduce income from Developer Contributions	Additional funding required More capital receipts required. If Phase 1b not progressed at this stage potential reduction of £3m of developer contributions available.	3	2	6	Finance to provide financial mechanism to balance £45m. Changing DC policy to allow for contributions after tram completion. Developer Contribution Group established. Monitoring Property/Legal WG & TPB. Council's Corporate Asset Planning Group to agree policy on allocating Capital receipt to Tram to meet balancing requirement. Discreet packages of land has been identified. Draft paper being prepared regarding borrowing against future developer contributions.	2	1	2	27Aug07	Ongoing	Rebecca Andrew David Cooper Steve Sladdin Bill Ness
08Jan07	11	Inadequate budget to cover the necessary or desirable quality of structural elements to achieve an International Quality Design. May have been under estimated within the business case.	Delay to INFRACO design process. May require additional funding due to delay & increased construction costs. Delay to prior approval submission.	2	2	4	Review the design with SDS and tie to achieve a suitable design. Review budget for tram to identify if costs are an issue. Agreement reached in principle from Planning for the majority of the structures.	2	1	2	06Jun07	Awaiting tie input	Ian Spence
08Jan07	19	Lack of co-ordination on the road network with respect to SFC works	Delay to MUDFA Delay to INFRACO	2	2	4	Traffic Management Co-ordination Group - chaired by tie Internal CEC co-ordination also required Weekly meetings have been set up with SFC.	2	1	2	15May07	Ongoing	Sandy Wallace
15May07	39	Delays caused by constraints from the BAA Side Agreement.	Delay to MUDFA works. Delay to INFRACO works.	2	2	4	EARL no longer going ahead. Side agreement now agreed in principle with BAA.	2	1	2	18Jul07	31Aug07	Colin MacKenzie



Date Added	ID	Risk Description	Effect on CEC	Risk			Treatment	27Aug07			Date Reviewed	Due Date	Owner
				S	L	#		S	L	#			
27Aug07	44	Failure to reach agreement with Transport Scotland on concessionary travel scheme for Tram.	Reduction in revenue income.	2	1	2	Discussions continuing with Transport Scotland	2	1	2	27Aug07	Ongoing	Max Thompson
17Jul07	42	Delay due to Scottish Executive approvals required for non standard traffic signs.	Could lead to changes to roads design which would impact model. Increase in costs. Delay to programme.	1	2	2	Programme Scottish Executive requirements into project and allow lead in time.	1	1	1	18Jul07	Ongoing	Alan Bowen

**Paper to:** TEL Board                                      **Meeting Date:** 5 / 9 / 07

**Subject:** TEL policy for bus and tram integration with cyclists

**Agenda Item:**

**Preparer:** Alastair Richards

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## 1.0 Introduction

- 1.1 The design of the tram system has followed the policy to retain and where possible enhance the integration of cycle routes along the tram route and to provide cycle parking where possible at tram stops.
- 1.2 The purpose of this paper is to propose for agreement by the Board, the TEL policy for bus and tram integration with cyclists. The policy has been developed on the basis of the outcome of research and analysis of the risks and benefits, applied to the context of the integrated bus tram network proposed for Edinburgh.

## 2.0 Context

- 2.1 In support of the Local Transport Plan, the objective of the introduction of the tram scheme is to create the maximum improvement possible for the majority of the travelling public within the wider area of influence of the integrated tram and bus network.
- 2.2 The primary catchment area around bus stops is within a radius of 300m to 400m, and 500m around a tram stop. Specific measures such as Park and Ride, interchanges with other transport modes, 'kiss and ride' laybys and the provision of secure cycle parking facilities can significantly extend the reach of these catchment areas.
- 2.3 CEC policy cycle 8 is therefore applicable to TEL tram services: *'The Council will install or seek installation of secure bicycle parking, particularly cycle lockers, at railway stations, tram stops where space is available, Park and Ride sites and selected outer-suburban bus stops.'*
- 2.4 The integrated tram and bus network coverage will provide connectivity due to overlap of the catchment areas of each stop to all trip generators and attractors within the urban and suburban area bounded by the City bypass and the Forth.
- 2.5 Maximum journey length on the tram network is 18 km and on the bus network 43 km, (therefore all TEL bus services fall within the definition of local bus services), although the average journey lengths are shorter



with bus estimated at 5.5 km and tram expected to be around 3.5 km. High volumes of passengers board and alight at each stop and the ease and speed with which this can be achieved is crucial to the success of the service.

- 2.6 CEC policy cycle 9 is not therefore applicable on any of TEL services: *'The Council supports the carriage of bicycles on rail services and medium to long distance bus services.'*
- 2.7 TEL has specified the largest capacity trams possible with maximum number of doors and seating, in line with experience and continued practice with Lothian Buses to procure the largest capacity replacement buses that can be accommodated on the Capitals streets. The use of high capacity vehicles supports the policy of efficient transport provision charging low fares.
- 2.8 Since 1999, the proportion of all trips made by residents in the City of Edinburgh by bicycle has risen by an eighth, while accidents involving cyclists have reduced. However, cycle trips, still account for less than 2% of all trips made, although the percentage of trips to work made by bicycle are up from 1.8% to 3.1%.

### **3.0 Risk / benefit analysis**

- 3.1 In formulating the TEL policy, research has been undertaken on experience to date in other cities within the UK and continental Europe as to how best to achieve integration with cyclists in the context of the City of Edinburgh, details of which are contained in appendix 1.0 and 2.0.
- 3.2 A hazard identification and risk assessment exercise has been undertaken and supplemented by a series of practical tests which are described in appendix 1.0. The proposed TEL policy, applied by the operational staff, forms a part of the mitigation of these hazards.

### **4.0 Proposed TEL policy**

- 4.1 To permit the carriage of folding bicycles, fully enclosed within a bag, at the discretion of the bus driver or tram inspector when sufficient space exists.
- 4.2 To prohibit the carriage of all other bicycles on the TEL bus and tram integrated network.
- 4.3 To have available cycle parking facilities where possible at tram stops west of Haymarket and north of Picardy Place.

FOISA Exempt  
 Yes  
 No

- 4.4 To provide information through the internet, on information panels at bus and tram stops and to make leaflets available through the TEL travel shops, relating to opportunities for onward travel by bus and tram for cyclists.

**5.0 Recommendation**

- 5.1 The Board is requested to note the basis upon which the proposed policy has been formulated and to approve the proposed TEL policy for integration between bus, tram and cycles.

**Proposed:** Alastair Richards Date: 23 August 2007  
TEL Tram Director

**Recommended:** Neil Renilson Date: 23 August 2007  
TEL Chief Executive

**Approved:** ..... Date: .....  
David Mackay on behalf of the TEL Board



## **Appendix 1.0**

### **Carrying Cycles on Trams**

#### ***Based on a Paper prepared by Transdev***

This paper examines the implications of carrying cycles on trams. The conclusion is that, with the exception of fully bagged folding cycles, cycles should not be carried on trams for safety and reliability reasons.

### **Carriage of cycles on public transport**

This section examines the current policies of other bus, train, metro and tram systems on the carriage of cycles in the UK.

#### **Trams**

Cycles are not allowed on any UK tram system. Some systems permit them if they are folded and fully encased, but then they are like a suitcase. This is due to the safety issues arising from the potential for blocking escape routes in the event of an emergency and the risk of them falling in the event of sudden acceleration/deceleration. Operational reasons include the restriction to passenger ingress and egress and the risk of damage to and soiling of passengers clothing coming into contact with oily cogs and chains.

#### **Buses**

In the UK, no urban bus operator that allows “unboxed” cycles to be carried on their buses is known to the tram project team. Certainly any buses that do carry cycles are in a tiny minority. Cycles are carried in the New Forest, for example, on a trailer behind the bus where the service is for leisure use, and journey times are not a significant issue in such operations. Urban buses do not carry cycles because there are significant risks of injury from the interaction of cycles and people when a bus brakes or corners hard unless passengers and cycles are segregated. If there is dedicated space for cycles inside the bus, then the capacity of the bus for passengers is significantly eroded, dwell times are increased and there is the risk of injury from the close proximity of people and cycles. If external cycle carriers are provided on the bus, the dwell times at stops will be significantly increased when the cycles are loaded or unloaded.

Rail replacement buses and coaches do not carry cycles, even where the train replaced would do so. Clearly cycles and buses are felt not to mix safely.

The average speed of a cycle in an urban environment is similar to that of a bus, so it is unlikely that anyone will benefit from an overall point to point journey time saving as a result of making part of their journey on a bus with

their cycle. It is likely that the single mode journey will be faster by cycle over the whole route.

## **Trains**

Trains do not have the high deceleration rates of buses and trams, so the risk of injury to passengers from cycles during braking is less on trains than on buses or trams. Stations are further apart than bus stops, so dwell times are not as critical as in the operation of buses and trams. Even so, many trains do not carry cycles. This is mostly due to the introduction of new trains that do not have separate luggage compartments that can carry cycles and segregate them from passengers. The loss of luggage compartments reflects the commercial pressures on operators to maximise the space available for passengers. Cycles on trains can cause significant conflict with other passengers when they are not stowed properly. In these circumstances they can block the gangways and doors. This has safety implications.

## **London Underground**

Cycles are only permitted on about half of the network and only outside peak times. Underground trains have a lower maximum deceleration rate than trams or buses. No segregation between cycles and passengers is provided.

## **Options for Edinburgh**

This section considers the implications of changing from a system design that does not carry cycles to a system that does carry cycles. It considers the implications in safety and cost terms. The starting point is assumed to be Phase 1A operating at frequencies as declared in the STAG reports, with trams of a nominal 40m length.

### **Demand for carrying cycles on trams**

The predicted average speed of a tram is about 25 km/hr in Edinburgh; this is about 16 mph. Cycles average about 8mph. If a cyclist decides to travel with a cycle on a tram for a point to point journey, then the cyclist will have to change mode twice and wait for a tram at a tramstop. The journey may involve more than one tram, with more interchanges. Most point to point journeys will be quicker by cycle throughout and not by cycle and tram. The number of cyclists who would find this journey attractive would be very small, given that the tram network as currently envisaged is limited to Phase one and few journeys which could be made on it are too long to be made by cycle alone.

An exception may be a sudden outbreak of rain. However, operational experience suggests that patronage in general increases markedly in such circumstances, and therefore wet and dirty cycles would be conveyed at the expense and inconvenience of other passengers.



## **Tram design**

Trams could carry cycles either internally or externally. These two options are assessed below.

### **Carriage of cycles externally**

This is a method used in North America on buses, but not known to us in Europe. The external option can be ruled out due to a combination of the following factors:

1. Increased dwell times at tramstops for cyclists to load cycles and then enter the tram, and a similar impact when the cycles are unloaded. There is a consequential impact on increased run times, loss of patronage and revenue, and increased operating costs. Additionally, the increased run times would ultimately require additional trams if cycles were to be carried in the peak.
2. There is a risk of cycle theft from cycle racks on a tram. If the cyclist locks the cycle when it is on the rack on the tram, then there is a further increase in the dwell times.
3. Safety of the loading/unloading process as the cyclist may be vulnerable to road traffic.
4. Cycles would have to be carried at the rear of the tram, because tram fronts are carefully designed to minimise injury in pedestrian accidents and cycles would negate this. CCTV coverage of this area would be required by the driver whilst at tramstops in order to ensure that loading and unloading is complete before starting from the tramstop. Also, the cycle would have to be lifted down from the tramstop platform before loading, which would be inconvenient and awkward.
5. The cycle rack would have to fold flat when at the front of the tram and be "pedestrian friendly" should there be a collision with a pedestrian. Such a design is not, to our knowledge, available.
6. The visual impact of the cycle racks and of the tram whilst carrying cycles would have aesthetic implications.

Any design work would be subject to approval by HMRI as part of the vehicle. The risks associated with approval are such that the likelihood of success is low for such a novel design, and the design development costs would be high. The option of carrying cycles externally is consequently rejected.

### **Carriage of cycles internally**

Carrying cycles inside the tram means that the following factors need to be considered:

1. The risk of injury from interactions between cycles and passengers during a rapid braking must be controlled. Falling onto a cycle or being hit by an unrestrained cycle in these circumstances is not acceptable.
2. On busy trams, getting a cycle on or off a tram may result in injury to passengers from sharp parts of the cycle such as the pedals and handle bars coming into contact with the shins and other parts of passengers.
3. Pedals could injure a toddler in a buggy – the height of the pedals means that this risk is real.
4. The tyres of cycles can bring significant amounts of dirt and water into the tram.
5. Dwell times at tramstops would be increased, particularly when the trams are busy. This is when dwell times are most critical to the operation.

The safety issues above require adequate segregation between cycles and passengers. During peak times, when trams will be fully loaded with passengers, it would not be acceptable to have both cycles and passengers in the same part of the tram. Consequently there are two options to consider. These are:

1. Provision of a separate space on the trams dedicated to the carriage of cycles – the equivalent of a “guards van” space on trains. This could permit the carriage of cycles at all times including during peak periods.
2. Prohibit the carriage of cycles during peak times and provide a space within the passenger area on the tram for cycles during the off peak period.

These alternatives are considered below:

### **Provision of a compartment for carrying cycles on trams**

A separate cycle compartment in the tram for cycles is considered in this section. Assuming that cycles are carried vertically, with the front wheel suspended from a hook, this would need a compartment of about 2m length in the tram. Note that this would not however be usable by all cyclists, particularly those less fit who might be more inclined to take the tram for part of their journey. This compartment would require access to the platform immediately adjacent to external tram doors. A 40m long tram with cabs at each end has a length allocated to passengers of about 35m. The provision of segregated cycle carriage in the tram would reduce the available length for passengers from 35m to 33m. This would mean that the carrying capacity of the trams is reduced. In order to retain the necessary carrying capacity of the tram system as a whole, 2 additional trams would be needed. The additional detrimental impact on overall revenue of increased journey times, and the cost of potential injury claims, are not included.

The additional trams will also need the associated additional drivers, maintenance and power. The overall cost of buying a tram and operating it for



about 30 years is about £4M in terms of net present value, so the two additional trams will require an additional £8M in funding. This figure should be regarded as a reasonable estimate for the provision for the carriage of cycles at all times, including in the peak.

The above consideration of providing a separate compartment for the carriage of cycles does not include the cost of the following:

1. Approval of a concept not currently used in the UK.
2. Dwell time implications – the tram will have to wait at a stop to allow time for cycles to be properly stowed in the tram, and cyclists will not be able to remove their cycles from the stowed location safely until after the tram has stopped. This will have an impact on both the run time and on the reliability of the tram system, particularly a peak times.
3. The cost of the damage to the interior of the tram that is unavoidable when cycles are in contact with the tram.

### **Implications of carrying cycles in the passenger saloon on trams**

If cycles are carried within the tram in the passenger area, then the following issues need to be addressed:

1. Constraining the cycles so that they do not fall over or slide along the tram and injure people when the tram brakes hard.
2. Limiting the risk of passengers falling onto the cycles when the tram brakes hard.
3. Controlling contact with cycles when trams are full of standing passengers.

The most likely choice would be for cycles to be carried in the same area that is provided for wheelchair users. In order to address the issues listed above, cycles could only be carried outside peak times. This would reduce the risk of injury to passengers from the cycles. The carriage of cycles would probably need to be limited to two cycles per tram. This would reduce the risk of conflict between the needs of wheelchair users and the needs of cyclists. Cycles could be carried either suspended by the front wheel or with both wheels in contact with the floor of the tram. If cycles are suspended from hooks, then the hazards associated with pedals at this height must be addressed.

The tram will have two wheelchair spaces. These spaces would need to include additional features in addition to those required for wheelchair users in order to be able to carry cycles. The design would need to include the following features:

1. A space that is long enough to hold cycles – this will be longer than is required for a wheelchair.
2. A barrier at each end of the space to limit contact between passengers and cycles when the tram brakes hard.

3. Restraining devices to stop cycles placed in this space from falling over sideways away from the side of the tram.
4. Suitable materials in this area to limit the damage that sharp parts of cycles may cause.

The Rail Vehicle Accessibility Regulations are very prescriptive, and creating an area that could be used by either cycles or wheelchair users is likely to be challenging and will import cost and risk to the project. Consultation would be needed with the mobility impaired to resolve the potential conflicts resulting from the use of the space for two purposes. The above constraints may limit the choice of tram available.

From an operational perspective, the carriage of cycles during off peak times only within the passenger saloon raises the following issues:

1. The enforcement of the prohibition of carrying cycles will cause delays whenever anyone attempts to board a tram with a cycle at peak times. Any delay at peak time is likely to significantly damage the overall reliability of the service.
2. Enforcing the proper stowage of cycles outside peak times if the trams do not have conductors will be challenging, even with good internal CCTV coverage, and is likely to cause delays.
3. Resolution of any conflict between cyclists and wheelchair users who may both wish to use the same space on the tram.
4. Resolution of any conflict between cyclists and people who have push chairs users who may both wish to use the same space on the tram. It is worth noting that in terms of absolute numbers, push-chairs and buggies far outweigh the number of wheelchair users on UK tramways.
5. Trams can become heavily loaded with passengers outside peak times. This may be the result of a special event such as an event at Murrayfield Stadium, or the result of a disruption on the system. In these circumstances, the tram inspector will have to decide if a cyclist may board the tram. The tram inspector may also have to ask a cyclist who is already on the tram to leave in order to provide a safe environment and more space for the passengers. This arrangement is not satisfactory and is likely to lead to either conflict between the tram inspector and the passengers or a potentially unsafe environment.
6. Cycles will inevitably cause some damage to the trams when pedals and other sharp items come into contact with the tram.

### **Different types of cycle**

Whilst the majority of cycles that would be carried on the tram would be conventional cycles, a set of rules would need to address whether and how the following cycle types are carried (or not):

1. Tandems



2. Cycle trailers
3. Child trailers
4. Bendy cycles (with a child on a single wheeled device towed by a cycle)
5. Child tricycles
6. Full size tricycles
7. Powered cycles, that may import hazards from flammable liquids or batteries into the tram

This issue would have to be resolved as part of any overall strategy for the carriage of cycles.

### **Conclusion**

The tram project's view is that the overall risks significantly outweigh any benefits, and cycles should not be carried on trams at any time, other than fully enclosed folding cycles which can be treated to all intents and purposes as "luggage".

## Appendix 2.0

### Cycling Facilities at Tram Stops

#### *Extract from notes on cycle/tram issues paper (03/05/07) by Alasdair Sim*

The Edinburgh tram scheme as currently conceived already offers facilities to cyclists which do not exist at present, in particular cycle parking at tram stops. The scheme will also lead to complete reconstruction of many streets, which will certainly improve road surfaces and offer opportunities for additional cycle lanes where possible and the roads authority considers this to be a good use of the available space.

The provision of facilities to park and lock up cycles at tram stops (where appropriate) is part of the SDS scope of services. The type of facilities currently included within the street furniture elements of the tram stop design are stainless steel loops set into the pavement. For the purposes of this note, these will be referred to as 'cycle racks'. This form of facility is commonplace in Edinburgh and elsewhere in the UK, and offers the cyclist a stable structure onto which the bicycle can be safely secured.

At this point, there are no 'hard and fast' rules under which SDS are basing their designs; as a result the number of, and location of cycle racks within the tram stop varies from stop to stop.

In April 2007, **tie** approached representatives of the cycle group SPOKES with a view to conducting a survey of their members to assess where, and to what extent facilities could be provided along the route. As a starting point, **tie** provided the following table indicating the current SDS thinking:



STOP NAME	Proposed spaces	Note
Edinburgh Airport	0	Part of airport site - cycle parking provided as part of wider transport provision
Ingliston Park & Ride	0	Park and Ride site - cycle parking provided as part of wider transport provision
Gogarburn	?	CYCLE GROUP SUGGESTION REQUESTED
Gyle	0	Shopping Centre - cycle parking provided as part of wider transport provision
Edinburgh Park	?	Nearby destinations are office campuses - probably not needed
Edinburgh Park Station	?	CYCLE GROUP SUGGESTION REQUESTED
South Gyle	?	CYCLE GROUP SUGGESTION REQUESTED
Saughton	?	CYCLE GROUP SUGGESTION REQUESTED
Balgreen	?	CYCLE GROUP SUGGESTION REQUESTED
Murrayfield	?	CYCLE GROUP SUGGESTION REQUESTED
Haymarket	0	Transport Interchange, no room on stop - cycle parking provided as part of wider transport provision
Shandwick Place	0	On-street - cycle parking provided as part of wider transport provision
Princes Street	0	On-street - cycle parking provided as part of wider transport provision
St Andrew Square	0	On-street - cycle parking provided as part of wider transport provision
Picardy Place	0	On-street - cycle parking provided as part of wider transport provision
McDonald Road	0	On-street - cycle parking provided as part of wider transport provision
Balfour Street	0	On-street - cycle parking provided as part of wider transport provision
Foot of the Walk	0	On-street - cycle parking provided as part of wider transport provision
Constitution Street	0	On-street - cycle parking provided as part of wider transport provision
Ocean Drive	0	On-street - cycle parking provided as part of wider transport provision
Ocean Terminal	0	Shopping Centre - cycle parking provided as part of wider transport provision
Newhaven	0	On-street - cycle parking provided as part of wider transport provision
Roseburn	?	CYCLE GROUP SUGGESTION REQUESTED
Ravelston Dykes	?	CYCLE GROUP SUGGESTION REQUESTED
Craigleith	?	CYCLE GROUP SUGGESTION REQUESTED
Telford Road	?	CYCLE GROUP SUGGESTION REQUESTED
Crewe Toll	?	CYCLE GROUP SUGGESTION REQUESTED
West Granton	?	CYCLE GROUP SUGGESTION REQUESTED
Caroline Park	?	CYCLE GROUP SUGGESTION REQUESTED
Granton Waterfront	?	CYCLE GROUP SUGGESTION REQUESTED
Granton Square	?	CYCLE GROUP SUGGESTION REQUESTED

It will be noted from the above table that the current design excludes cycle provision at a number of tram stops. The reasons for this can be generally categorised as follows:

- On street tram stop – limited space available. Need to accommodate tram passengers and other pedestrians in the vicinity of tram stop – potential conflicts.
- At certain locations, the provision of cycle facilities could be part of a wider (CEC or other?) led initiative. To what extent this could be possible is unknown at this point.
- The views of SPOKES has been sought for the number of racks to be provided at those stops identified in the design as being suitable for these facilities.

At this point in time, a response from SPOKES has not been received, although ongoing contact with the group is being maintained through the **tie** Stakeholder Team.

### **Experience elsewhere and cycle initiatives**

A number of European cities now operate schemes linking short-term bicycle hire closely to public transport, and thereby encouraging public transport users to use cycling as a mode for part of their journey. This appears to be more consistent with a policy of increasing cycle usage and the proportion of the population which cycles than carrying cycles on public transport. It must

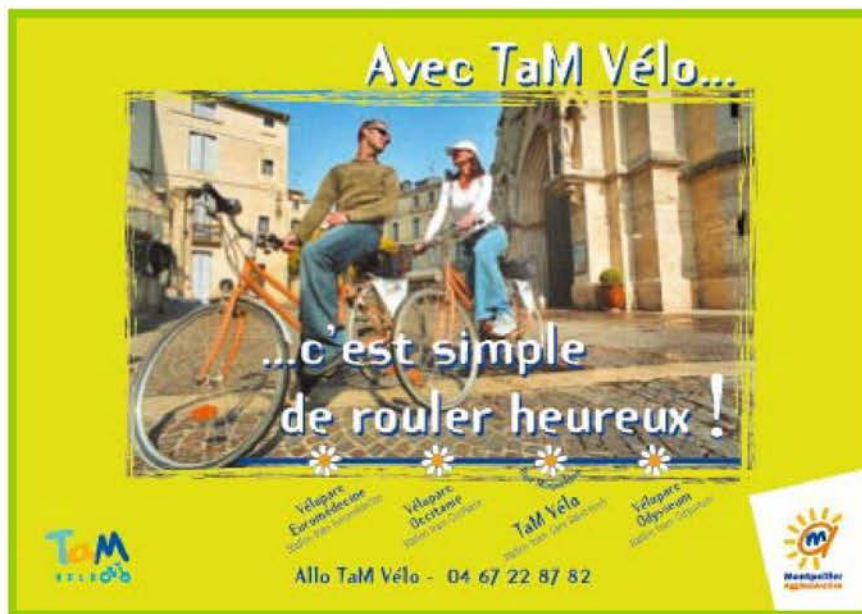
also be more energy-efficient, as cycles are not needlessly conveyed from place to place. Some examples are:

- Deutsche Bahn (German Railways) have fleets of cycles in Berlin, Frankfurt, Cologne and Munich. A bike can be hired wherever it is found available (though there are fleets at main centres) via mobile phone and credit card, and they can be left anywhere. The price is 7 cents (about 5p) per minute.
- Montpellier has fleets of cycles (including electric cycles) available free of charge to public transport season ticket holders at three staffed Park and Ride sites in the suburbs and at one location in the city centre. A deposit must be paid. At the City Centre location, cycles are also hired to the general public. Cycles are also provided to season ticket holders at the city centre car parks operated by the public transport authority.
- In Lyon, a fleet of 2000 bikes is available. Bikes must be returned to a hire-station, but there are about 100 spread through the city so one is never far away. The first half-hour is free, but this is extended to an hour for public transport smartcard holders. After the free period, the next hour costs 50 cents (about 35p) and 1 euro per hour thereafter. The scheme is operated by JC Decaux, who have also introduced schemes in Dublin & Brussels.
- Zurich operates a scheme giving free hire for the first six hours, available at one location (main station) year-round and four others in the summer only. Bikes must be returned to the place from which they were hired, and a deposit is charged. Electric bikes are available. The scheme is run by a Swiss asylum-seekers association with a mixture of public-sector and private company sponsorship.

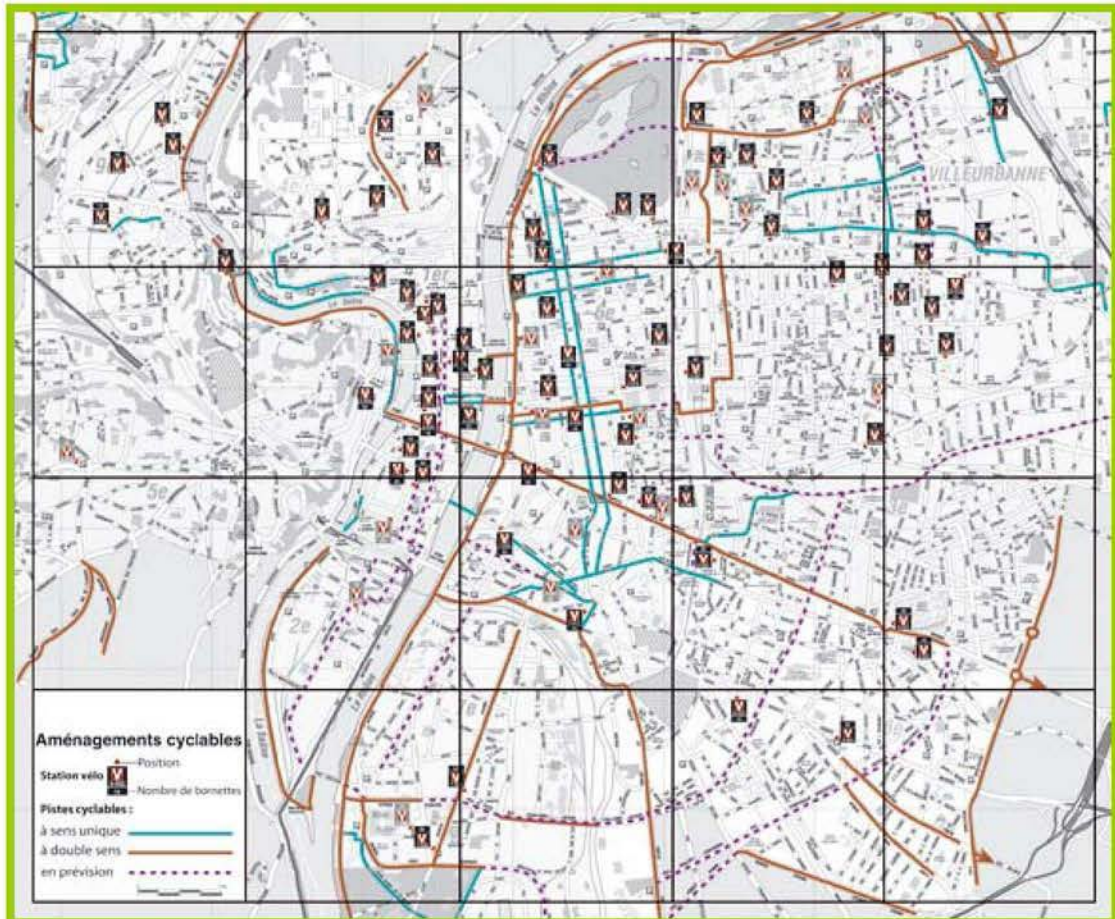




Deutsche Bahn cycles available for hire in Berlin



Advertisement for the Montpellier cycle loan service



Map showing widespread locations of hire stations in Lyon



Electric Bike available in Zurich

It is noted that these types of initiative are generally operated as independent schemes, and not necessarily integrated with the provision of public transport services. That said, there may be merit in investigating the potential to



provide this type of offering to the public, at (or more likely) near to, selected tram stops in Edinburgh.

Realistically it would be unlikely however that secure bike lockers as seen on some mainline rail stations could be included within the design of tram stops, due to the constraints of the Limits of Deviation. It would be more feasible to identify appropriate sites/locations in reasonably close proximity to the tram stop. It may be that the City Centre area, and key interchange points such as Haymarket, St Andrew Square and Foot of the Walk could be appropriate locations for this type of operation.

There are potential risks to be aware of however. These could include

- Tram patronage risk and revenue implications
- Urban realm and public space
- Safety, security and liabilities
- Revenue protection (for operating the bike scheme)
- Operational cost implications
- Potential for vandalism and theft

In considering how best to take forward the development of a Cycling Strategy in relation to the Tram Project, it will be acknowledged that this strategy should take cognisance of, and be in alignment with the City of Edinburgh policy on Cycling as enshrined within the Local Transport Strategy 2007 (LTS). The objective of the Cycling Strategy set out in the LTS is:

*To ensure that cycling is an attractive, safe and secure option for all short and medium distance journeys.*

A number of policies presented in the LTS need to be considered when viewing cycling in the context of the tram project, these are:

#### **Cycle 1**

In consultation with cycle groups the Council will work towards providing a continuous cycle network, which is safe, convenient and easy to use for inexperienced cyclists giving

- Access to all major concentrations of jobs
- Access to the two major city hospitals
- Access to universities and other tertiary Education institutions
- Access to secondary schools
- Access to all district shopping centres, major supermarkets, and retail parks

- recreational cycling opportunities, both in itself, and through accessing the national cycle network, mountain bike routes and other recreational cycle routes

### **Cycle 2**

All new traffic management and / or road schemes will be designed in accordance with the Cycle Friendly Design Guide.

### **Cycle 3**

There will be a presumption in favour of new traffic management schemes always incorporating measures for cyclists, particularly:

- exemptions from road closures;
- advanced stop lines (ASL) with approach cycle lanes or cycle lanes where ASLs are not required at traffic signal controlled road junctions;
- all new pedestrian crossings to be considered as potential Toucans;
- cycle lanes or, where appropriate, cycle paths, in all schemes involving main roads with speed limits of over 20 mph and no bus lanes.

### **Cycle 4**

The Council will use colour to mark cycle lanes, particularly in locations where conflict is most likely. Coloured asphalt or setts may be used where appropriate. Within the World Heritage Site, Edinburgh Standards for Streets guidance will be followed.

### **Cycle 5**

There will be a presumption against new one-way streets. However where new one-way streets have to be implemented for general traffic, there will be a presumption in favour of installing contraflow cycle lanes. Where 'no-entry' applies for general traffic there will be a presumption to exempt cyclists.

### **Cycle 8**

The Council will install or seek installation of secure bicycle parking, particularly cycle lockers, at railway stations, tram stops where space is available, Park and Ride sites and selected outer-suburban bus stops.



FOISA Exempt  
 Yes  
 No

**Cycle 9**

The Council supports the carriage of bicycles on rail services and medium to long distance bus services

**Cycle 10**

Cycle/pedestrian routes will be retained on former railway routes used by tram. Safe provision for cyclists will be made on streets used by the tram.

**Cycle 11**

The Council will increase the number of pedal cycle parking spaces available at locations with significant actual or potential demand for cycling.