



**Transport Edinburgh**  
**Trams for Edinburgh**  
**Lothian Buses**

**DPD sub-committee**  
**Period 3 report**  
**Papers for meeting 5<sup>th</sup> July 2007**

**09:00am – 12:00pm**

**Distribution:-**

Willie Gallagher (DPD Chair)  
Neil Renilson  
Duncan Fraser  
Matthew Crosse  
Bill Campbell  
Stewart McGarrity  
Steven Bell  
Graeme Bissett  
*Transport Scotland tba*

Alastair Richards  
Geoff Gilbert  
Susan Clark  
Jim Harries  
James Papps  
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Keith Rimmer  
Tony Glazebrook  
Steve Reynolds



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**Agenda**

**Design, Procurement and Delivery Sub-Committee**

**Brunel Suite – Citypoint II, 2<sup>nd</sup> Floor**

**5<sup>th</sup> July 2006 – 9.00am to 12.00pm**

**Attendees:**

Willie Gallagher (DPD Chair)

*Transport Scotland - tba*

Duncan Fraser

Matthew Crosse

Bill Campbell

Stewart McGarrity

Steven Bell

Alastair Richards

Geoff Gilbert

Susan Clark (apology)

Jim Harries

James Papps

Miriam Thorne

**Circulation:**

Neil Renilson

Graeme Bissett

**Agenda support:**

Tony Glazebrook

Steve Reynolds

**Agenda Items**

- 1 Actions from previous meeting
- 2 Project Director's monthly progress report for June
- 3 SDS update
- 4 System performance and operational runtimes
- 5 Network Rail interface issues
- 6 Impact of no EARL on Tram
- 7 Construction regulations
- 8 VE status summary
- 9 Procurement presentation
- 10 AOB

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Edinburgh Tram Network

Minutes

Design, Procurement and Delivery Sub-Committee

07 June 2007

tie offices - Verity House, Boardroom

Principals	Participants
Willie Gallagher (DPD Chair) – WG Bill Campbell – BC Matthew Crosse – MC Steven Bell – SB Susan Clark – SC Jim Harries - JH James Papps – JP Duncan Fraser – DF	Alastair Richards – AR Steve Reynolds - SR Keith Rimmer – KR Miriam Thorne – MT Lindsay Murphy ( <i>partial</i> )- LM

**Apologies:** Neil Renilson, Tony Glazebrook, Trudi Craggs, Stewart McGarrity, Graeme Bissett, Damian Sharp, Geoff Gilbert

<b>1.0</b>	<b>Matters Arising</b>	
1.1	WG provided an update on the information received regarding the impending review of the Tram Project by Audit Scotland and the preparation underway.	
<b>2.0</b>	<b>Actions from previous meeting</b>	
2.1	Previous minutes were accepted as read	
2.2	Previous actions were accepted as completed - verbal updates and exceptions are listed below:	
2.3	<u>Action 1.3: Infraco</u> – DS stated that the bidders' request for an indemnity letter from TS cannot be provided without ministerial approval of the Business Case. Further, DS noted that this would take the form of a comfort letter rather than indemnifying the bidders. TS does however accept the principle that a comfort letter which states that funding is available, can be provided via CEC to the bidders, following ministerial approval.	DS – carried forward
2.4	<u>Action 1.4 and 1.5 Network Rail interface issues:</u> SB confirmed that little progress had been made as TS was awaiting the results from the Audit Scotland review before progressing NR issues on land leases and immunisation. It was agreed that a paper on outstanding issues, current status and impact on the project should be prepared for the July TPB	SB
2.5	<u>Action 2.2:</u> MC confirmed that a list of the items which required consideration in light of the political uncertainties was in the process of being prepared – this would be presented to the June TPB. It was noted that the issue of the 2 <sup>nd</sup> tranche of the GVD notices would become a critical path item if not addressed by July.	MC

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<b>3.0</b>	<b>Progress Report</b>	
3.1	The progress report was taken as read, queries raised and items discussed are outlined below.	
3.2	<u>Impact of delay</u> MC confirmed that approximately £200k would be incurred in sunk costs for every four week period of delay of the main works. He also pointed out that this burn-rate would rise to approximately £2.5m per period if the Infraco programme was impacted due to the effect of inflation. WG requested that the costs and programme impacts continued to be monitored and update are provided to the DPD / TPB.	MC
3.3	<u>MUDFA</u> WG questioned whether the on-going VE exercise considered opportunities within the MUDFA works. In particular, cost saving may be available through the use of temporary road surfaces for road re-instatement following MUDFA and pre-Infraco. SC confirmed that VE opportunities were generally considered at workpackage level. WG requested a wider review of VE opportunities for MUDFA.	SB
3.4	<u>Tramco</u> JP enquired whether the negotiations with the bidders (both Tramco and Infraco) had required changes to the contract terms. MC stated no significant adjustments had been necessary so far.	
3.5	<u>FBC:</u> WG requested the draft programme for completion of the FBC to be brought to the July DPD, including details of the proposed phased approach to the FBC preparation.	SMcG / MT – meeting 5 <sup>th</sup> July, paper to TPB
3.6	<u>Ingliston Park and Ride (temporary)</u> The issues around funding for the extension of Ingliston P&R were discussed, particularly regarding timing issues and restraints of the available SEStran funding. (see also item 9.1 below)	
3.7	<u>Stakeholder reporting</u> DF highlighted the need of more detailed cashflow information to be provided to CEC.	MT - done
3.8	<u>Financial reporting</u> WG requested that the section on change control should be reviewed to clarify genuine anticipated changes vs those being progressed through the formal approval process.	GG / MT - done
3.9	The DPD recommended adding information to the financial report to show COWD forecasts for the period covered by TS funding for 07/08	MT – done
3.10	WG pointed out that the report did not put enough emphasis on opportunities to improve costs or programme. It was agreed that greater detail on current status of VE and any other opportunities would be provided to the DPD. A separate meeting was to be arranged to agree the level of detail of the report.	MC / SB
<b>4.0</b>	<b>SDS update</b>	
4.1	SR presented the paper on progress and critical issues in relation to the	

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	design. He explained that a small number of high impact critical issues were still not resolved with the relevant stakeholders. These were listed in the paper and discussed in details as outlined below.	
4.2	<u>1A/22 Ocean Terminal / Lindsay Rd – FP redesign</u> Meetings were set up to resolve the Ocean Terminal design, whereas Lindsay Rd would probably require a further two weeks. DF / SR confirmed that issues relevant to modelling were sufficiently resolved. DF is tasked with resolving the remaining issues with FP within two weeks.	DF
4.3	<u>1C/13 Picardy Place</u> DF confirmed this item was now resolved.	
4.4	<u>1C/12 Waverly Bridge Junction</u> DF / AR / KR agreed that sufficient information was now available to permit a model run which included right turns to assess their impact on traffic flows. It was confirmed that there would likely be several iterations of this run to achieve the optimum solution. BC / AR / SR / KR / DF to arrange separate meeting to clarify whether this issue held up the design process. A resolution is to be achieved within three weeks	DF / BC
4.5	<u>1D/7 Haymarket roads design</u> BC / DF agreed this issue was now resolved – SR was to confirm formal sign off.	SR
4.6	<u>1D/8 Haymarket Junction design</u> DF stated this issue was sufficiently progressed to permit modelling of the area, thus the item could be removed from the critical issues list until the output from the model run was available.	
4.7	<u>3A/10 Tram noise levels</u> The DPD noted this item related to Phase 1b and therefore should not feature on the critical issues list	
4.8	<u>5A/1 SRU pitch relocation</u> The DPD was informed that the proposal for pitch relocation had been rejected by the SRU. MC is to discuss alternative approaches to reach an agreement with DJM and propose a solution by 5 July.	MC
4.9	<u>7A/2 RBS Tramstop</u> DF confirmed that an agreement in principle had been reached. DF to resolve by 28 July.	DF
4.10	<u>7A/9 – 7A/11 Eastfield Av., Airport stop &amp; Burnside Rd</u> The resolution of these items is dependent on the decision by the Scottish Executive on EARL. SC to prepare a paper outlining issues and proposed resolution for TPB.	SC
4.11	<u>SW/4 Wider area modelling</u> DF confirmed a way forward was now agreed. DF to ensure issue is removed from critical issues list by 28 June.	DF
4.12	<u>Programme and progress</u> SR presented the progress update as per the update paper. He explained that the programme had now moved to version 15 for the delivery of workpackages. He highlighted that there were significant shortfalls of actual activities started in the period vs planned. This was primarily due to the outstanding resolution of critical issues although a number of areas of underperformance were also identified.	

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4.13	WG expressed his displeasure about the lack of progress. He enquired why a programme had been presented together with assurances that it was achievable when it was known that the critical issues would prevent meeting the delivery dates. He also stressed that the current reporting format did not lend itself to identifying the real criticality of certain items.	
4.14	SR / MC agreed that the report format was not providing complete information, e.g. it does not clarify the impact of the delayed start of activities which may in some cases be minimal. SR is to re-state the progress report for the critical items now resolved and SR / MC are to review the report format to ensure focus on critical path items.	SR / MC
<b>5.0</b>	<b>OCIP</b>	
5.1	The DPD agreed that it was unlikely that any decision on placing the OCIP or the first premium could be made at the present time. The paper was to be amended to recommend placing of the OCIP as soon as possible post any ministerial decision.	TK
<b>6.0</b>	<b>Gogar Depot</b>	
6.1	SC presented the paper proposing to award the Phase 2 works to AMIS if appropriate incentivisation could be achieved – AMIS would be advised of this and the alternative solution to put the works for tender.	
<b>7.0</b>	<b>St Andrew Square</b>	
7.1	KR presented the paper on advanced works required at St Andrew Square. The DPD noted the requirement and tasked KR to develop the strategy to ensure costs and programme are appropriately identified and allocated between CEC and the tram project.	KR
<b>8.0</b>	<b>Public Realm</b>	
8.1	KR presented the paper on the interface between tram works and public realm improvements. DF confirmed that CEC had made an application for capital growth funding and had appointed an Urban Realm designer. He highlighted there would likely to be significant economies of scale in aligning tram and urban realm works for road re-instatements. The DPD recognised these opportunities, however warned that the project would not accept any scope creep or delays for extra design requirements for such works. KR / SC to outline the strategic approach including interface roles and responsibilities	SC / KR
<b>9.0</b>	<b>Ingliston Park and Ride</b>	
9.1	LM / AR gave the presentation outlining the funding gap, programme issues and other constraints for the permanent works. The DPD agreed that further work should be undertaken to investigate opportunities for funding, VE, and the impact on the tram project. The paper should therefore not be presented to the June TPB.	LM / AR

Prepared by Miriam Thorne, 28 June 2007



## **1 Executive Summary**

### **1.1 Previous Period Update**

#### **1.1.1 Delivery**

##### **MUDFA**

Preparatory work has continued to allow the MUDFA diversion works to commence on 9<sup>th</sup> July. This included preparation of licences, design and traffic management. Discussions have also been held with Forth Ports with a view to working within the embargo period set in the Forth Ports agreement – these discussions have been fruitful. Approval to proceed with the MUDFA works has now been received.

Works have continued on planning CCTV surveys and additional GPR surveys to check the earlier surveys carried out by Adien. These additional surveys were complete and now work is ongoing to determine locations for slit trenches to validate results.

##### **Advance works**

###### Depot

Work continues to progress well, and to date is running ahead of target (8,460 loads of spoil removed against a target of 7,100 loads). However, this good performance was marred by a cable strike on site by AMIS. A full investigation has been carried out into the circumstances, root cause and the recovery of the incident and **tie** are now reviewing the outputs from this report.

An electronic survey to detect any unexploded munitions was carried out during the period prior to the level of the depot being reduced. This is as a result of a desk top survey indicating a risk, albeit low, of such hazards in the area. The full report of the survey is expected in the next period.

A paper on Phase 2 of the depot advance works was submitted to TPB. Following this, discussions are being held with AMIS to reduce their rates to achieve savings on the budget allowance.

###### Invasive species

Contract was formally awarded to TCM on 4<sup>th</sup> June and works commenced to plan on 18<sup>th</sup> June. Additional areas of invasive species were found on Network Rail land and an area in New Edinburgh. These are being quantified at present. Visits are scheduled every six weeks until September to re-apply treatment.

### Badgers

The only activity during the period has been monitoring of the new setts. The next main activity will be destruction of the old sett in autumn once the otter has successfully been re-housed.

### **Land and property**

Tranche 2 GVD has been on hold pending a decision on the future of the project, but can now proceed.

Discussions have been ongoing with NR on lease terms.

Discussions were carried out with CEC regarding the lease to BAA land. The aim was to obtain the lease at the same time as the EARL lease and coordinate the negotiations with the EARL team. However, following the political decision on EARL, this is no longer a viable option. Therefore, Tram will now enter into separate discussions with BAA using the EARL lease as a template.

Work has been proceeding to secure licences for MUDFA and invasive species works. Protocols are in place to allow licenses to be obtained according to programme requirements.

The Asset Management Plan from CEC for land currently in their ownership has to be finalised. The land assembly team is working to the original objective of having all land and title available to Infraco by appointment of the successful bidder. Discussions are ongoing with CEC to establish the most appropriate mechanism to hand over land to Infraco. This could be done under a single license arrangement or as a series of land drawdowns on an 'as required' basis.

### **IPR temporary car park**

Bids have been received and evaluated, but the award of the contract is on hold pending an agreement from Transport Scotland to proceed.

### **IPR 2**

Bids were received just before period end and are being evaluated. Since then, CEC have approved additional funding to allow areas C, D1 and D2 to be constructed. The work to area E will be included as an option in the Infraco contract, providing a price in the event that additional funding is obtained.

### **1.1.2 Traffic management**

The TPB approved a report on the St Andrews Square sequencing of work activities and the early implementation of permanent traffic management works to the west side of the square to facilitate MUDFA (commencing May 2008) and Infracore. Design work is underway (SDS) and procurement options are currently being considered (**tie**).

The final approval of the base traffic model calibration is imminent. Coding of the PD1/2 design features is well advanced and a full run of the model suite will occur in early July. This will inform the next stages of the route and wider area design.

### **1.1.3 Engineering, approvals and assurance**

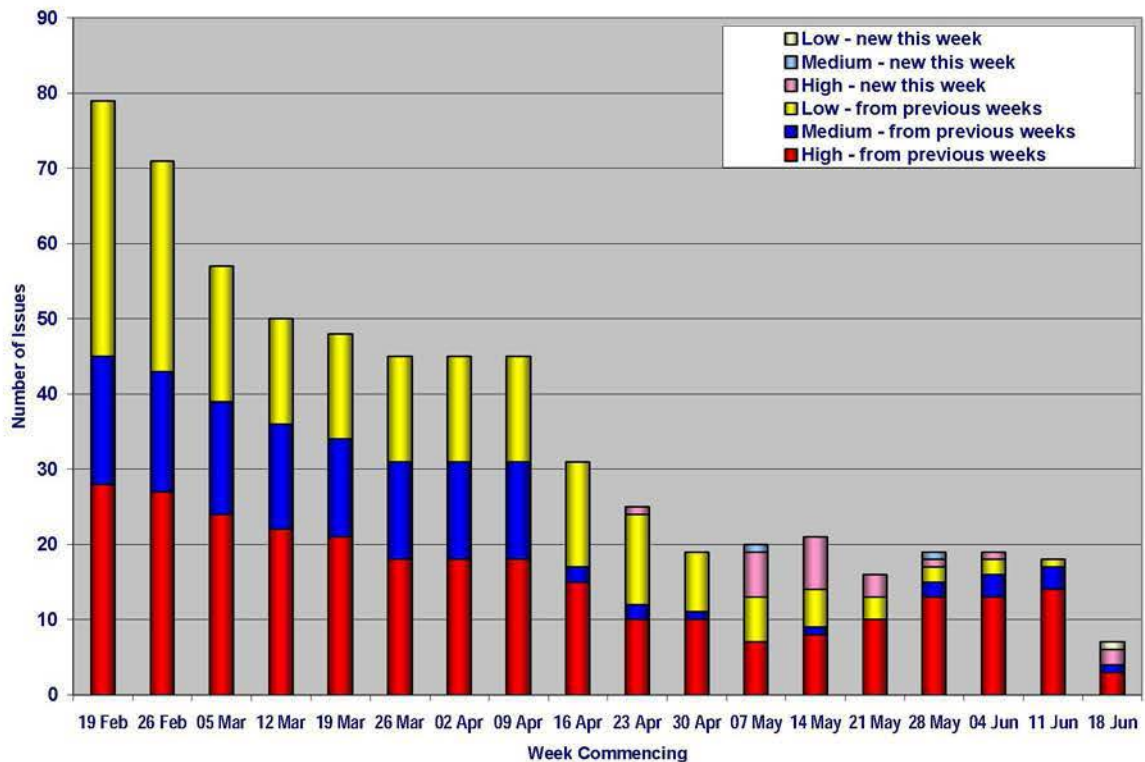
#### **Critical issues resolution**

The 'critical issues' are items which are preventing SDS from achieving their programme. These have been the subject of concerted effort over the last few weeks. There are now only five high, one medium and one low status items remaining. For each of those a way forward has been found which will facilitate final closure.

The chart below shows the progress over time in reducing the total number of issues. The critical issues meeting held on 21<sup>st</sup> June succeeded in agreeing a way forward for 18 items and, as such, has essentially removed any blockages to progress from **tie** and stakeholder decision making processes.

Before the critical issues resolution, further progress had been made in arresting delay and the rate of slippage since last period has been reduced by 35% (V15 to V16 compared with V14 to V15).

On the basis of this and the resolution of most of the critical issues, confidence is high that further slippage can now be arrested and that next periods report should reflect this.



## Design assurance

Packages of designs will be supplied, section by section, in a form which is self-consistent, complete (or if not, with defined status), with interdependencies already reviewed and with associated approvals. Each package will also contain associated TRO information.

Comments were passed to SDS on a trial design assurance package summary for Section 5C to reduce the risk of differing expectations of packages being submitted.

There will be 18 design-assured packages in total, most sections being broken down into the route sub-sections.

There are a number of additional system-wide documents and drawings dealing with such things as power distribution and traffic modelling. Many of these will be provided with the first formal submission. A definitive list is being compiled, but the first issue will not include the final wide-area traffic modelling, as this is not due to be completed until September 2007.

### 1.1.4 Commercial and procurement

#### Procurement programme

The review of procurement programme has been concluded during this period. The main conclusions are as follows:-

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- A recommendation to award Infraco and Tramco contracts will be presented to a special Tram Project Board on or around 25<sup>th</sup> September 2007. This is subject to completion of due diligence on design, confirmation of the Phase 1b option price and negotiation of remaining Infraco, Tramco and SDS alignment issues to facilitate novation.
- Issue the Contract Award Notification for the Infraco and Tramco contracts on 11<sup>th</sup> January 2008.
- The overall completion of the Phase 1a works has been maintained at 1<sup>st</sup> quarter 2011 through mobilisation of Infraco and Tramco in October 2007 and by undertaking advance works at the depot.

A presentation will be given to the DPD which fully explains the revised procurement programme. This will subsequently be presented to the Tram Project Board for approval.

#### **Infraco**

The evaluation is progressing but has been delayed due to an element of bidder disengagement whilst the future of the Project was in question. However, this has been recovered in part by the updated procurement programme.

Both bidders are now committed to the process and the revised programmes have been shared with them.

Negotiations on contract terms are progressing to resolution and there are no major sticking points at this time.

#### **Tramco**

The evaluation is reaching the final stages. Negotiations on contract terms have been concluded with one bidder, Douglas, with one unresolved aspect, this being ownership of Project IPR. However, it is believed that this can be overcome to **tie**'s satisfaction. Both bidders accept novation to Infraco, subject to certain protections on access to commercially sensitive IPR. Douglas's stance on this is more accommodating than that of James.

#### **MUDFA**

Negotiations on the revised incentivisation arrangements and valuation of time related preliminaries costs have been successfully concluded.

#### **OCIP**

A recommendation on OCIP was accepted by the last Tram Project Board. Further negotiation is required to firm up rates with the preferred bidders. This is contingent on certain technical information being released from the Infraco tender evaluation during July and August.

## **Value engineering**

tie's Jim McEwan has been assigned to lead the delivery of VE savings in order to increase the emphasis on this key aspect of the procurement process. Each of the significant potential savings has been assigned an owner within the Project and dates have been set for their delivery. This will be progressively achieved through July and August. Bidder ideas for further VE savings have been reviewed at workshops and further meetings are planned for July with the one bidder who, to date, has been less forthcoming with ideas.

The resolution of the trackform solutions is key to both finalisation of Infraco bid evaluations and to delivering VE savings. Given the importance of this to the Project, Steven Bell has been assigned to lead this.

## **SDS changes and claim**

As previously reported a claim has been received from SDS in the sum of £2.2m for the period to 31 March 2007. This is being assessed and a recommendation will be put to the Tram Project Board Procurement Sub Committee prior to commencement of negotiations.

Further information has been received from SDS in respect of the historical changes. This is being reviewed with a view to resolving a clear position on these during Period 4.

## **Other procurement activities**

- Preparation of a procurement plan for the advance delivery of the depot piling works.
- Plan for the early mobilisation of Infraco and Tramco.
- Procurement plan for advance work in St Andrews Square.

## **1.2 Key Issues for forthcoming period**

### **1.2.1 Delivery**

#### **MUDFA**

- Work progress is to start on Section 1A – Ocean Drive on 9<sup>th</sup> July. This requires the IFC design to be issued (these were issued on 25<sup>th</sup> June). Following the announcement on the future of the project, this information pack can now be delivered.
- Designs are expected on 29<sup>th</sup> June to allow the next section to commence on 6<sup>th</sup> August – Croall Place). Designs are also due for section 5a – Russell Road and the depot. tie still have concerns about the delivery of

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these designs and discussions are ongoing with SDS about resource levels and competency to ensure successful delivery.

- CCTV surveys will be completed and a decision on slit trenches to test Adien surveys will be made. Arrangements are being made to commence works.

#### **Advance works**

##### Depot

- Works on Phase 1 to continue
- Rates for Phase 2 to be agreed with AMIS

##### Invasive species

- No further activity until August

##### Badgers

- Monitoring only

#### **Land and property**

- Continue discussions with BAA, forth Ports and NR on lease.
- Issue 2<sup>nd</sup> Tranche GVD notices.
- Begin preparation for Tranche 3 GVD notices.
- Prepare to commence processing of GVD compensation claims for Tranche 1.

#### **IPR temporary**

- Award contract and start works on site.

#### **IPR 2**

- Complete tender evaluation, interviews with tenderers and submit recommendation to Steering group to allow award of contract.

#### **1.2.2 Traffic management**

- Until the PD2 design is approved, progress on the TRO work programme is currently focussing on early actions which are not detail sensitive such as the 'Statement of Case'.

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- A report will be presented to the August TPB recommending a revised strategy for dealing with the Tram affected Greenways (red regulatory lines) routes to reduce regulatory risk.

#### **1.2.3 Engineering, approvals and assurance**

- The first self-assured design package is due for delivery from SDS during the period.
- Progress will continue with stakeholder liaison, particularly for detailed roads design arrangements

#### **1.2.4 Commercial and procurement**

##### **Procurement programme**

- Approval of the revised programme for procurement by Tram Project Board and formal agreement from the Infraco and Tramco bidders.

##### **Infraco**

- Issue of further bid information updates.
- Preparation of the draft evaluation report.
- Conclusion of negotiations on contract terms.
- Preparation of detailed negotiation plan to deliver negotiated savings.
- Reviews and negotiations to resolve Infraco / Tramco interface issues (commercial, technical and programme).

##### **Tramco**

- Conclusion of contract terms negotiations.
- Obtain final offers.
- Final commercial negotiations to reduce prices.

##### **MUDFA**

- Formalisation of renegotiated preliminaries valuation and incentivisation terms.

##### **Advance works**

- Finalisation of the procurement strategy for advance piling works at depot and mobilisation of Infraco and Tramco prior to contract award.

##### **OCIP (owner controlled insurance programme)**

- Obtain Transport Scotland approval to place OCIP contract.
- Resolve insurance issues with bidders and MUDFA contractor AMIS.



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- Prepare recommendation on professional indemnity insurance and financial loss insurance.

**Value engineering**

Delivery of further recommendations on VE savings.

**1.2.5 Finance and Business Case**

A detailed programme for the preparation of the FBC is being developed in alignment with the revised procurement programme and will be presented to the July TPB. This programme will outline the approach to address comments on the DFBC and meet OGC requirements for gateway reviews.

**1.3 Cost**

	COWD - Period	COWD (YTD)	COWD YTD + f/orecast to year end	AFC
Phase 1a	£ 3.9m	£19.0m	£118.2m	£501.8m
Phase 1b	£ 0.1m	£ 0.8m	£ 0.9m	£ 92.0m
Phase 1a+1b	£ 4.0m	£19.8m	£119.1m	£593.8m

- The spend in the period relates primarily to the continued development of the design and ongoing advance works. Costs for Phase 1b related purely to finalising design works as previously agreed by the TPB.
- The forecast COWD for the year includes a total of £19.8m in relation to land costs, this reflects the latest valuation by the District Valuer.

**1.4 Health, safety, environment and quality**

- One accident was reported in the period, this resulted in two days lost time.
- One incident was reported in the period – a telecommunications cable was damaged while excavating the earth bunds at the Gogar depot.
- Three site inspections, one safety tour and two audits were completed in the period. There were minor findings in each of these which have been addressed. There are no environmental incidents to report.

## **1.5 Stakeholder and communication**

The majority of the communication strategy documented in the Draft Final Business Case had been on hold, as with the majority of the construction work, until after the debate on the future of the project.

Activity has concentrated on planning for the implementation of the MUDFA programme and the ongoing communication activity that will take place. Following approval for the project and the commencement of utility work, the Stakeholder and Communication teams are ready to deliver the construction based communications and the customer interaction cycle.

## **1.6 Approvals / decisions / support required**

Decisions / support required from TS:

- Support in streamlining the approval process for Infraco and Tramco contract award.
- Agreement to place OCIP contract approved by the Tram Project Board.
- Agreement to place commitment for Ingliston Park and Ride temporary car park works.
- Agreement to issue the second GVD notifications for CEC owned land.
- Letter of comfort for Infraco bidders.
- Confirmation of funding draw down to permit finalisation of payment arrangements with bidders.
- Clarification of funding / process to achieve funding for whole of 07 / 08.
- Resolution of TS / CEC funding and risk sharing agreements.
- Decision on extent to which EARL alignment is to be protected.

Decisions / support required from CEC:

- Resolution of TS / CEC funding and risk sharing agreements

Decisions / support required by others:

- Resolution of Ingliston Park and Ride Phase 2

## **2 Progress**

### **2.1 General / overall**

#### **2.1.1 Land and property**

District Valuer has completed determining land values for Line 1a - tranche 1, 2, 3 excluding tranche 4 plots, Forth Ports, BAA and NR land negotiations will proceed with land owners applying for compensation

Preparations continue for the issue of 2<sup>nd</sup> GVD notifications for CEC owned land only.

A number of short term leases have been offered to businesses on Roseburn Street with termination date of 31<sup>st</sup> October 2007. Rolling leases will be assessed on monthly basis following this.

The Land Assembly team are still working on the assumption that 100% of land is transferred to Infraco on award of contract (excluding leased land).

Leases with BAA and NR are still being pursued.

CEC are currently working on a lease agreement for asset management – this will be discussed with **tie** in the coming weeks.

#### **2.1.2 Network Rail (NR)**

Discussions continue with TS and NR with regard to contract, scope and programme of NR activities. There does not seem to have been any progress made between TS and NR in the period and this is a concern for the project.

#### **Immunisation**

Scope and programme are unknown until agreement has been reached between TS and NR. Possession dates that are already booked for Dec 2008 / Jan 2009 have been shared with the Infraco bidders for their information. These possessions are to finalise the testing and commissioning following completion of the NR immunisation project. This work has to be completed prior to the energisation of the Gogar depot which is currently programmed for late November 2009.

### **Relocation of existing lineside equipment**

Scope and programme are unknown until agreement has been reached between TS and NR. **tie** have previously booked a possession for December 2007 to allow NR to relocate existing lineside equipment and may now incur a cost for cancellation / non-usage.

### **Relocation of existing diesel storage tanks at Haymarket depot**

Scope and programme are unclear until agreement has been reached between TA and NR. NR have verbally advised that programme will commence June 2007 and complete Dec 2007.

A series of possession requirement meetings have been held with both Infraco bidders during the period. The outcome is a matrix of possession requirements that have been agreed and submitted to NR as "1<sup>st</sup> draft". There will be ongoing discussion with NR until the final submission at a "lock-down" meeting 26 weeks prior to the possession window (mid Dec 2008 – mid Dec 2009).

A possession booking procedure is under preparation and should be concluded in the period.

Discussions continue between **tie** and NR on preparation of an asset protection agreement document.

### **2.1.3 OCIP**

Agree programme structure and appoint lead insurer / following markets.  
Agree premium payment plan.

## **2.2 Procurement consultant**

The period saw the conclusion of the SDS re-baselined design programme which in turn informed the revised Infraco procurement programme. The Infraco and Tramco contracts are programmed to move to preferred bidder status in September 2007 and award in late January 2008.

## **2.3 Design**

System Design Services (all preliminary and detailed design informing programme and costs) Parsons Brinckerhoff submitted version 16 of the design schedule on 15th June 2007, progressed to a data date of 04 June 2007. This enables the Tram master programme to be updated with achieved progress and / or slippage. This in turn drives the programme through many logic strings which results in the constant “live” scheduling of, amongst others, utilities construction, traffic management, advance works (non-depot), advance works at the Gogar depot site and structures construction within the Infraco package.

The issue of design packages “for construction” to inform the Infraco procurement process has been revised between V15 and V16 as follows:

Section 1 Newhaven to Haymarket  
V15 – 30Jan08 V16 – 25Feb08  
Section 2 Haymarket to Roseburn Junction  
V15 – 05Dec07 V16 – 04Feb08  
Section 3 Roseburn Junction to Granton Square  
V15 – 20Nov07 V16 – 07Jan08  
Section 4 Future  
Section 5 Haymarket to Gogar  
V15 – 13Mar08 V16 – 23May08  
Section 6 Gogar Depot  
V15 – 03Dec07 V16 – 08Feb08  
Section 7 Depot to Airport  
V15 – 19Feb08 V16 – 05Feb08

SDS have reported movement in the design assurance package issue dates from V15 to V16 which is currently being reviewed.

## **2.4 Financial / funding / procurement strategy**

Both JRC high and low level modelling reports have been issued and are currently under review.

## **2.5 Parliamentary process / approvals**

This phase is now complete.

## **2.6 Procurement construction works**

### **2.6.1 Negotiations and award of contracts**

- The period saw the conclusion of the SDS re-baselined design programme, which in turn informed the revised Infraco procurement programme.
- Infraco contract is programmed to move to an award recommendation in September 2007 and award in late January 2008 (based on Contract Award Notifications being issued in early January 2008).
- Tramco contract is programmed to move to an award recommendation in September 2007 and award in late January 2008.
- Invasive species contract awarded and works commenced 18 June 07
- Eradication of the invasive weeds is required to enable an unhindered approach by Infraco with certain types of treatment requiring a 1,2, or 3 year cycle.
- Negotiations between TS and NR to agree a contract, workscope and programme continue to be a concern.
- To maintain the overall completion of Phase 1a in 1<sup>st</sup> quarter 2011 an advance works contract will need to be let for the depot piling works alongside the A8 and mobilisation agreements placed with Infraco and Tramco in October 2007.

## **2.7 Construction works**

### **2.7.1 Utility diversions**

- Trial site excavation completed.
- Due to commence main workscope from w/c 9th July 2007 at WS2 Newhaven Road – Ocean Drive.

### **2.7.2 Advanced work**

#### **Depot**

Due to the lengthy nature of these works in constructing the Gogar depot, this is the critical area in the programme. In order to have the depot built and commissioned ready for 1<sup>st</sup> Tram deliveries in December 2009, an advance works contract has been awarded to allow for enabling works and mass excavation prior to Infraco commencement.

- Phase 1 earthworks are progressing to plan.
- Preparation of scope for Phase 2 works continues

## **Non depot**

- IPR Phase 2 tender queries and clarifications continue
- IPR Phase 2 – completion of informal consultation process for TRO's and commencement of formal consultation.
- Meetings were held during the period to integrate St.Andrew Square re-alignment / re-prioritisation works with CEC Streetscape works and MUDFA. Draft programme issued for comment.

## **2.8 Testing and commissioning**

This phase has not yet commenced.

## **2.9 Handing over and service operations**

This phase has not yet commenced.

## **2.10 Network output programme interface (with Transport Scotland)**

This phase has not yet commenced.

## **2.11 Interface with other projects**

- Discussions continue with EARL, SGN and Network Rail to allow for integration of programmes, particularly with regard to works within the confines of BAA land at, or adjacent to, the airport.
- SGN are updating verbally but it is proving difficult to receive any type of programme update.
- EARL – Clarification is required on any requirements for protecting the route for potential future development. There would be programme and cost benefits if this were not the case. A paper will be submitted to the DPD and Tram Project Board outlining the position.
- EARL –attempts have been made since mid May to extract an electronic version of Jacobs Primavera programme but so far this has proved fruitless.

### 3 Headline cost report

#### 3.1 Current financial year

	COWD (YTD)	COWD YTD + forecast to year end	Funding TS authorised current year	COWD YTD + forecast to period covered by funding
Phase 1a	£19.8m	£119.1m	£60.7m	£53.4m (Pd7)
Phase 1b		- 1	- 1	- 1
Phase 1a+1b	£19.8m	£119.1m	£60.7m	£53.4m

Note - 1) £2.5m design costs are to be expended against Phase 1a budget as agreed by the Tram Project Board.

- The COWD YTD includes £8.6m in relation to land purchase, £4.6m for design development and £1.4m relating to the depot Phase 1 advance works.
- The forecast cost for the year remains sensitive to the extent of advance works undertaken prior to award of Infraco. Stage 1 of the depot advance works is currently ahead of programme. A paper for the Stage 2 works has been presented to TPB for review, however a decision has been deferred until after the Parliamentary review of the Tram Project - expected in early Period 4 (Now obtained).
- A comprehensive review of the risk register is currently being undertaken and will be concluded in Period 4. The results of which may impact the current financial year forecast and overall project AFC. Section 5 of this report contains further details of the progress made to date.

#### 3.2 Next financial year

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total FYF
Phase 1a	£23.6m	£34.2m	£24.2m	£48.8m	£130.8m
Phase 1b	£ 4.7m	£ 1.2m	£ 2.2m	£ 3.4m	£ 11.5m
Phase1a+1b	£28.3m	£35.4m	£26.4m	£52.2m	£142.3m

- The forecast for 08 / 09 is sensitive to the revised programme and predicated on achieving approvals to let the Infraco contracts to meet contract award in January 08 with subsequent commencement of the physical works in February 08.
- Forecasts for Phase 1b (if approval received) in 08 / 09 relate to Land, costs for utility diversions and risk allowances.

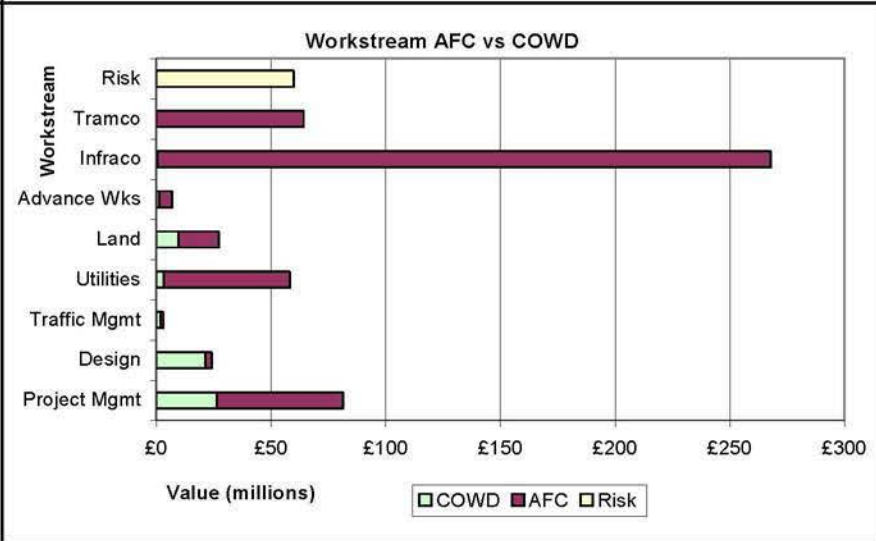
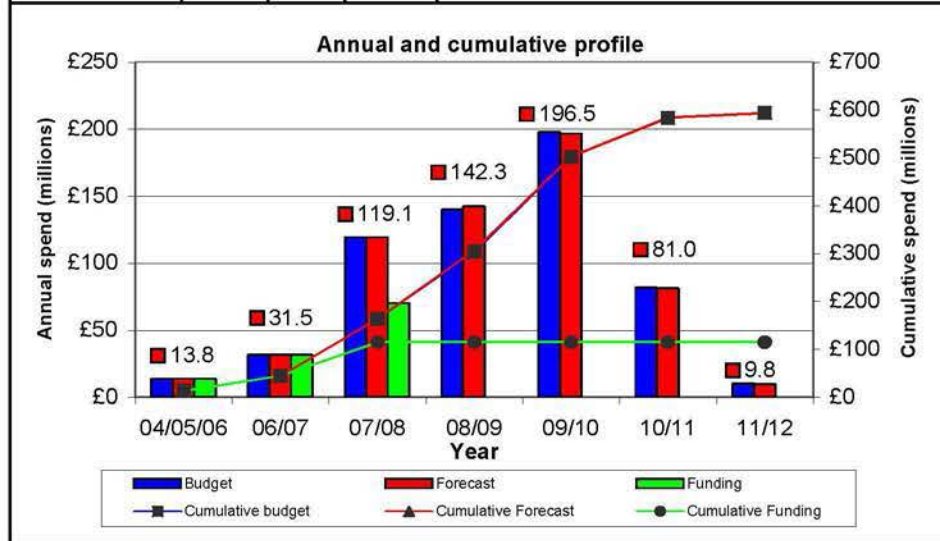
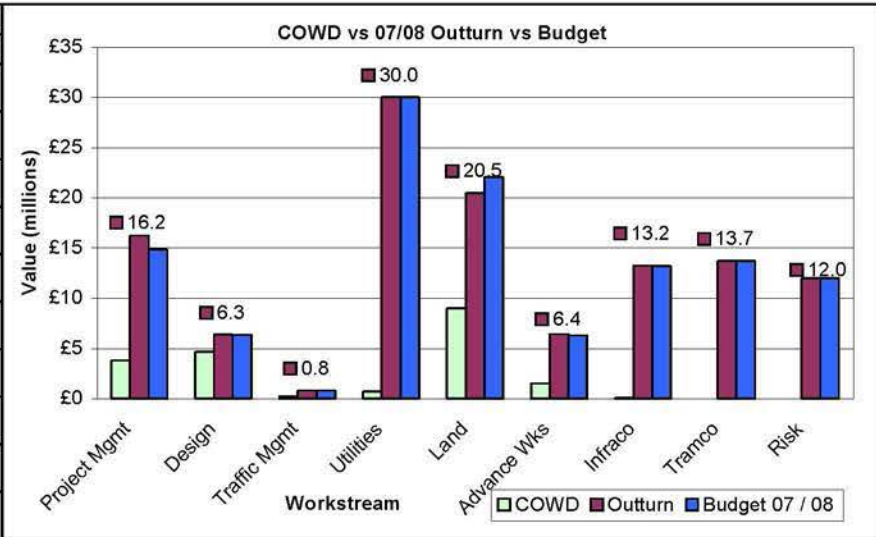


# Transport Edinburgh

## Trams for Edinburgh

### Lothian Buses

Period 3 - 07/08 COWD (£000s)				
Workstream	F/cast	Act	Var	Comments
Project Mgmt	1,532	1,472	(60)	Curtailment of legals (esp property) pending Parliamentary decision on ETN at end of June 2007.
Design	1,219	1,214	(5)	
Traffic Mgmt	89	89	0	
Utilities	253	276	24	
Land	76	280	204	Updated plot valuations for GVD 1
Advance Wks	735	749	14	
Infraco	34	10	(24)	
Tramco	0	0	0	
Risk	0	0	0	
<b>Total</b>	<b>3,937</b>	<b>4,091</b>	<b>154</b>	



### 3.3 Total project anticipated outturn versus total project funding

	FUNDING (total project)			Total COST (To Funders)
	TS	Other	Total	Promoter TOTAL AFC
Phase 1a	£500m	£45m <sup>1</sup>	£545m	£501.8m
Phase 1b	£0m	£0 <sup>2</sup>	£0 <sup>2</sup>	£ 92.0m <sup>3</sup>
Phase 1a + 1b	£500m	£45m <sup>2</sup>	£545m	£ 593.8m

The position remains as set out in the Period 2 report.

Notes:-

1. Includes CEC/ s75 free issue land
2. £3.3m of CEC / s75 free issue land are included in £45m funding from CEC.
3. Includes £2.9m of design costs for Phase 1b, to be expended against Phase 1a funding.

The increase of the Phase 1a AFC to the DFBC baseline is due to two authorised change orders:

- CEC resource allocation to the Tram Project - £0.8m
- Additional JRC modelling requirement to address wide area impacts - £0.2m

Value engineering and negotiation savings are required in order to deliver Phase 1a within the £501.8m current AFC, as set out in the Infracore initial tender return project estimate update paper dated January 2008.

### 3.4 Change control

The current change control position is summarised in the table below.

	Phase 1a £m	Phase 1b £m	Phase 1a + 1b £m
Project Baseline (DFBC)	500.5	92.0	592.5
Authorised Changes	1.2	-	1.2
Current AFC	501.8	92.0	593.8
Anticipated/ potential Changes	4.6	-	4.6
Potential AFC	506.4	92.0	598.4

The position remains as set out in the Period 2 report.

**Transport Edinburgh**  
**Trams for Edinburgh**  
**Lothian Buses**

Certain potential changes relate to items previously discussed at the Tram Project Board and formal change notices are yet to be raised. These changes include:

- Citypoint II: Fit out and costs of leasing additional office space
- Costs of eradication of invasive species
- Additional costs arising from the delay to commencement of main MUDFA works to July

However, an internal review is underway to investigate opportunities to mitigate the impact of these changes. Therefore formal change notices have not yet been raised. Results of this review will be reported in Period 4.

A number of anticipated changes relate to items excluded from the preliminary design stage project estimate update following a review undertaken at that time, for example the provision of a tram vehicle mock up.

Acceptance and inclusion of these items in the scheme will, all other things being equal, result in an increase in the AFC, requiring either additional funding or increased savings through value engineering to maintain affordability.

### **3.5 Summary breakdown**

Original Estimate (including escalation)

	Base Cost	Risk	Opportunity	OB	(or)Contingency	Total
Phase 1a	£449.1m	£51.4m	£0 <sup>1</sup>	£0 <sup>2</sup>	£0 <sup>3</sup>	£500.5m
Phase 1b	£80.5m	£11.5m	£0 <sup>1</sup>	£0 <sup>2</sup>	£0 <sup>3</sup>	£ 92.0m
Phase 1a + 1b	£529.6m	£62.9m	£0 <sup>1</sup>	£0 <sup>2</sup>	£0 <sup>3</sup>	£592.5m

**Transport Edinburgh**  
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Latest estimate / AFC (including escalation)

	Base cost	Risk	Opportunity <sup>1</sup>	OB	(or)Contingency	Total
Phase 1a	£450.4m	£51.4m	£0 <sup>4</sup>	£0 <sup>2</sup>	£0 <sup>3</sup>	£501.8m <sup>5</sup>
Phase 1b	£ 80.5m	£11.5m	£0 <sup>4</sup>	£0 <sup>2</sup>	£0 <sup>3</sup>	£ 92.0m
Phase 1a + 1b	£530.9m	£62.9m	£0 <sup>4</sup>	£0 <sup>2</sup>	£0 <sup>3</sup>	£593.8m <sup>5</sup>

Notes:-

1. Opportunities identified at DFBC stage were taken into the DFBC estimate.
2. OB included in risk (QRA at P90 confidence level) as agreed with TS
3. Contingency included as part of risk at present
4. Opportunities in latest estimate / AFC – savings targeted through the current value engineering exercise and negotiation strategy to maintain affordability.
5. Includes authorised changes

## 4 Time Schedule Report

### 4.1 Report against key milestones

Milestones taken from DFBC:

Milestones	Date
Approval of Draft Final Business Case by CEC	21 Dec 06A ✓
Approval of Draft Final Business Case by Transport Minister – approval and funding for utility diversions	45 Feb 06 16 Mar 07A
TRO process commences	13 March 07 26 Oct 07
Tramco – complete initial evaluation / negotiation	19 Mar 07 09 Mar 07A
MUDFA – completion of pre-construction period of MUDFA contract	02 Apr 07 30 Mar 07A
MUDFA – commencement of utility diversions	02 Apr 07A
Infraco – return of stage 2 bids	05 April 07 08 May 07A
Infraco – completion of evaluation / negotiation of bid	10 May 07 10 Sep 07
Infraco and Tramco – approval of conditional contract award recommendation by Tram Project Board	10 May 07 25 Sep 07
Tramco / Infraco – Final facilitated negotiations in respect of novation complete	07 Jun 07 22 Oct 07
Infraco and Tramco – approval of conditional contract award recommendation	18/12/07
Tramco / Infraco – issue of contract award notification (cooling off period)	19 Jul 07 11 Jan 08
Infraco - negotiation of Phase 1b complete.	30 Nov 07
Approval of contract award confirmation by CEC and Transport Scotland – approval and commitment of funding for Infraco / Tramco	27 Sep 07 10 Jan 08
Tramco / Infraco – award following CEC / TS approval and cooling off period.	11 Oct 07 28 Jan 08
Infraco construction works commence on Phase 1a	07 Dec 07 26 Feb 08
TRO process complete	17 July 08 19 Jun 09
Construction commences on Phase 1b	◆29 Jun 09 ✓
Construction complete Phase 1a	◆08 Jul 10 ✓
Operations commence Phase 1a	◆Jan 11 ✓
Construction complete Phase 1b	◆Jun 11 ✓
Operations commence Phase 1b	◆Dec 11 ✓

**◆Note that these dates will be subject to confirmation following completion of evaluation of bidders programmes.**

Guidance for Completion:

Legend for colouring of Act/Fcast date text

Green:	Act / Forecast date is ahead or in line with baseline
Yellow:	Slight slippage – readily recoverable with action.
Red:	Notable / significant slippage – difficult to recover, even with action.

## **4.2 Key issues affecting schedule**

- Political uncertainty – programme impact through indecision on commitment to commence work packages or increased approval timescales.
- Delivery of design programme – as so many areas of the programme are dependant of timely and adequate design, the programme is vulnerable to slippages in the SDS programme and statutory approvals.
- Network Rail immunisation – as no clear contracts are in place between TS and NR, there is no clear workscope or programme, there are real concerns that this may impact the Tram programme as disruptive possessions are required to complete the process.
- Network Rail relocation of lineside equipment – see above.
- Award of Infracore / Tramco contracts delayed by late design assurance – see above.

### **4.3 12 week look ahead**

Key milestones for the next 12 weeks are:-

- Recommence MUDFA Utilities diversions – 9 July 07
- Issue GVD notice for Tranche 2 land – 11 July 07
- Commence invasive species eradication – 13 July 07
- Conclude contract negotiations with Infraco bidders on main issues – 18 July 07
- Conclude main VE savings recommendations – 20 July 07
- TS to place contract for NR immunisation works
- Prepare draft Infraco evaluation report – 25 July 07
- Prepare detailed Infraco negotiation plan – 25 July 07
- Commence IPR temporary car park works – 8 August 07
- Complete invasive species eradication – 8 August 07
- CEC take title of Tranche 2 land – 9 August 07
- SDS issue design assurance package for Haymarket to Roseburn Junction – 13 August 07
- Issue GVD notice for Tranche 3 land – 14 August 07
- Conclude agreement with CEC on Infraco proposed methodology for delivering on-street works – 10 August 07
- Complete depot Phase 1 works – 24 August 07
- Conclude Tramco final negotiations – 27 August 07
- Conclude Infraco / Tramco initial facilitated negotiations – 27 August 07
- Commence Infraco bidder due diligence on critical designs – 28 August 07
- SGN commence diversion works on site – 3 September 07
- CEC endorse JRC model audit – 5 September 07
- CEC take title of Tranche 3 land – 11 September 07
- Conclude final negotiations with Infracos - 17 September 07
- CEC approval of traffic modelling report – 24 September 07
- Conclude process for 1<sup>st</sup> set of land compensation claims – 25 September 07
- Tram Project Board approval to conditional contract award recommendation – 25 September 07

## **5 Risk and opportunity**

### **5.1 Summary**

Risk workshops have been conducted for the following areas of the project:

- Construction
- Procurement
- Invasive species

During these workshops there was a review of the risks currently held on ARM. Further workshops will be held to update the existing risks with any new risks and an updated QRA will be run in Period 4.

A review of the ARM software is underway and training will be arranged for users once the list of those who require a license has been consolidated. Two project managers received some initial training from the Project Risk Manager in this period.

Other matters which have progressed this month are the production of a Concerns Management Procedure and further work with the MUDFA team on their risk register.

### **5.2 Review project risk register**

The principal changes in the risk position since the last period are:

Risks opened	13
Risks closed	19
Risks reassessed	20

#### **5.2.1 Risks added**

Of the 13 risks opened this period, the high significance risks are those pertaining to traffic regulation orders (TROs), namely:

- Failure to reach agreement with CEC on the way in which Tram Urban Traffic Control (UTC) priorities are handled at key junctions.
- Delay in achievement of permanent TROs causing delay to project.
- Failure to reach agreement with CEC on roads maintenance responsibility where Tram has been installed in CEC maintained roads and structures.



### **5.2.2 Risks closed**

Of the 19 risks closed this period, the most significant risks on the project were:

- MUDFA contractor encounters other services / conditions that mean utility diversions cannot be constructed within the LoD.
- Failure to reach agreement with CEC on roads maintenance where trams have been installed on CEC maintained roads.
- Failure to sustain negotiating position and / or suitable interest from the market throughout the bid process.
- Business case runtime and CEC requirements change in equipment and quality specification.
- Basis of OCIP rates change.

### **5.2.3 Risks reassessed**

Of the 20 risks reassessed, the main items are:

- Price certainty is not achieved – the probability of this risk was reduced after inspection of second stage bids confirmed no changes from first stage bid.
- Gaining access to land prior to purchase for land works – the probability reduces as this now applies only to invasive species work.
- Infraco refuses to accept or fully engage in novation of SDS and as a consequence award is successfully challenged – probability reduced.
- A number of risks relating to the OCIP were reassessed with the Capex impact being reduced to zero in each of these risks, as there is a provision for these risks in the base estimate.

### **5.2.4 Primary risk register**

See Appendix A

## **5.3 Opportunities**

Appendix B value engineering report

## **6 Health, safety, environment, quality and resources**

### **6.1 Health and safety accidents and incidents, near misses, other or initiatives**

One accident was reported in the period, this resulted in two days lost time. An operative twisted their knee while moving and placing mesh in wet concrete.

The accident frequency rate (AFR) for the project remains 0.00.

One incident was reported in the period – a telecommunications cable was damaged while excavating the earth bunds at the Gogar depot.

Three site inspections were completed in the period – one at the Gogar depot and two at the Citypoint office. Minor issues regarding site signage, lighting, notices and staff induction issues were raised and addressed.

One safety tour was completed – no serious findings were raised.

### **6.2 Environment**

There are no environmental incidents to report.

### **6.3 Quality**

Two audits were undertaken in the period, both covering the MUUDFA Casino Square trial site. One was undertaken on AMIS activities (Ref; TQA/07/01) with six minor findings recorded. The other covered the **tie** activities (Ref; TQA/07/02) with seven minor findings recorded. Close out plans for all findings are agreed.

### **6.4 Resource management**

The resource management plan as approved by the TPB continues to be delivered with a focus on replacing contractual staff with permanent employees and negotiating revised rates for contractors.

## **7 Stakeholder and communication**

### **7.1 Stakeholder strategy / plan**

The majority of the communication strategy documented in the Draft Final Business Case had been on hold, as with the majority of the construction work, until after the debate on the future of the project.

Stakeholder workshops have been held with the stakeholder team over the last four weeks. The plan and outcomes of these workshops are being developed and will be delivered shortly.

The stakeholder team has developed a new database which is currently being trialled.

Work has also commenced at pulling together all 3rd Party Agreements into one location.

The stakeholder relations have continued to develop and foster relationships with businesses and the wider community. This has included:

- Meeting the business managers at the Ocean Terminal Shopping Centre and the Gyle Shopping Centre
- Other individual businesses likely to be affected by the tram construction
- Visited local business owners in preparation for frontager and wider community meetings
- Attended The Small Business Club and Chamber of Commerce networking events
- Attended Oxraig Street design consultation
- Attended Local residents association meetings
- Meetings with local community groups including Corstorphine Community Council (20th June)
- 13th June – Scottish Freight Transport Authority
- 15<sup>th</sup> June – Edinburgh City Region Conference
- 19<sup>th</sup> June – SCA Packaging ( Gogar)
- 20th June – Spokes (Edinburgh Cycling Forum)
- 20<sup>th</sup> June – Leith Neighbourhood Partnership Workshop

Advertising, information packs, Councillor and MSP communications, media briefings and the customer interaction cycle are poised ready to start, if appropriate, now approval has been received.

## **7.2 Communication strategy / plan**

Following the election, work had slowed on delivery of the communication strategy due to political uncertainty. Following the decision to progress with the project, the communication strategy documented in the draft Final Business Case will be delivered.

Day to day activity concentrates on planning for the implementation of the MUDFA programme and the ongoing communication activity that will take place. Following approval for the project and the commencement of utility work, the Stakeholder and Communication teams are ready to deliver the construction based communications and the customer interaction cycle.

If appropriate, the communications strategy will be reviewed in July.

## **7.3 Communication and stakeholder matters arising from previous period**

### **7.3.1 Helpline and stakeholder meetings**

A maximum of five calls a week are being received and responded to at the moment. Processes are in place should this workload rise.

Four frontager meetings have been held in the city centre and Leith areas since 18<sup>th</sup> June. Two wider community meetings are to be held on 26 and 28 June in the Leith and Haymarket areas.

#### **Frontager meetings**

18th June – McDonald Road to the Foot of the walk  
19th June – St Andrew's Square to York Place  
21st June – Shandwick Place to St Andrew's Square  
25th June – York Road to McDonald Road

#### **Wider Community meetings**

26th June – Leith wider community  
28th June – New Town wider community

Turnout at the frontager meetings has been low and has focussed on feedback on the preliminary design. A minimal approach will be taken to these events, again with feedback and questions focussing on the preliminary design.

No concerns or questions have been raised by the public, on the need or timing of these meetings.

# **Transport Edinburgh**

## **Trams for Edinburgh**

### **Lothian Buses**

Following an invite from Corstophine Community Council, the stakeholder team attended their recent meeting to discuss trams. A lively discussion was had; Phil Wheeler attended with the team to discuss the political aspect of the project.

#### 7.3.2 Media

Tram continued to be the hot topic across the print and broadcast media, with speculation on the future of the project. Much support had been received from within the business sector and local politicians.

## **7.4 Communication and stakeholder action plan for next period**

### 7.4.1 MUDFA site specific communications

In preparation for a decision on the future of the tram project we have continued to work with AMIS's communications, to inform residents and businesses of the start of on street works.

### 7.4.2 Site information

Plans are currently being developed for hoarding around the Gogar site. The placement and size of the site lends itself well to more meaningful and slick signage which will inform residents and commuters.

### 7.4.3 Launch of programme and customer information

Following clarity on the future of the project it is necessary to launch both the MUDFA programme and the customer communication initiatives for the project. It is expected that the work for the first sites (1a) will follow, if appropriate, our post debate response although these sites are still subject to design output being ready.

## Appendix A Primary risk register

**Transport Edinburgh**  
**Trams for Edinburgh**  
**Lothian Buses**

ARM Risk ID	Risk Description			Risk Owner*	Significance	Black Flag	Treatment Strategy	Treatment Status		Date Due	Action Owner
	Cause	Event	Effect					Previous	Current		
264	Political support is lost or political opposition to scheme increases due to lack/loss of confidence in business case (Infraco costs). failure to provide information, election campaigning etc	STAKEHOLDER PRIMARY Political risk to continued commitment of TS/CEC support for Tram scheme	Reversal of decisions by incoming administrations in either or both CEC and Holyrood; Project becomes key political issue during election campaign; Protracted decision making and unnecessary debate during consideration of Business Case	W Gallagher	Project	Monitor likely outcomes and do our best to brief all relevant parties about the project in a balanced way	Complete	Complete	21-Dec-06	W Gallagher	
						Hearts and Minds campaign including Senior Executive Officer meetings with Councillors and MSPs and utilising the tram sounding board meeting with CEC and selected elected transport leads	Complete	Complete	21-Dec-06	S Waugh	
						Regular briefings and discussions with senior CEC and TS officers particularly in relation to Full Council presentations	Complete	Complete	21-Dec-06	W Gallagher	
						Provide confidence on Infraco costs in Business Case ensuring that 70% costs are firm	On Programme	On Programme	31-Jan-07	M Crosse	

**Transport Edinburgh**  
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**Lothian Buses**

ARM Risk ID	Risk Description			Risk Owner*	Significance	Black Flag	Treatment Strategy	Treatment Status		Date Due	Action Owner
	Cause	Event	Effect					Previous	Current		
							Make contact and engage with Senior SNP Leaders to address the effect of the project becoming a key political issue during election campaigning Continue to provide accurate information on status of project to address the effect that the incoming administration after the May 07 elections may reverse decision to proceed	On Programme	On Programme	04-May-07	W Gallagher
								On Programme	On Programme	28-Sep-07	W Gallagher
268	Business case is not approved or is approved subject to the gaining of additional funding	STAKEHOLDER PRIMARY Funding not secured/agreements not finalised for total aggregate funding from TS and CEC including grant/indexation CEC contribution; risk sharing between parties; cashflow profile; financial covenant; public sector risk allocation.	Possible showstopper; Delays and increase in out-turn cost may affect affordability. Event: also decision on line 1B.	S McGarrity		Project	tie are facilitating interaction between TS AND CEC in the delivery of a funding agreement which will cover all funding matters including decision making on Phase 1b. This process requires each party to facilitate decision making within (see add info) Tram Project Board to monitor progress towards conclusion of agreement.	Behind Programme	Behind Programme	28-Sep-07	G Bissett
								Behind Programme	Behind Programme	28-Sep-07	D MacKay
271		PROJECT PRIMARY SUMMARY RISK - Failure to reach agreement with CEC on various approvals areas	Delay to project while agreement with CEC is reached. Sacrifices being made to ensure agreement is concluded.	T Craggs		Project	Finalise alignments and gain agreement from CEC	Behind Programme	Behind Programme	29-Dec-06	T Craggs



**Transport Edinburgh**  
**Trams for Edinburgh**  
**Lothian Buses**

ARM Risk ID	Risk Description			Risk Owner*	Significance	Black Flag	Treatment Strategy	Treatment Status		Date Due	Action Owner
	Cause	Event	Effect					Previous	Current		
							Final agreement to be approved by Roads Authority, CEC Promoter, CEC in-house legal and tie	Behind Programme	Behind Programme	28-Feb-07	T Craggs
915	Policy or operational decision	STAKEHOLDER PRIMARY Transport Scotland and CEC do not provide indemnities on payment	Bidders will not commit to contract without this assurance; Delay in bid process; Possible bidder withdrawal from negotiations and bid process.	G Gilbert		Project	Ensure Transport Scotland understand implication of not providing indemnities and obtain buy-in from them	On Programme	On Programme	31-Aug-07	G Gilbert
916	CEC do not achieve capability to deliver	STAKEHOLDER PRIMARY CEC do not deliver contribution of £45m plus additional contribution relating to Line 1B	Potential showstopper to project if contribution not reached; Line 1B may depend on incremental funding from CEC	S McGarrity		Project	CEC has formed a multi discipline Tram Contributions Group to monitor identified sources of £45m contribution including critically developers contributions. tie are invited to that group. (see add info)	On Programme	On Programme	28-Sep-07	CEC
								On Programme	On Programme	28-Sep-07	D MacKay
								Undefined	Undefined	31-Dec-10	CEC
139	Utilities diversion outline specification only from plans	PROJECT PRIMARY Uncertainty of Utilities location and consequently required diversion work/ unforeseen utility services within LoD	Increase in MUDFA costs or delays as a result of carrying out more diversions than estimated	G Barclay	25	None	Review design information and re-measure during design workshops with Utility Companies and MUDFA.	Behind Programme	Behind Programme	30-Nov-06	Undefined

**Transport Edinburgh**  
**Trams for Edinburgh**  
**Lothian Buses**

ARM Risk ID	Risk Description			Risk Owner*	Significance	Black Flag	Treatment Strategy	Treatment Status		Date Due	Action Owner		
	Cause	Event	Effect					Previous	Current				
164	Utilities assets uncovered during construction that were not previously accounted for; unidentified abandoned utilities assets; asbestos found in excavation for utilities diversion; unknown cellars and basements intrude into works area; other physical obstructions; other contaminated land	PROJECT PRIMARY Unknown or abandoned assets or unforeseen/contaminated ground conditions affect scope of MUDFA work	Re-design and delay as investigation takes place and solution implemented; Increase in Capex cost as a result of additional works.	G Barclay	25	None	Develop PC Sums into quantified estimates.	Behind Programme	Behind Programme	30-Nov-06	Undefined		
							In conjunction with MUDFA, undertake trial excavations to confirm locations of Utilities	On Programme	On Programme			31-May-07	A Hill
							Identify increase in services diversions. MUDFA to resource/re-programme to meet required timescales.	On Programme	On Programme			31-Aug-07	G Barclay
							Carry out GPR Adien survey	On Programme	On Programme			31-Oct-07	J Casserly
							Investigations in advance of work	On Programme	On Programme	30-Nov-07	J Casserly		

**Transport Edinburgh**  
**Trams for Edinburgh**  
**Lothian Buses**

ARM Risk ID	Risk Description			Risk Owner*	Significance	Black Flag	Treatment Strategy	Treatment Status		Date Due	Action Owner
	Cause	Event	Effect					Previous	Current		
172	Area of possible contamination and unstable ground (unlicensed tip) has been highlighted during desk study immediately to east of Gogar Burn - investigation for CERT project indicates that this consists of building rubble and domestic waste.	PROJECT PRIMARY Tramway runs through area of possible contamination and special foundation is required to cope with unstable ground	Increase in costs to provide special foundation solution	D Crawley	25	None	Obtain ground investigation information.	Complete	Complete	09-Feb-07	A McGregor
							Monitor design progress and include costs in base estimate.	Behind Programme	Behind Programme	28-Feb-07	A McGregor
							Include SI Report and Information in next issue of information to Infraco.	Behind Programme	Behind Programme	30-Mar-07	B Dawson
279	PROJECT PRIMARY Third party consents including Network Rail, CEC Planning, CEC Roads Department, Historic Scotland, Building Fixing Owner consent is denied or delayed	Delay to programme; Risk transfer response by bidders is to return risk to tie; Increased out-turn cost if transferred an also as a result of any delay due to inflation.	T Craggs	25	None	CEC Planning - mock application by SDS	Behind Programme	Behind Programme	31-Jan-07	T Craggs	
						Engagement with third parties to discussed and obtain prior approvals to plans	On Programme	On Programme	31-Aug-07	T Craggs	
						Identify fallback options	On Programme	On Programme	31-Aug-07	T Craggs	

**Transport Edinburgh**  
**Trams for Edinburgh**  
**Lothian Buses**

ARM Risk ID	Risk Description			Risk Owner*	Significance	Black Flag	Treatment Strategy	Treatment Status		Date Due	Action Owner
	Cause	Event	Effect					Previous	Current		
							Obtain critical consents prior to financial close	Behind Programme	Behind Programme	28-Sep-07	T Craggs
952	Scope of works relating to Wide Area Modelling (WAM) has not been agreed with SDS; Design relating to the outputs of WAM has not yet been undertaken; Boundaries of Tram Project responsibility and details of what constitutes betterment for WAM is not finalised.	PROJECT PRIMARY Uncertainty about extent of construction works required on road network relating to Wide Area Modelling issues.	Potential claim from SDS to deal with additional design work; Potential construction costs to deal with WAM issues (difficult to quantify without design) over and above those already included.	K Rimmer	25	None	Provision of £500k in Draft Final Business Case estimate to deal with WAM requirements	Complete	Complete	31-Jan-07	G Gilbert
							Employ further traffic management expertise	Complete	Complete	31-Jan-07	C McLauchlan
							Finalise boundaries of Tram responsibility for WAM requirements	On Programme	On Programme	31-May-07	A Sim
							Agree design requirements relating to WAM with SDS	On Programme	On Programme	31-May-07	D Crawley
							Obtain design and quantify construction cost for inclusion in base estimate	On Programme	On Programme	31-Jul-07	D Crawley
							Incorporate appropriate works components into Infraco tender so that bidders can include for works in final tender returns	On Programme	On Programme	31-Jul-07	B Dawson

**Transport Edinburgh**  
**Trams for Edinburgh**  
**Lothian Buses**

ARM Risk ID	Risk Description			Risk Owner*	Significance	Black Flag	Treatment Strategy	Treatment Status		Date Due	Action Owner
	Cause	Event	Effect					Previous	Current		
270	Source of funding and scope of works relating to Wide Area Modelling issues not agreed with CEC.	PROJECT PRIMARY Uncertainty about requirements for Wide Area Modelling and need and extent of construction works required on road network	Increased construction cost; Delay while additional funding is found.	M Thorne	25	None	Clarify and agreed boundaries of scope and funding provision between TS and CEC	Behind Programme	Behind Programme	28-Feb-07	T Craggs
917	Transport Scotland and CEC have not agreed funding and risk allocation required from Tram budget for Tram elements of work; Immunisation Works on critical path and it is essential they are complete by October 2009.	STAKEHOLDER PRIMARY Source and level of funding and risk allocation for Network Rail Immunisation Works has not been established	Immunisation works unable to proceed due to lack of funding or works are delayed having a critical effect on programme	S Bell	23	Project	Undertake Immunisation Works Risk Workshop to produce key risks register	Complete	Complete	16-Mar-07	
							Establish risks retained by each party for liability	Complete	Complete	30-Mar-07	D Sharp
							Issue instruction to Network Rail to undertake works	Behind Programme		30-Apr-07	D Sharp
							Agree Immunisation Project Milestones	Behind Programme		30-Apr-07	S Bell
			Establish funding contributions and respective budgets from TS/NR/CEC/Other Projects	Complete	Complete	31-May-07	D Sharp				

**Transport Edinburgh**  
**Trams for Edinburgh**  
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ARM Risk ID	Risk Description			Risk Owner*	Significance	Black Flag	Treatment Strategy	Treatment Status		Date Due	Action Owner
	Cause	Event	Effect					Previous	Current		
52	Political and/or Stakeholder objectives change or require design developments that constitute a change of scope; Planning Department requires scope over and above baseline scope in order to give approval (may be as a result of lack of agreement over interpretation of planning legal requirements).	STAKEHOLDER PRIMARY Amendments to design scope from current baseline.	Programme delay as a result of re-work; Programme delay due late receipt of change requirements and lack of resolution; Scope/cost creep (dealt with through change process); Project ultimately could become unaffordable.	D Crawley	22	Project	NO TREATMENT PLAN ENTERED IN ARM. IT SHOULD BE NOTED THAT THIS RISK WILL BE MANAGED THROUGH THE CHANGE PROCESS WITH IMPLICATIONS OF REQUESTED CHANGE BEING ADVISED TO STAKEHOLDERS.				
286		PROJECT PRIMARY Infraco refuses to accept or fully engage in novation of SDS and as a consequence award is successfully challenged	Significant delay to delivery of Tram; Loss of reputation; Significant extra costs	B Dawson	20	Project	Consult with legal on options relating to due diligence to be carried out on design and availability of consents Introduce and engage Infraco bidders to SDS as early as possible Complete designs and allow due diligence to be undertaken by bidders	Behind Programme	Behind Programme	28-Feb-07	B Dawson
								Complete	Complete	28-Feb-07	B Dawson
								On Programme	On Programme	31-May-07	B Dawson
870	SDS Designs are late and do not provide detail Infraco requires	PROJECT PRIMARY Infraco does not have detail to achieve contract close	Delay to due diligence and start on site and need to appoint additional design consultants	D Crawley	20	Project	Review AIPs for Structural Information  Obtain Design Progress Dashboard from SDS	Behind Programme	Behind Programme	02-Feb-07	Undefined
								On Programme	On Programme	15-May-07	D Crawley

FOISA exempt

Yes

No

## Appendix B Value engineering register

Item	Opportunity	Filter	Proposal Origin	Opportunity Champion	Cost of Project Element	Opportunity Value			Impact on						Work Stream affected	Current Status	Probability of Success (Phase 1a only)			ACTIONS	Comments			
						Min	Most Likely	Max	SDS Design Programme	Construction Programme	System Performance	Project Constraints	Stakeholders	Maintenance Costs			Business Case	Easy (80%)	Medium (50%)			Difficult (20%)		
																			0.80	0.50	0.20			
<b>BUILDINGS</b>																								
1	Delete fencing at sub-stations and accept security risk. Note that no fencing is in contravention of the Tram Design Manual - may not be acceptable to planners	Buildings	Project 31.1.14	GG	£26,000	£0		£26,000							Infraco	REJECTED	£0	£0	£0		Insignificant cost saved versus security risk			
2	Delete one substation and accept risk of total system failure should another substation go down	Buildings	Project 31.1.15 & 14.2.4			£0		£500,000							Infraco	REJECTED	£0	£0	£0		"13th" sub station required for resilience and to enable capex savings in supply of power to substations			
3	Power supply - Rationalise layout of modular housings to reduce overall space requirements	Buildings	Scoop			£100,000		£250,000							Infraco	OPEN	£0	£87,500	£0		See "SCOOP" email received from BD 100407			
						£100,000	£0	£776,000									£0	£87,500	£0	£0				
<b>DEPOT</b>																								
4	Depot reorientation (External works) May impact on ability to obtain prior approvals from the planning authority  INCLUDED IN ITEM 26	Depot	Scoop	SDS	£5,443,555	£500,000		£1,000,000	Would delay programme subject to re prioritisation	Any impact on scope/commencement of advance works?	Side agreements with BAA, EAL, Meadowfield, NIL	CEC as planning authority - any impact on land take?			Infraco - advance works	CLOSED	£0	£0	£0		SDS Depot Feasibility Study. Note: estimate 23% reduction in excavation programme duration This feasibility study looks at raising the depot only - not a report on reorientation. CHANGED TO "RED" DUE TO CURRENT ADVANCE WORKS PROCUREMENT STRATEGY(22/03/07). Current info from BAA suggests that they are unwilling to extend their cross wind runway at a cost of £1.5 - £2m as there is next to no benefit in doing so. INDICATIONS ARE THAT BAA ARE NO LONGER CRITICAL TO THIS OPPORTUNITY AR - UNLIKELY			
5	Depot construction levels. Again, may impact on ability to obtain prior approvals from planning authority  INCLUDED IN ITEM 26	Depot	Project, Scoop 9.1.1 - see also ideas 26-32 below	2 SDS		£0		£0	Would delay programme subject to re prioritisation	Any impact on scope/commencement of advance works	Side agreements and settlement claims re BAA costs of £2m	CEC as planning authority - any impact on land take?			Infraco - advance works	CLOSED	£0	£0	£0		Connected to "Depot reorientation" See 4 above			
6	Depot location (whole depot) - relocate to alternative location - Site at Leith has a different set of issues	Depot	Project - 24.1.1	SDS	£19,640,560	£0		£1,000,000	Would delay programme subject to re prioritisation	Any impact on scope/commencement of advance works	Leith - section 75 Agreements and undertakings from Forth Ports and CEC Planning	CEC as planning authority - not keen on this site			Infraco - advance works	CLOSED	£0	£0	£0		This has been considered before and PARKED. Affected by LCC. Therefore no saving taken. Is this still parked if 43m tram?			
7	Track geometry at the Depot - rationalise layout  Currently 32 turnouts at depot, remove 6 nr could result in £0.5m saving	Depot	Scoop	SDS		£500,000		£600,000		Transdev may have views	Side agreements with BAA, EAL, Meadowfield, NIL				Infraco	OPEN	£0	£0	£110,000					
8	Delete depot pumping station/storm tanks by utilising existing gravity system which has been confirmed to be at a suitable level where diversion is not required. Who takes risk if it doesn't work?	Depot		PD	£350,000	£241,907		£241,907							Infraco	OPEN	£0	£0	£0	£193,526	Further impact on operating costs to be investigated			
9	Depot - Build part now with provision to expand in the future/reduce size of car park facilities	Depot	Project - 9.1.3 (see also item 10)	4 SDS		£101,571		£264,321					NONE - UNACCEPTABLE TO REDUCE		Infraco	CLOSED	£0	£0	£0	£230,000	Confirmed stabling requirements: Short term 27 tram fleet - 24 in sidings balance in shed. In addition to items 4, 5 & 6? False economy? Revisit estimate for full dig for 35 tram fleet (8 sidings) but infrastructure installed for 27 tram fleet (6 sidings) or 31 tram fleet (7 sidings) AR - AGREED			
10	Depot - Reduce numbers accommodated in Depot, Buildings & Car Park - to enable reduced floor area	Depot	Project - 24.1.21 (see also item 9)	4		£0		£2,000,000								CLOSED	£0	£0	£0	£360,000	Staff numbers to be accommodated in the depot and commensurate with fleet size to be finalised and confirmed asap to SDS. AR issued sheet with max 400 staff souls to be accommodated			
11	Depot Building - reduce cost of depot building. Perception that current estimate too high.  POSTPONE	Depot	Project - 24.1.33	SDS	£14,063,521	£2,891,607		£4,161,554							Infraco	OPEN	£821,264	£0	£0		£2,344/m2 - Reduce size of the accommodation. Need to be clear what the occupancy figures are based on - accepted by tie?			
12	Depot equipment - lease rather than purchase	Depot	Project - 24.1.22	AR/DP		£0	£0	£0							Infraco	REJECTED	£0	£0	£0		Pending scope development			



Item	Opportunity	Filter	Proposal Origin	Opportunity Champion	Cost of Project Element	Opportunity Value			Impact on						Work Stream affected	Current Status	Probability of Success (Phase 1a only)			ACTIONED	Comments	
						Min	Most Likely	Max	SDS Design Programme	Construction Programme	System Performance	Project Constraints	Stakeholders	Maintenance Costs			Business Case	Easy (80%)	Medium (50%)			Difficult (20%)
13	Depot - sale of top soil	Depot	Project - 14.2.2	GG	£300,000	£44,349		£172,145								Infraco	CLOSED	£0	£0	£0		Only top 250mm as quality top soil. See separate opportunity for disposal of bulk material below <b>CHANGED TO "RED" DUE TO CURRENT ADVANCE WORKS PROCUREMENT STRATEGY(22/03/07)</b>
14	Depot - Delete under floor lift plant and utilise mobile jacks	Depot	Scoop			£100,000		£250,000								Infraco	REJECTED	£0	£0	£0		See "SCOOP" email received from BD 100407 <b>Rejected - complicates operations and negative impact on Health &amp; Safety</b>
15	Depot - delete Windscreen remover - not required at Nottingham Tram <b>POSTPONE</b>	Depot	Scoop			£10,000		£100,000					NONE			Infraco	OPEN	£0	£27,500	£0		See "SCOOP" email received from BD 100407
16	Depot - split vehicle accommodation system - requirement dependant on tram vehicle selection	Depot	Scoop			£10,000		£100,000					NEGLIGIBLE			Infraco	CLOSED	£0	£0	£0	£27,500	See "SCOOP" email received from BD 100407 AR - Not good in the long run really from reliability. Underfloor jacks are generally more reliable and, in conjunction with underfloor body stands, safer
17	Depot - Track Maintenance Equipment - rationalise scope requirement	Depot	Scoop			£10,000		£100,000					NEGLIGIBLE			Infraco	CLOSED	£0	£0	£0	£27,500	See "SCOOP" email received from BD 100407
18	Depot Power - delete bidders allowance for equipment to be supplied by Scottish Power	Depot	Scoop	DL		£80,000		£90,000								Infraco	OPEN	£68,000	£0	£0		DL email 19-01-07 refers
19	Depot - downgrade 12 tonne gantry crane to 6.3 tonne (max lift 5 tonne bogies) - more efficient building envelope  Reduction in structural steel requirements, knock-on effects on foundation design, roof design, structural envelope, building volume, heating/ventilation requirements, etc	Depot	Project - 7.2.1	3		£0		£0					NONE			Infraco	CLOSED	£0	£0	£0	£2,000,000	Change agreed and SDS instructed to accommodate within the design. <b>BOTH BIDS ALLOW FOR A 7T CAPACITY CRANE. NOTE - SIGNIFICANT SAVING AVAILABLE IN THE REDUCED STEEL SECTION SIZE REQUIRED TO SUPPORT THE CRANE, REDUCED FOUNDATIONS, EASIER PIT CONSTRUCTION</b>
20	Depot - deletion of one pavement (inner) . <i>Does this allow longer sidings?</i>	Depot	Project - 7.2.2			£30,000		£60,000					NONE			Infraco	CLOSED	£0	£0	£0	£36,000	May not be realised as a saving due to requirement to feed water main under footway
21	<del>Depot - reduce spec of tram stop</del>	Depot	Project - AH109			£0		£0								Infraco	REJECTED	£0	£0	£0		This is a simple halt, not a tram-stop. Limited opportunity exists. Not part of original SDS estimate
22	Depot - disposal of excavated material over adjacent farmland. Avoid transportation costs and landfill costs?	Depot	Project - 14.2.2			£0		£0								Infraco	CLOSED	£0	£0	£0		
23	Depot - sale of general excavated material (See opportunity 53 above for topsoil sale)	Depot	Project - 14.2.2			£868,884		£1,524,399								Infraco	CLOSED	£0	£0	£0		
24	Depot - delete requirement for concrete apron to security fence	Depot	SDS			£7,000		£8,200					NEGLIGIBLE			Infraco	CLOSED	£0	£0	£0	£6,080	
25	Depot - gas main diversion - Excavation delayed due to 3rd Party - move required valve location to expedite excavation of depot area	Depot	Project - 21.2.1	2		£0		£0								Infraco - advance wks	CLOSED	£0	£0	£0		relocation of valve considered most unlikely. Await land purchase from Lord Rosebury / approval from tenant farmer. <b>LAND PURCHASE COMPLETED VIA SGN - VE OPPORTUNITY NOT REALISED</b>
26	Depot - Lower the roof sufficiently to allow the depot to rise 1.5 metres from the current level.	Depot	Project - 7.2.8	3		£0		£0					NONE				CLOSED	£0	£0	£0	£1,200,000	NOTE: £1m SAVING ALREADY REFLECTED IN ESTIMATE  Combination of impacts eg Reduced mass excavation and reduction in size of major retaining wall parallel to A8
27	Depot - if general OLE height lowered from 7m to 6 or 6.5m - what savings can be made to depot height?  INCLUDED IN ITEM 26	Depot	Project - 21.2.2	3	SDS	£0		£0									CLOSED	£0	£0	£0		Initial indications for Items 19 & 27 indicate a total of 500mm can be saved
28	Depot - remove OLE from critical roads in the tram shed (i.e. under crane) - move trams in/out by alternative power (shunter, Shore power, on board battery power)  INCLUDED IN ITEM 26	Depot	Project - 21.2.3	3	SDS/DP/TEL/T RANSDEV	£0		£0								Infraco	CLOSED	£0	£0	£0		Designers NOT IN FAVOUR



Item	Opportunity	Filter	Proposal Origin	Opportunity Champion	Cost of Project Element	Opportunity Value			Impact on						Work Stream affected	Current Status	Probability of Success (Phase 1a only)			ACTIONED	Comments
						Min	Most Likely	Max	SDS Design Programme	Construction Programme	System Performance	Project Constraints	Stakeholders	Maintenance Costs			Business Case	Easy (80%)	Medium (50%)		
41	Land & Property - review "cautious" DV figures	Land & property	Project - Risk 352			£0		£0							Infraco	CLOSED	£0	£0	£0		
						£201,489	£0	£436,170									£0	£0	£0		£0
	<b>NETWORK RAIL</b>																				
42	NR Immunisation - ETN only to pay for Direct Current immunisation (£3.5m)	NR	Project - 7.2.4			£2,500,000		£3,000,000							Infraco	OPEN	£2,200,000	£0	£0		
43	NR Immunisation - TS to pay for all upgrading associated with AC and DC immunisation (i.e. extra £3.5m tie saving to add to idea 42 above)	NR	Project - 7.2.5			£0		£3,500,000							Infraco	OPEN	£0	£0	£350,000		
44	NR Immunisation - Condition survey existing NR assets, agree betterment with NR	NR	Project - 7.2.6			£0		£0							Infraco	REJECTED	£0	£0	£0		Rejected - DC immunisation is all new
						£2,500,000	£0	£6,500,000									£2,200,000	£0	£350,000		£0
	<b>OLE</b>																				
45	OLE - reduce height of Overhead Power Line reduces cost of pantograph	OLE	Project - 31.1.7	SDS		£25,000		£150,000							Infraco	OPEN	£70,000	£0	£0		
46	OLE - reduce height of Overhead Power Line reduced cost of support poles etc? <b>Depends if poles are also to be street lights. Needs more consideration</b>	OLE	Project - 31.1.7	SDS/TSS		£0		£0	May result in some re-design				CEC will need to be convinced re open top buses. Transdev views		Infraco	OPEN	£0	£0	£0		Reduction in height under investigation. Need to consider views of the TDWG as pre application stage of re prior approvals. May lead to more poles albeit shorter
47	OLE - reduce height of Overhead Power Line may allow depot to be raised further out of the ground ?	OLE	Project - 21.2.2	SDS		£0		£0				CEC as planning authority & TDWG		Infraco	OPEN	£0	£0	£0		Initial indication for 7.2.1 and 21.2.2 is total 500mm excavation can be saved	
48	OLE - minimise building fixings - <b>How does this reduce costs?</b>	OLE	Project - 5.1.20	SDS/GD/JP		£0		£0						Infraco	REJECTED	£0	£0	£0			
49	Overhead Contact system - Switchgear - rationalise specification - considered "quite onerous"	OLE	Scoop			£250,000		£1,000,000						Infraco	OPEN	£0	£312,500	£0		See "SCOOP" email received from BD 100407	
50	OLE - advance purchase of cabling to avoid future cost escalation Move to INFRACO negotiation plan	OLE	Project - 14.2.1			£0		£0						Infraco	OPEN	£0	£0	£0			
						£275,000	£0	£1,150,000									£70,000	£312,500	£0		£0
	<b>RISK</b>																				
51	System Wide - review risk allocation and mitigations	Risk	Project - AH11	Nina		£0		£0							Infraco	CLOSED	£0	£0	£0		Now part of Period Management process
						£0	£0	£0									£0	£0	£0		£0





Item	Opportunity	Filter	Proposal Origin	Opportunity Champion	Cost of Project Element	Opportunity Value			Impact on						Work Stream affected	Current Status	Probability of Success (Phase 1a only)			ACTIONED	Comments				
						Min	Most Likely	Max	SDS Design Programme	Construction Programme	System Performance	Project Constraints	Stakeholders	Maintenance Costs			Business Case	Easy (80%)	Medium (50%)			Difficult (20%)			
SYSTEM WIDE																									
77	Optimise the work site lengths wherever practical to ensure efficient construction outputs	System Wide	Project - 5.1.1 ??			£0		£0		Dependent on TTR0's & Traffic Management plans being acceptable		Interface with MUDFA & programme constraints	CEC as roads authority			Infraco	OPEN	£0	£0	£0	Resolve with bidder/CEC methodology reviews				
78	Remove/reduce contractual bonds (rely on PCG)	System Wide	Project - 31.1.12	16	GG	£0		£400,000								Infraco/Tramco	OPEN	£160,000	£0	£0	Part of Contract negotiations				
79	Infraco bidders offering discounts for using specific tram suppliers. <b>Can't influence evaluation process</b>	System Wide	Project - 24.1.19 Scoop, Roley	15	GG	£0		£0								Infraco	CLOSED	£0	£0	£0	Hold pending TRAMCO/Infraco negotiations				
80	Accept more disruption over shorter period to maximise efficiency of construction operations -	System Wide	Project - 5.1.1	8	SC/AH/KR	£0		£0				Would need CEC buy-in				Infraco/Tramco	OPEN	£0	£0	£0	See Item 77				
81	Aligning SDS and the employers Requirements - make best use of the design already completed. Accept that there are scope miss-matches between SDS & Infraco	System Wide	Project - 5.1.7	8		£0		£0								Infraco	REJECTED	£0	£0	£0	Has already increased project costs - not VE!				
82	Savings in management through integrated teams	System Wide	Project			£100,000		£300,000								tie	OPEN	£160,000	£0	£0	Based on reduction in shadowing engineering staff Mar to Sep 07				
83	System Wide - reprogrammed to reduce impact from Inflation	System Wide	Project - AH4	16		£0		£0								Infraco	OPEN	£0	£0	£0	See Item 77				
84	System Wide - review delivery programme - complete earlier reducing OH's	System Wide	Project - AH12	9		£0		£0								Infraco	OPEN	£0	£0	£0	See Item 77				
85	System Wide - Review KPI's - relax requirements	System Wide	Project - AH101	9		£0		£0								Infraco	CLOSED	£0	£0	£0	Maintenance Issue				
86	System Wide - reduce cost of approvals - reduce OH's and tie organisation costs	System Wide	Project - AH107	9		£0		£0								Infraco	OPEN	£0	£0	£0					
87	System Wide - relax run time requirements	System Wide	Project - AH110	9		£0		£0								Infraco	REJECTED	£0	£0	£0	Undermines Business Case				
88	<del>System Wide - remove Guided Bus way Programme Constraints</del>	System Wide	Project - AH112	20		£0		£0								Infraco	REJECTED	£0	£0	£0	Current programme ignores constraint and represents most efficient programme. Introduction of constraint should be recognised as a potential risk.				
89	System Wide - challenge employers requirements	System Wide	Project - 5.1.7	8		£0		£0								Infraco	REJECTED	£0	£0	£0	See Item 81				
						£100,000	£0	£700,000													£320,000	£0	£0	£0	
THIRD PARTY																									
90	Murrayfield Pitch Relocation - mods only to Waranders Club House TBC. <b>Pitches need to be moved but cost may still be too high in cost estimates</b>	Third Party	Project			£3,355,000	£2,684,000	£3,355,000				SRU agreement (not yet signed)				Infraco	OPEN	£2,415,600			Comments made by various individuals suggests that a compromise has been reached with SRU. Await final confirmation from?				
						£2,684,000	£0	£3,355,000													£2,415,600	£0	£0	£0	



Item	Opportunity	Filter	Proposal Origin	Opportunity Champion	Cost of Project Element	Opportunity Value			Impact on						Work Stream affected	Current Status	Probability of Success (Phase 1a only)			ACTIONED	Comments	
						Min	Most Likely	Max	SDS Design Programme	Construction Programme	System Performance	Project Constraints	Stakeholders	Maintenance Costs			Business Case	Easy (80%)	Medium (50%)			Difficult (20%)
105	Tramco - reduce power demand (environmental grants available?)	Traction Power	Project - 31.1.11	16	DP		£0		£0									£0	£0	£0		
106	Review size of pre-packaged Traction Power Units to make smaller	Traction Power	Project - 5.1.21	13	SDS/Transdev		£0		£0									£0	£0	£0		See Item 107
107	Power supply - AC switchboards / DNO supply - If this board could be shared savings could be realised in both space in the substation and further optimisation of the AC switchboard equipment	Traction Power	Scoop				£100,000		£250,000									£0	£87,500	£0		See "SCOOP" email received from BD 100407
108	Power supply - Track / Bypass isolators - switches could be combined with the DC switchgear in the substation	Traction Power	Scoop				£100,000		£250,000									£0	£87,500	£0		See "SCOOP" email received from BD 100407
109	Power supply - Russell Rd TPM - could equipment for future upgrade to substation be supplied when this is actually realised? i.e. don't supply transformer rectifier now.	Traction Power	Scoop				£10,000		£100,000									£0	£27,500	£0		See "SCOOP" email received from BD 100407
NEW 130	Power supply - utilise existing SP tunnels for cable routes	Traction Power					£0		£0									£0	£0	£0		News item suggesting that existing SP tunnels could be utilised for cable routes
							£4,453,886	£0	£5,323,886									£3,587,109	£202,500	£0	£0	
	<b>TRAM STOPS</b>																					
110	Delete 2 tram stops (Ocean Drive & S Gyle) leaving provision for adding stops back in the future. <b>This is unlikely to be acceptable politically. Plus 2 x Phase 1b stops</b>	Tram Stops	Project - 31.1.13	16	tie/Tel		£0		£3,750,000				Impact on business case	Legitimate expectations of public and stakeholders				£0	£0	£0		Await tie/TEL decision. <b>Allocate between 1a &amp; 1b</b>
111	3rd Party Branding of tram stops (e.g. RBS at Gogarburn). <b>Differentiate between branding and advertising - could raise revenue from advertising</b>	Tram Stops	Project - 9.1.9	13	AR		£0	£0	£0				advertising consent may be required	RBS will pay for stop - not just branding. TEL may have views				£0	£0	£0		No future opportunity
112	Prefab drop-in tram stops and other items. <b>It has been agreed that substations will be package substations</b>	Tram Stops	Project - 24.1.30	15	GG		£0		£0		If delay in getting prior approvals, delay to programme		Prior approvals may be impacted				£0	£0	£0		Perceived wrong image	
113	Tram stops - finishes to be minimum standard throughout	Tram stops	Project - 5.1.24	13	SDS		£0		£0				Tram Design Manual is a constraint	CEC as planning authority?			£0	£0	£0		Perceived wrong image	
114	<del>Tram Stops - delete cycle racks</del>	Tram Stops	Project - AH113	20			£0	£0	£0									£0	£0	£0		Negligible saving and reduced functionality
							£0	£0	£3,750,000									£0	£0	£0	£0	
	<b>TRAMS</b>																					
115	Second-hand Tram vehicles	Trams	Project		DP	£65,000,000	£10,000,000		£20,000,000				N&V policy constraints; ES	CEC/TEL will have views	Increased?			£0	£0	£3,000,000		Generated from high level discussions
116	Tram mock-up - use an existing mock-up rather than purchasing new	Trams	Project - 24.1.10	14	DP		£0		£250,000									£0	£0	£0		Unlikely to procure a UK tram without major rework. Not easy to find, would not meet all required objectives. DP reports that one Tramco may have an existing mock-up which may be adaptable to ETP
117	Reduce fleet size - run 8+8 on 1a only (26 trams) or 6+6 on 1a and 1b (26 trams)(build in option to buy additional trams in the future)	Trams	Project - 24.1.4	14	AR		£0		£10,000,000				TEL may have views					£0	£0	£0		Revisit later



Item	Opportunity	Filter	Proposal Origin	Opportunity Champion	Cost of Project Element	Opportunity Value			Impact on					Work Stream affected	Current Status	Probability of Success (Phase 1a only)			ACTIONED	Comments	
						Min	Most Likely	Max	SDS Design Programme	Construction Programme	System Performance	Project Constraints	Stakeholders			Maintenance Costs	Business Case	Easy (80%)			Medium (50%)
118	Buy 26 tram units, lease extra when needed	Trams	Project - 24.1.5	14	AR	£750,000		£10,000,000				Business case constraints	TEL may have views		Tramco	HOLD	£0	£0	£0		Not being considered at this stage
119	Reduce fleet size - delete 1 tram from spare capacity and accept risk to lower performance	Trams	Project - 5.1.17	14	AR	£0		£2,000,000				Business case constraints	TEL may have views		Tramco	OPEN	£0	£500,000	£0		
120	Trams—purchase without seats or luggage racks—fit out under sep order	Trams	Project - 31.1.4	15	DP	£0	£0	£0							Tramco	REJECTED	£0	£0	£0		No CAPEX saving to claim. <b>False economy? Separate procurement process required?</b>
121	Trams - place passenger counters on only 20% of fleet - not whole fleet. Counters deemed inaccurate	Trams	Project - 31.1.5	5	AR	£0		£250,000							Tramco	OPEN	£100,000	£0	£0		
122	Reduced noise mitigation measures - use "quieter trams" This enables Noise Fence savings, Roseburn Corridor (see item 100)	Trams	Project - 31.1.9	6	SDS/TSS/DP	£0		£1,000,000							Infraco	HOLD	£0	£0	£0		Potential higher tram capital costs as a consequence to be considered. Phase 1b issue - not priced. Tram noise data has been received from the Tramco's and has been passed to the new SDS Noise specialist
123	Tramco - discount for earlier stage payments. <b>Part of evaluation?</b>	Trams	Project - 5.1.2	13	DP/GG	£0		£0							Tramco	OPEN	£0	£0	£0		Early indications suggest discount of £1m
124	Tramco - to provide some of the depot equipment (might gain advantage from Tramco procurement knowledge &/or buying power)	Trams	Project - 31.1.6	15	DP	£0		£0							Infraco/Tramco	OPEN	£0	£0	£0		<b>Need to amend procurement process/tenders etc - hiring etc</b>
125	Tramco - Value Engineering with top 2 bidders	Trams	Project - 31.1.10	15	DP/GG	£0		£0							Tramco	OPEN	£0	£0	£0		Not priced - currently known ideas captured above
126	Omit all customising of cab exterior - is base appearance OK?	Trams	Project - 5.1.19	13	DP/AH	£0		£0							Tramco	HOLD	£0	£0	£0		
127	Taken to Phase 1b					£0		£0									£0	£0	£0		
128	Combine TPDS & SCADA <i>See also number 73</i>		Project - SDS11	8		£0		£0								OPEN	£0	£0	£0		
						£10,750,000	£0	£43,500,000									£100,000	£500,000	£3,000,000	£0	
						£41,933,931	£0	£113,204,576									£22,276,216	£4,466,938	£4,142,351	£4,135,006	

NOTE: Financial Impact calculated on average Max/Min impact multiplied by the probability of success

COMMENTATORS	KEY
Trudi Craggs	
Alastair Richards	
John Pantony	

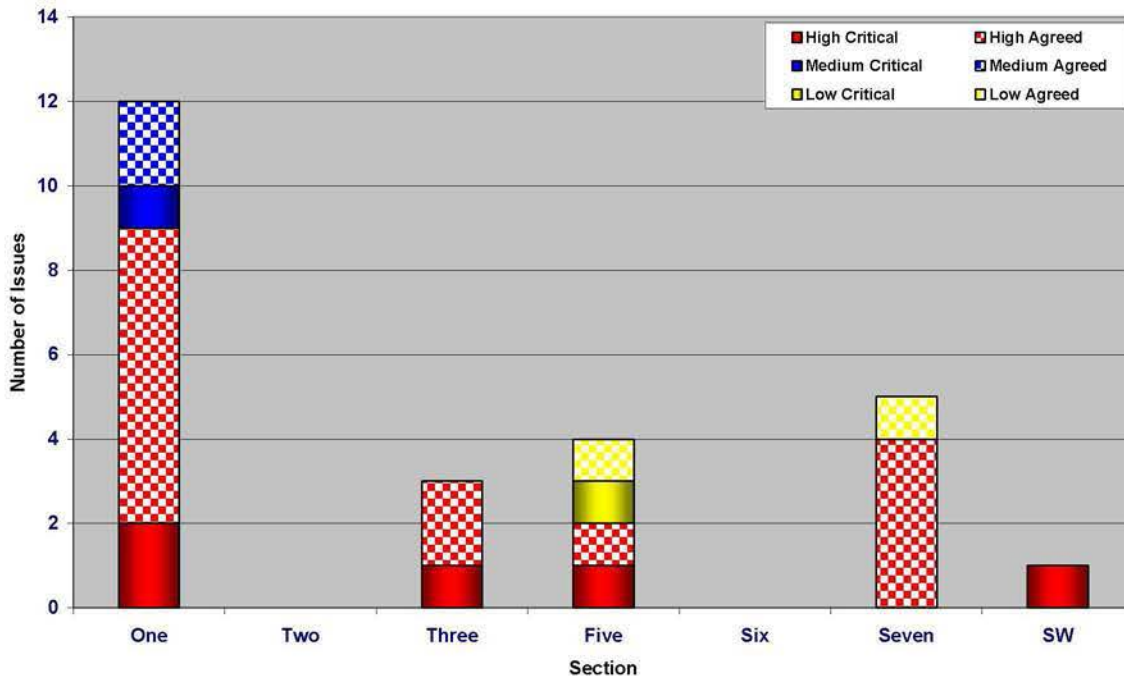
Actioned Total	£4,135,006	11.81%
Overall Total	£35,020,511	

**Paper to:** DPD **Meeting Date:** 5 July 2007  
**Subject:** SDS Update – P3  
**Agenda Item:**  
**Preparer:** D Crawley / T Glazebrook

**FOR INFORMATION ONLY**

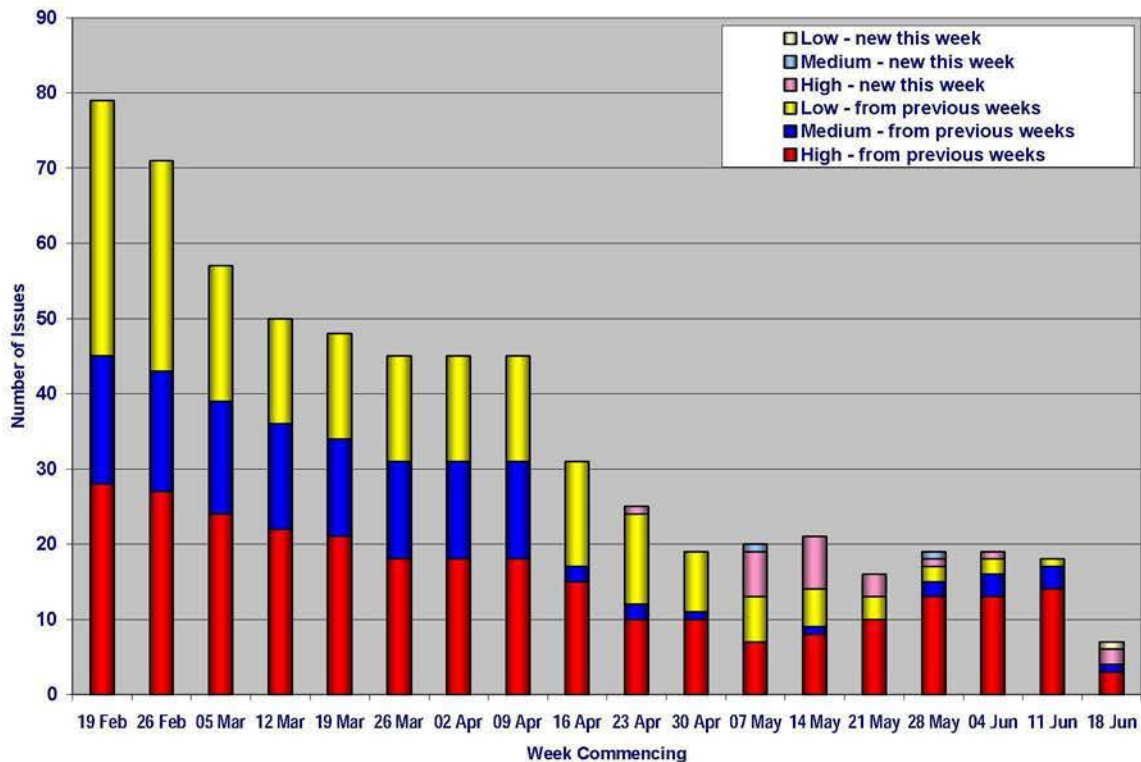
**1. 0 Critical issues**

The 'critical issues' are items which are preventing SDS from achieving their programme. These have been the subject of concerted effort over the last few weeks and progress to date is shown below.



There are now only five high, one medium and one low status items remaining. For each of those a way forward has been found which will facilitate final closure.

The chart below shows the progress over time in reducing the total number of issues. The critical issues meeting held on 21<sup>st</sup> June succeeded in agreeing a way forward for 18 items.



The specific outstanding high impact critical issues are summarised in the table below. The issue ID is coded as Tram section / issue no e.g. 1A/22 = section 1A, issue 22.

<b>1A /22</b>	Lindsay Road. Redesign of infrastructure of Forth Ports is holding up finalisation of utility design. Needs CEC and FP to agree track and roads. Alignment is finalised, a change instruction will be required to redesign utilities to suit.	Forth Ports Lindsay Road proposal drawings to be provided to SDS for review against tram design constraints. Action to be completed within two weeks maximum. SDS to advise D Powell of any non-conformance with current Employers' Requirements.
<b>1C /12</b>	Resolution of design options for Waverley Bridge Junction to optimise traffic movement and minimise congestion. This is to take into account bus movements and pedestrian flows whilst retaining Priority One for tram	TEL conclusion is that shared running should be provided for on Sth St Andrew's Street. SDS (KD) reviewing design options.
<b>3A /10</b>	Noise levels for tram required – potential significant effect on levels of noise mitigation required. RFI 16/11/06 and RFI 21/12/06 meeting with one bidder on 8th May.	<b>tie</b> proposal to issue statement that information provided by one bidder should be used as the basis for proceeding - (in the absence of full information from the 2nd bidder). <b>tie</b> (DP) to confirm this approach
<b>5A /5</b>	Russell Road retaining wall GI and method statement reapproval ~ 3/4 month delay	SDS to continue with planning on the basis that this issue will be resolved soon but all parties need to be aware that this has potentially significant programme implications. <b>tie</b> to advise when site work can restart
<b>SW /4</b>	Resolution and sign-off by <b>tie</b> / CEC of wider area model to ensure that road junction designs for tram do not need to be revisited	Meeting to be held on 28 <sup>th</sup> June to agree junction designs

**2.0 Requests for information**

Progress is being made on closing requests for information as follows:

Date	No open	Total registered	No closed in period
30 Mar 2007	40	130	0
27 Apr 2007	17	138	31
25 May 2007	12	142	9
22 June 2007	21	153	2

**3.0 Design assurance**

Agreement has now been reached with SDS on the provision of designs accompanied by design assurance documentation. This will result in packages of designs being supplied, section by section, in a form which is self-consistent, complete (or if not, with defined status), with interdependencies already reviewed and with associated approvals. The package will also contain associated TRO information although until the full modelling exercise has been concluded this cannot be finally confirmed. In the event that changes are required in respect of TROs, it is not thought that the design impact will be great.

We commented to SDS on a trial design assurance package summary for Section 5C. There will be 18 design-assured packages in total, most sections being broken down into the route sub-sections.

There are a number of additional system-wide documents and drawings dealing with such things as power distribution and traffic modelling. Many of these will be provided with the first formal submission. A definitive list is being compiled, but the first issue will not include the final wide-area traffic modelling, as this is not due to be completed until September 2007.

**4.0 Design deliverables progress reporting**

The new “dashboard” for deliverables measurement is shown below and indicates the total number of physical design deliverables due to be started and finished compared with the V14 programme – which was the baseline for the dashboard. These cover the totality of the 18 design-assured packages noted above. The dashboard compares V14, V15 and V16 and the inset picture indicates numbers of deliverables to the nearest 10.

The reasons behind the variances have been analysed and the schematic on the subsequent page shows that analysis. Blue items in the schematic arise from previously unresolved critical issues and red items from within SDS processes (corrective action for which has now taken place by SDS). Each issue has an associated specific number of deliverables associated with it.

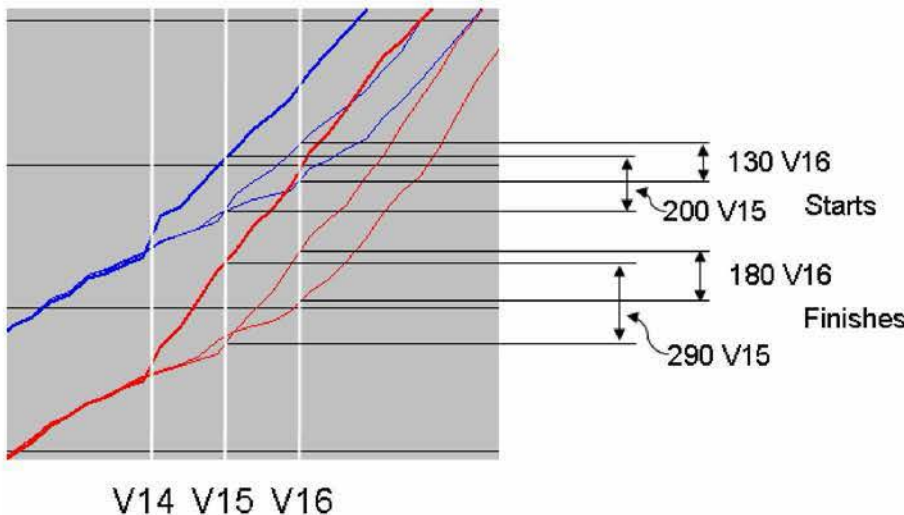
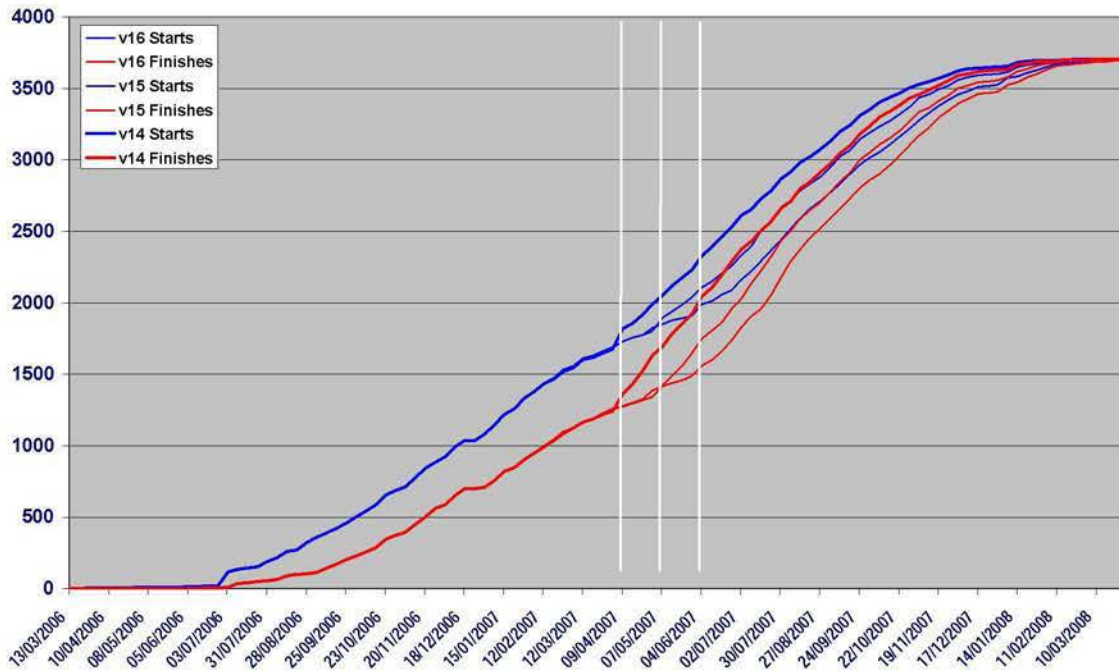
FOISA exempt

Yes

No

It should be noted that the data on which the dashboard is based is two weeks out of phase with the meeting dates; hence it still shows slippage of V16 results versus V15 results but this rate has reduced by 35% compared with the previous period, even with little benefit from the recent agreement on critical issues being available.

However, as a result of the major agreement on critical issues achieved at the meeting on 21<sup>st</sup> June (as explained above), the graph next period is expected to show that further slippage has been arrested.

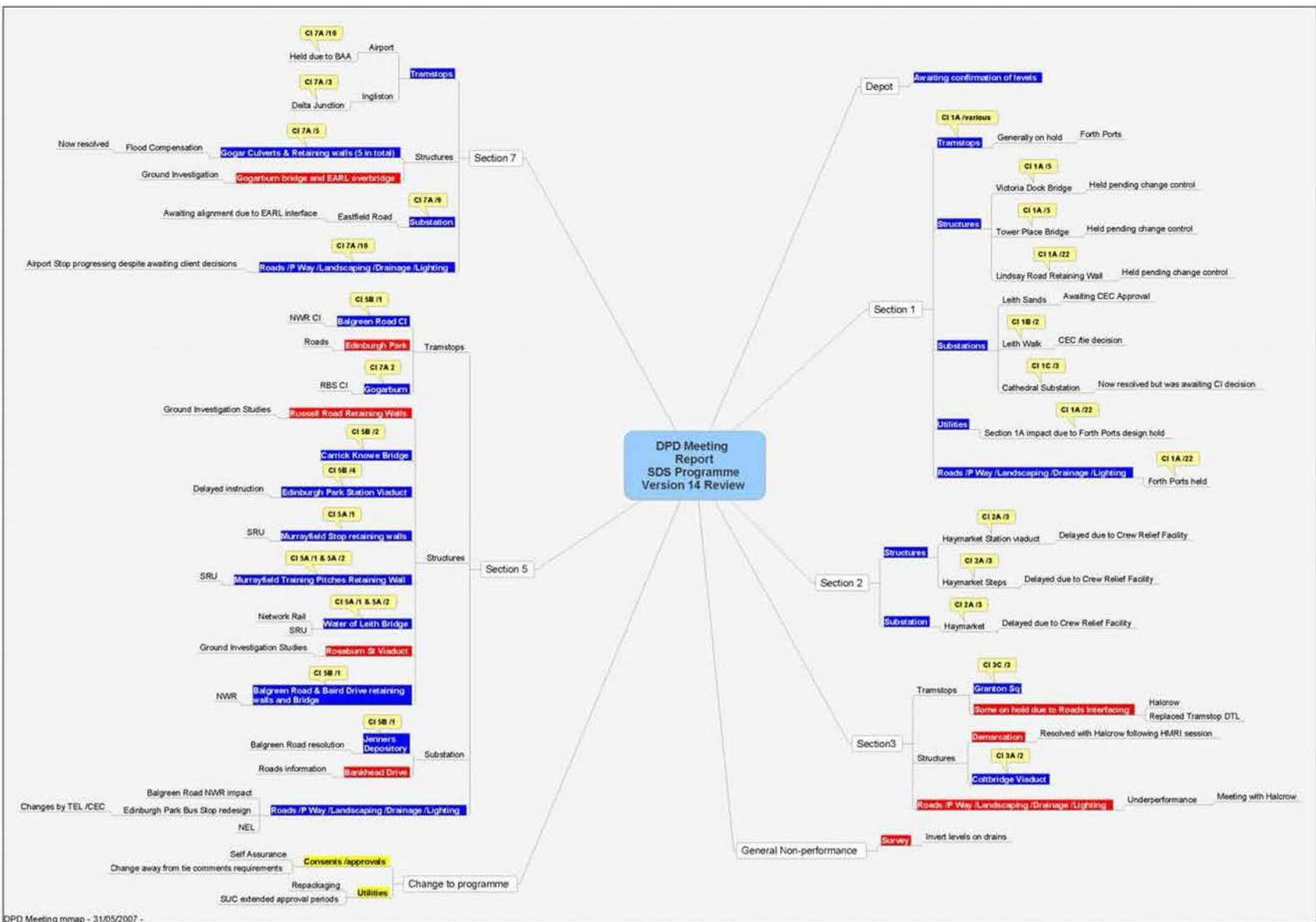


The rate of slippage has reduced by 35% V15 to V16.

Number of deliverables are shown to the nearest 10.

Note also that the total number of 'deliverables'

has been reduced on a common basis from last period's report to include only items common to V14, V15, V16 (ignoring much earlier versions with superseded items) and headers from P3/e.



FOISA exempt  
 Yes  
 No

FOISA exempt

Yes

No

**Proposed**

Name David Crawley

Date: 27-6-2007

Title Director, Engineering Approvals & Assurance

**Recommended**

Name Matthew Crosse

Date: 27-6-2007

Title Project Director

**Approved**

.....

Date: .....

David Mackay on behalf of the Tram Project Board

**DRAFT**

**Paper to:** DPD **Meeting date:** 5/7/07

**Subject:** System performance

**Agenda Item:**

**Preparer:** Alastair Richards

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## **1.0 Introduction / issue**

- 1.1 The key operational parameters defining the system performance of the Edinburgh Tram Network (ETN) are system availability, operational runtime and service frequency. This paper sets out the high level plan for establishing and developing these targets explains and how the associated allocation of risks, incentives and penalties for their delivery have been incorporated into the framework of contracts.
- 1.2 System performance and the constituent elements develop through the key stages of the project lifecycle, through design, validated through system acceptance testing, the initial period of reliability growth post-opening and then the ongoing performance, monitoring and improvement.
- 1.3 The purpose of this report is to make the DPD and the Board aware of the proposed approach and allocation of responsibility for the development of system availability, operational runtime and the primary elements that they comprise, in order to obtain comment and endorsement for proceeding on this basis.

## **2.0 System performance**

- 2.1 To achieve the key project objectives of modal shift from private car and enhancement of the current public transport system, the ETN must perform reliably and consistently. This requires that reliability, availability and maintainability analysis underpin each stage of the project lifecycle.
- 2.2 SDS have been designing to a series of top down availability targets which they derived from operational data from existing UK tram networks. A version of these availability targets have been used in the Tramco and Infraco procurements to date, and form a part of the system acceptance testing requirements contained in the employers requirements. Successful achievement of the reliability test can only be demonstrated when sufficient fault free tram mileage and fault free system availability has been achieved. This is expected to be achieved between 9 and 12 months after



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Yes

No

commencement of service. Upon successful achievement, a combination of retention bonds and retention payments shall be released to the contractors.

- 2.3 Achieving consistent performance for passengers is based on having reliable equipment. However, with a ‘turn-up and go’ frequency tram service, passengers’ perception of system performance is the average waiting time for the next tram which is influenced by operational factors. For this reason, targets for punctuality also form a part of system acceptance test, as a conditional step, prior to which revenue service may not commence. Failure to achieve a successful test on-time by the contractors will result in the contractors being obliged to pay liquidated damages.
- 2.4 Once in service, and availability of the system has been demonstrated, the operator, tram and infrastructure maintenance contractors are subject to a performance payment regime as follows:

KPI	Tramco	Operator	Infraco	Target level
<b>Punctuality</b>	Late trams	At monitored stops	On the ETN	98%
<b>Availability</b>				99%
<b>Quality (Edqual)</b>				Various levels
<b>Fault correction and information provision</b>				Various levels
<b>% of fee at risk</b>	30%	10.5%	40%	

- 2.5 The operator regime places 10.5% of the fee at risk, weighted 70% punctuality, 15% revenue protection, 12.5% Edqual and 2.5% fault correction / information provision. It proposes a single measure for the punctuality element, incorporating both the number of trams run and their punctuality, with punctuality determined using a headway approach. It proposes a qualitative regime to be known as Edqual with a low performance level, zero points level and maximum points level for each measure in line with the existing qualitative regime for Manchester Metrolink trams.
- 2.6 The Infraco regime places 40% of the fee at risk, weighted 30% punctuality, 7.5% Edqual and 2.5% fault correction / information provision. The same measurement of punctuality as for the operator regime is proposed. The same Edqual qualitative regime as for the operator regime is proposed.
- 2.7 The Tramco regime places 30% of the fee at risk. Punctuality is the same measurement used for the operator and Infraco regimes. A further refinement is added, in that the number of defective trams and the availability of hot spares are included in the measure.

- 2.8 To avoid paying excessive risk premiums during the initial reliability growth period and to incentivise all three contractors to work together effectively to achieve the reliability certificate, it is proposed to make a pre-set deduction from each contractor's fee until 12 months or achievement of the reliability certificate. This period of operational experience shall be used to calibrate the performance payment regime thresholds and targets.
- 2.9 If the reliability certificate is achieved inside of 9 months from service commencement, then the contractors shall each be entitled to payment of the deductions made up to that point. However, if the reliability certificate takes between 9 and 12 months then the rebate paid to the contractors shall taper down to zero. If it is achieved beyond 12 months, then the contractors forfeit any right to receive payment back, they become subject to the ongoing level of deductions according to the contractual regime, and the possible escalation of sanctions leading to termination and calling of the retention bond in the extreme.
- 2.10 The measures and targets of the reliability test are deliberately based on the specific performance of individual systems supplied and operational elements that are directly within the contractors control.
- 2.11 There are a number of external influences and variable factors which must be taken into account when providing a good service to passengers. These include passenger boarding times due to crowds at different stops at different times of the day, as well as junction, traffic management and pedestrian interaction on the on-street section of the tramway. These strongly influence the operational runtime which can regularly be achieved on the system.

### **Operational runtime**

- 3.1 In order to construct an operational timetable that will be reliable in practice, it is necessary to establish what the statistical distribution of operational runtimes are. However, in practice the actual values will only start to emerge during the test running in 2010.
- 3.2 What is possible at this stage, and has already been produced for the two shortlisted tram types being considered, is a 'laws of physics' model. This model is based on the vertical and horizontal track alignment designed by SDS and practical speed limits applied in accordance to adjacent road traffic, expected sightlines and civil limits.
- 3.3 In order to calculate the operational runtime, assumptions have had to be made for the variable additional delays incurred. These have particularly been on the on-road section of the line for road junctions, traffic and passenger loading and unloading times in each direction and location by time of day, based largely upon existing experience with the buses on these sections of

FOISA exempt

Yes

No

road in Edinburgh. From this, the required number of trams, electricity consumption and operational staff shall be calculated to deliver the planned service frequencies.

**Management of the development of operational runtime**

- 3.4 Projects in the past which have followed the design, build, operate and maintain approach have contractually placed the risk that the operational runtime is longer in practice than that planned on the private sector. Although on those projects where there have been difficulties in achieving the planned runtimes, which has been in many cases, it has been far from clear-cut as to whether it is external events or events within the contractors control that have been the cause. In no cases have contractors been successfully obliged to provide additional trams; rather the timetable has been adjusted to suit.
- 3.5 With the contractual arrangement in place in Edinburgh, where **tie** have a separate contract with the operator to that with the design, build and maintain contractor, the situation is further complicated. In addition, junction priority and the degree to which segregation of tram and bus, from each other and other road users, can be achieved given the available road space, lies with CEC as the roads authority, and TEL, whose overall business requires that both tram and bus are successful in combination and not in isolation.
- 3.6 For ETN the practical operational runtime risk is shared between CEC, TEL, the Operator and Infraco, allocated as follows:

	<u>Responsibility</u>
Scheduled crew relief and recovery time	Operator and TEL
Variable dwells for passenger loads	Operator and TEL
Junction and traffic management variability	CEC and TEL (supported by the operator)
Laws of physics runtime <sup>1</sup>	Infraco (supported by SDS and Tramco)

- 3.7 A process will be followed to manage the emerging runtime and the implications that changes will have and how these will be mitigated. A flow chart showing the key stages to be followed is included as Appendix 1. This utilises the experience from the modelling, supplemented by the practical experience of the impact on traffic movement gained during the MUDFA and

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<sup>1</sup> (Including 25s tramstop dwell at each platform, junction design, sightlines and speed limits.)

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Yes

No

Infraco road works and finally using the tram testing and initial period of operation to optimise and fine tune the achievable operational runtime.

**4.0 Recommendations**

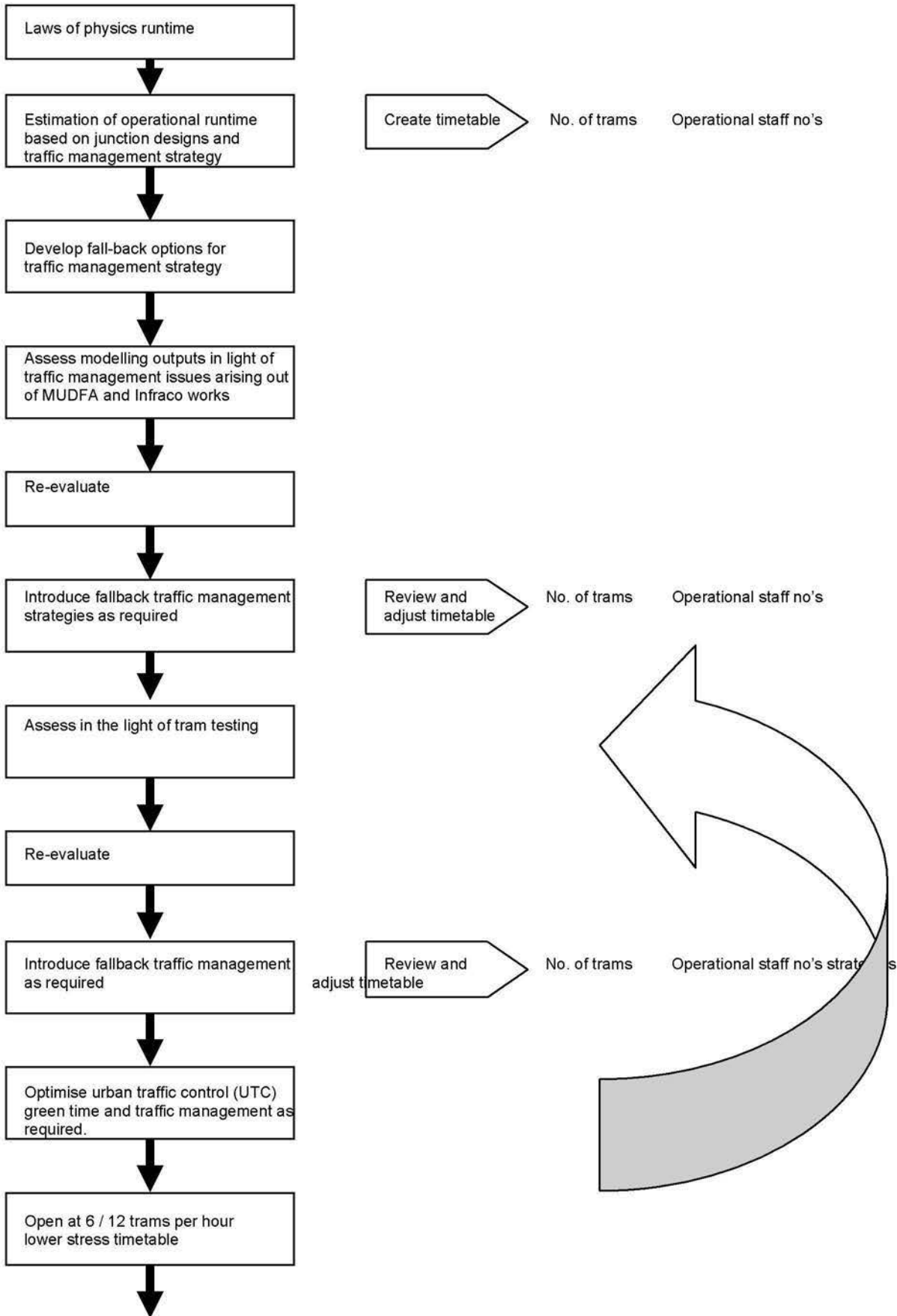
4.1 The DPD is requested to note the position, approve the proposed actions and allocation of risk share.

**Proposed:** Alastair Richards Date: 29 June 2007  
Operations and Maintenance Director

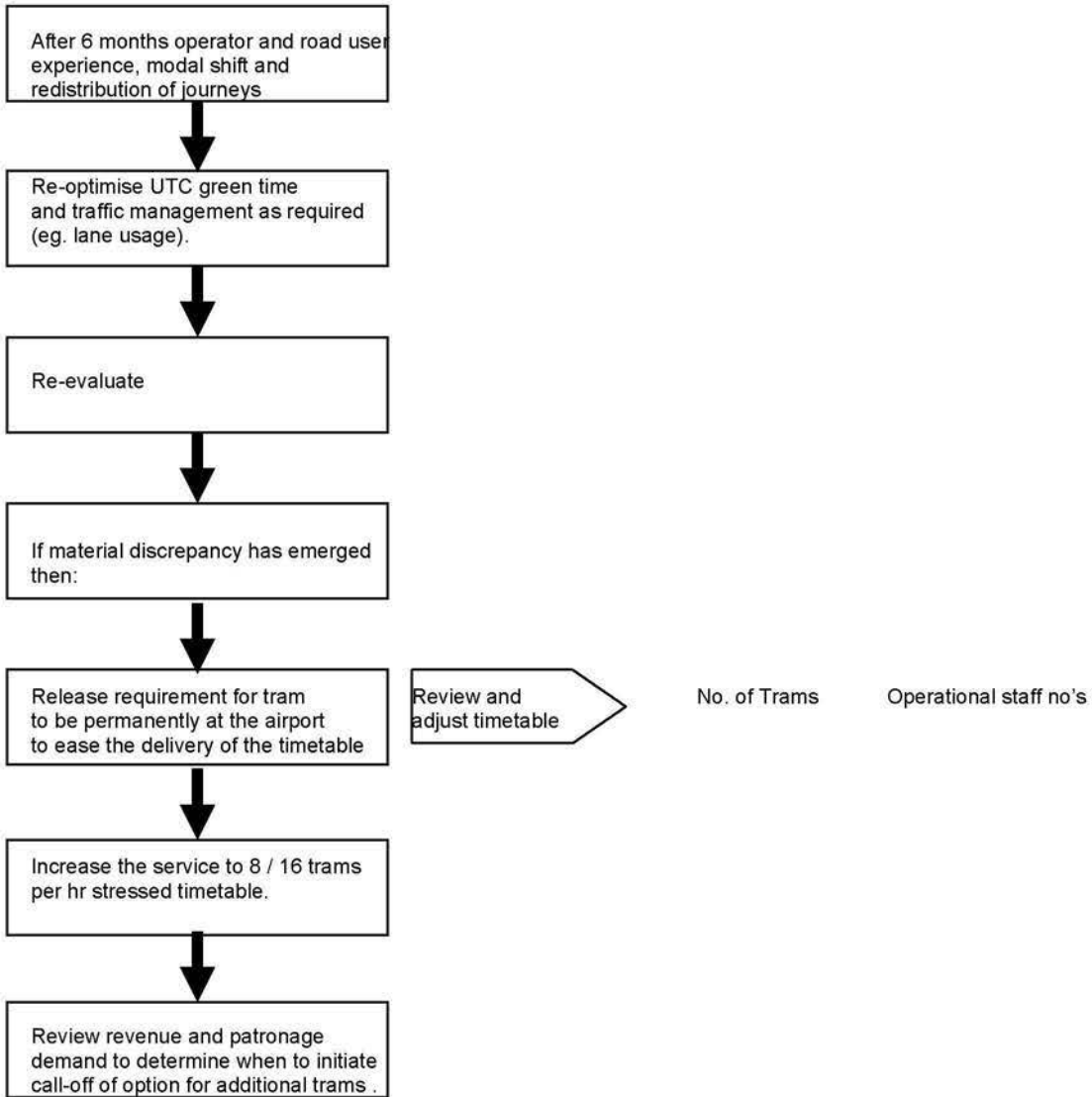
**Recommended:** Matthew Crosse Date: 29 June 2007  
Project Director

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

**Appendix 1**



FOISA exempt  
 Yes  
 No



**DRAFT**

**Paper to:** DPD **Meeting Date:** 5/07/07

**Subject:** Impact of no EARL on Tram

**Agenda Item:**

**Preparer:** Geoff Gilbert

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**Executive summary**

Issue

Until now, Tram has been design on the assumption that EARL was a committed project. This means that there are several interfaces where the EARL alignment has been accommodated within the Tram design. These are:

- EARL bridge (S33) and associated embankments at Ingliston (included in Tram estimate).
- EARL and Tram utility diversions at the airport being designed and progressed for construction as one package (EARL budget and in part in Tram estimate).
- Alignment of Tram along Eastfield Avenue and into Burnside Road raised on an embankment to clear the new bridge over the EARL alignment at this location (included in Tram estimate).
- Design of interchange at the airport (part of EARL budget).
- Alignment of EARL runs adjacent to the Tram depot at Gogar (included in Tram estimate).

These features all have an impact on CAPEX, in the main an increase. If a decision is made that EARL is not progressing, then there are a range of options to be considered:

- 1) Does Tram continue to be designed with EARL features included in order to safeguard for EARL in the future?
- 2) If so, can these costs be attributed to the cancellation / delay of EARL?
- 3) Should Tram design assume that EARL is not going ahead, then re-design at these locations, and can these additional design costs be attributed to the cancellation of EARL

Proposed Recommendation

Tram Project Board to discuss these options with Transport Scotland so that a decision on EARL assumptions can be made

**Impact on programme\***

The design is advancing with these features incorporated into the Tram Design. Therefore, a decision is required now to allow sufficient time to allow design to be amended to remove these features.

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Yes

No

**Impact on budget\***

The following items are currently included in the Tram Project estimate and, if not required, will result in savings of the magnitude stated:-

- EARL bridge at Ingliston - £1,020, 000 saving
- Alignment in Eastfield Avenue and Burnside Road - £240,000 saving
- Depot – retaining wall along A8 – up to approximately £500,000

Total potential savings - £1,760,000.

The direct consequence of deferral or cancellation of the EARL project is an additional cost of £1.9m due to loss of the efficiencies from the combined approach. Therefore, these additional costs are expected to be included in the EARL cancellation costs.

- Note:- There are no savings to the Tram Project accruing from this as the overbridge and utilities diversions are included in the EARL budget.

**Impact on risks and opportunities\***

Impacts on potential opportunity to make savings between EARL / Tram as a combined project.

Reduced risk of both Tram / EARL being constructed at the same time.

**Impact on scope\***

Scope reduced by eliminating the need for structures required as a result of EARL.

**Decision(s) / support required**

TPB seek confirmation of the status of EARL as a committed scheme and provide guidance to the Tram Project with respect of Tram designs that accommodate the EARL project

These additional costs to be included in the EARL cancellation costs.

**Proposed**

Geoff Gilbert  
Project Commercial Director

Date:- 03/07/07

**Recommended**

Matthew Crosse  
Tram Project Director

Date:- 03/07/07

**Approved**

.....  
David Mackay on behalf of the Tram Project Board

Date:- .....



**DRAFT**

**Paper to:** DPD **Meeting Date:** 5/7/07

**Subject:** Construction (Design and Management) Regulations 2007:  
Edinburgh Tram Project.

**Agenda Item:**

**Preparer:** Steven Bell

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## 1.0 Introduction / issue

The purpose of this paper is to provide a concise overview of the changes in regulations enacted in April 2007; identify where they impact **tie**, Edinburgh Tram stakeholders and the Tram Project and to lay out our plan to address any necessary actions.

There are different issues to consider fully for the Tram Project Board, TEL; CEC, **tie** and the Tram Project team.

Input from **tie**'s legal advisors (DLA) and various briefing notes from specialist advisors have been used to prepare this paper.

## 2.0 Background

The CDM<sup>2007</sup> regulations are the updated implementing legislation arising from the European Directive for Temporary or Mobile Construction Sites.

The Health and Safety Commission have stated that the changes do not impose new duties on clients. They make explicit what clients should already be doing as a result of the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999.

This includes integrating health and safety into the management of Projects and encouraging everyone involved to work together to:

- Improve the planning and management of the projects from the start.
- Identify hazards at an early stage, to facilitate their elimination or reduction at design or planning stages with all remaining risks properly and effectively managed
- Target effort where it can do most good in terms of health and safety.
- Discourage bureaucracy.

## 3.0 Overview of changes

The CDM<sup>2007</sup> regulations incorporate the Construction (Health, Safety & Welfare) Regulations together with the previous CDM Regulations into a single set of regulations.

The role of client's agent is removed.

The position of "planning supervisor" disappears and is replaced by "CDM co-ordinator".

Projects are now either "notifiable" or "non-notifiable" – the criteria based upon the number of persons being less than five disappears.

Where the duration of the construction works are more than 30 days or 500 person days then the project is notifiable to the Health and Safety Executive.

For all construction projects the duty holders comprise:

- Client;
- Designer(s); and
- Contractor(s).

For notifiable projects additional duty holders comprise:

- CDM coordinator; and
- Principal contractor.

There are structured requirements for competence for the various duty holders. These include requirements for organisations and individuals. There is a set of "core criteria" that is to be used – this will be required for the client as well as the other duty holders.

The "pre-tender health and safety plan" is replaced by "pre-construction information" – this approach is already being utilised on the Tram project.

The client has duties for all construction projects. These include:

- Establishing "management arrangements"
- Assessing the competency of the duty holders.
- Provision of pre-construction information – including survey information.
- Allow sufficient time and resources for all stages – the time allowed for planning and preparation for construction works now requires to be notified to the Health and Safety Executive.

There is an increased emphasis on welfare – with it now being a requirement that for notifiable projects the construction works do not commence until there are suitable welfare provisions.

#### **4.0 Proposed approach and expected impact on tie and the Edinburgh Tram project**

Generally, **tie** will act as a client under the regulations. Where there is more than one client, there should be an election of one client to represent all, as provided for under the regulations.

FOISA exempt

Yes

No

In the case Edinburgh Tram, TEL and **tie** may formally elect to have **tie** act as client under regulation 8 for the avoidance of any doubt.

This is not a full delegation of all duties and TEL (and CEC) is still obliged to ensure:

- It co-operates with any others involved in the project;
- Designers, contractors and the CDM-C are provided with requisite pre-construction information;
- It discharges its duties in respect of information provision for the health and safety file, together with retaining same and making it available for future users.

There may be some activities that **tie**; their stakeholders or their advisors undertake which start to encroach on the role of designer.

If **tie** or any of the stakeholders such as Transport Scotland, CEC or TEL act in this way, they would need to demonstrate that they have the necessary competence.

They would also have taken on the legal duties and responsibilities of a designer. It is recommended that all such parties avoid any such actions which may be considered to have acted as a designer.

**tie** as client shall appoint or re-appoint the duty holders on each project for which it is client.

The appointment of the CDM coordinator has taken place for the Tram Project. This is Scott Wilson Railways Ltd. under the TSS contract. This continues from their role as Planning Supervisor under the previous regulations (CDM 1994). Graeme Walker is the nominated individual representing the TSS supplier as CDM coordinator.

The re-appointment of designers, principal contractors and contractors under CDM<sup>2007</sup> will be completed by 31 July 2007.

Current duty holders are listed below:

Company	Role(s)	Comments
Tie Ltd	Client	
Scott Wilson Railways	CDM coordinator.	Via TSS Contract
SDS	Lead designer principal contractor for site investigation works on Tram.	Parsons Brinkerhoff is the lead company, supported by Halcrow.
AMIS (Alfred MacAlpine Infrastructure Services)	Principal contractor for utilities works (MUDFA). Principal contractor for advance works at Gogar depot.	May be appointed designer for the utilities diversions at Edinburgh Airport.
TCM	Contractor	Treatment of invasive species.
Transdev	Contractor	Tram system operator.
Norwest Holst	Contractor	Ground investigation works.
Willerbys	Contractor	Badger sett relocation.

The assessment of competence (via the core guidance contained in the Approved Code of Practice) for the CDM coordinator, designer and principal contractor is now more comprehensive than previously required. This is to be completed no later than 5<sup>th</sup> April 2008.

**tie** also requires to carry out an education and awareness programme to ensure that staff are aware of their roles with regard to CDM<sup>2007</sup>. This is currently being prepared for roll out by the **tie** HSQE team.

## 5.0 Monitoring progress

The project and **tie** HSQE managers (Tom Condie and Stan Honeyman) are working through the necessary implementation arrangements for the Tram project. This will include evaluating the competence assessment requirements and responses.

Progress to completion will be monitored by the HSQE Committee on a monthly basis and reported in formal Management Review reports every six months. This will be included in the Tram DPD reports.

## 6.0 Liaison with enforcing authorities

Steven Bell, Tom Condie and Stan Honeyman met with HSE on 19<sup>th</sup> February to outline our intended approach. This proved to be acceptable with a review planned for October 2007.



**Appendix 1: Extract from DLA Piper LLP paper to tie ltd, 5/4/07**

**“CRIMINAL SANCTIONS FOR BREACH OF H&S LEGISLATION**

It is essential that the enforcement of criminal sanctions (fines and potentially imprisonment with the associated adverse publicity) are considered in relation to health and safety responsibilities and consequential liabilities. It is not possible to contract out of criminal liability or personal directors / managers liability. The Tram Project Board is not a shelter from health and safety liabilities or a clearing house of liabilities.

Increasingly, when considering criminal proceedings following an incident, a Procurator Fiscal will consider the respective role of all parties involved in a project. Their investigation and potential criminal charges will not stop at the level of the direct employer, usually a principal contractor or subcontractor, but will consider whether proceedings should be brought against other duty holders. Given the retention of certain client duties by the original client who has delegated powers in terms of a Regulation 8 election, this ability to look beyond the immediate employer is likely, in future, to be of increased significance and hence risk. A Procurator Fiscal may consider all parties (Transport Scotland, CEC, TEL and **tie**) to be clients and may not distinguish between the control / input relationships created by the governance structure. A governance structure which involves all parties in the decision making process creates an "inclusive" framework whereby all the parties will attract and therefore need to recognise health and safety liabilities arising from the governance decision making process.

The creation of an appropriate safety responsible structure, safety management system and culture will form a key defence to any prosecutions assuming all procedures have been followed. Clearly, there would also be a number of other parties involved in a safety incident, for example contractors, sub-contractors, agency staff, designers, CDM-C and third parties. It should be borne in mind that part of their defence to any criminal charge may be to seek to blame the client.

**DLA Piper Scotland LLP**

**5 April 2007”**

**DRAFT**

**Paper to:** DPD **Meeting Date:** 5/07/07

**Subject:** Value engineering status

**Agenda Item:**

**Preparer:** Geoff Gilbert

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**Executive summary**

Given the criticality of value engineering (VE) savings in delivering an affordable scheme for Phase 1a the following actions have been taken:-

- Jim McEwan is assigned to manage the delivery of VE savings.
- Steven Bell has taken on the resolution of the trackform to be adopted by the Project. This has the potential to yield significant savings.
- Each of the VE items have been assigned lead and support personnel to deliver them.
- VE workshops have been held with the bidders. A long list of ideas has been provided by one bidder which has been reviewed and the bidder advised on which items to develop further.

The VE savings for the depot have been instructed to SDS for them to incorporate into the design.

The current financial status is as follows:-

	<b>£m</b>	
Potential opportunities (VE target)	35	As VE register
Banked to date	<u>4</u>	Depot savings
To be reviewed	<u>31</u>	Potential further savings

Note:- Potential opportunities value is the value after factoring down the estimated savings for level of difficulty in achieving each item

The schedule for VE opportunities currently stands at a total of £70m – £31m after factoring down.

The team is concentrating on eight areas including trackform, structures and systems.

**Impact on programme\***

VE savings need to be reviewed, assessed, agreed and approved by 28 August, concurrent with the finalisation of Infracore bidders proposals.

FOISA exempt  
 Yes  
 No

**Impact on budget\***

Delivery of the target level of savings of £31m, together with negotiated savings of £14m will enable the Project AFC of £501.8m to be maintained. Agreed VE opportunities will be authorised via the Project Change Control system.

**Impact on risks and opportunities\***

The VE items form the basis of the Project Opportunities register.

**Impact on scope\***

The scope of the Project will change as a consequence of the implementation of VE savings. This will be authorised via the Project Change Control system.

**Decision(s) / support required**

TPB is requested to note the contents of this paper.

**Proposed**                      Geoff Gilbert    Date:- 04/07/07  
Project Commercial Director

**Recommended**              Matthew Crosse    Date:- 04/07/07  
Tram Project Director

**Approved**                      .....    Date:- .....  
David Mackay on behalf of the Tram Project Board





FOISA exempt

Yes

No

	requirement encouraged if covered elsewhere.) Balgreen Road most likely requirement although Murrayfield viaduct also possible.
<b>Operating Code</b>	Still to be developed and likely to be based on that used for other tram networks. Work required and linkage with tram operators. NR arranging "brainstorming" session to further develop.
<b>Asset Protection Agreement (APA)</b>	Regulates delivery of construction work during project construction phase.
<b>Licenses</b>	Option to allow CEC to occupy land (e.g. for construction) prior to finalising Lease Agreement. APA could also contain such rights.
<b>Regulatory Consents</b>	Property Agreement will require a number of regulatory consents to be in place: <ul style="list-style-type: none"> <li>o ORR, NR &amp; TOCs (station and depot agreements) all involved along with TS/DfT.</li> <li>o HMRI approval also required (not expected to be refused)</li> <li>o Planning &amp; Environmental</li> </ul>

**Immunisation**

The current strategy for procuring any necessary immunisation works (Transport Scotland contracting directly with Network Rail either by varying their existing agreements (Airdrie to Bathgate) or making a specific new agreement was previously authorised by Tram Project Board in February 2007.

The scope requirements, programme milestones and technical information have been provided during March and April 2007 which led Transport Scotland to confirm that they intended to vary this workscope (and the critical programme requirements) into the Airdrie to Bathgate agreement between TS and NR. Further detailed technical information will be provided by SDS to Network Rail to enable their design solutions to be completed. There is still technical work to be completed to confirm the preferred immunisation solution to be adopted by Network Rail and accepted by Transport Scotland. tie and SDS will continue to have regular technical liaison to ensure that all necessary Tram design information is provided and that the Network Rail solution is acceptable to Tram. Candidates to provide a Project Management resource have also been identified by tie, interviewed and proposed to TS.

The instruction / variation to Network Rail and the option on project management resource was not instructed as Transport Scotland decided to delay this action until they had a clear instruction from the new Executive regarding the future of Edinburgh Tram. Immediately after the Cabinet Secretary's statement on 27<sup>th</sup> June 2007, tie requested that the above arrangements be actioned to avoid any further delay.

It is understood that Transport Scotland have written to Network Rail on 4<sup>th</sup> July 2007 with a paper proposing how they would proceed towards completing an agreement to

FOISA exempt

Yes

No

undertake the works noted above. This activity is currently assessed as on the critical path as Network Rail programme commitment will not be obtained until this agreement is actioned.

Programme Requirements

The current rolled up milestones (confirmed to Transport Scotland and included in their requirements to Network Rail where relevant) are as follows:

Item	Activity	Critical Milestone for completion
1	Complete legal agreements with NR / CEC	September 2007 to allow InfraCo contract arrangements to be completed.
2	Relocation of NR lineside assets	By January 2008 to allow unconstrained start for InfraCo in Spring 2008. (Possessions already booked in December 2007.)
3	Completion of necessary immunisation design, construction and testing works	October 2009 to enable energisation to take place as planned in November/December 2009

Cost / Funding of immunisation work

The current position, as previously stated by Transport Scotland, is that they expected this element to be carved out at the fixed budget sum allowed for in the DFBC estimate for the Immunisation Works and for TS then to manage that directly with Network Rail. Any risk or opportunity around that would be retained by Transport Scotland.

Transport Scotland had not formalised this position with CEC at the end of April when they were discussing overall Project funding and liability arrangements but stated they saw no barrier to instructing the necessary work via Network Rail in advance of formalising that arrangement.

**12.0 Proposed recommendations**

The DPD committee is requested to note the current position and issues still to be resolved.

It is recommended that any residual issues associated with the Legal Agreements are escalated by **tie** and the relevant stakeholder representatives. This must be addressed with CEC and Network Rail to enable a final position to be proposed for agreement by August 2007.

It is recommended that TPB require that Transport Scotland conclude the agreement / instruct the variation with Network Rail for the relocation of equipment and immunisation works immediately. This work must also include confirmation of the funding arrangements previously proposed.

FOISA exempt

Yes

No

**Proposed**                      Name Steven Bell                      Date: - 4<sup>th</sup> July 2007  
   Title Engineering and Procurement Director

**Recommended**                Name Matthew Crosse                Date: - 4<sup>th</sup> July 2007  
   Title Tram Project Director

**Approved**                      .....                      Date:- .....  
   David Mackay on behalf of the Tram Project Board

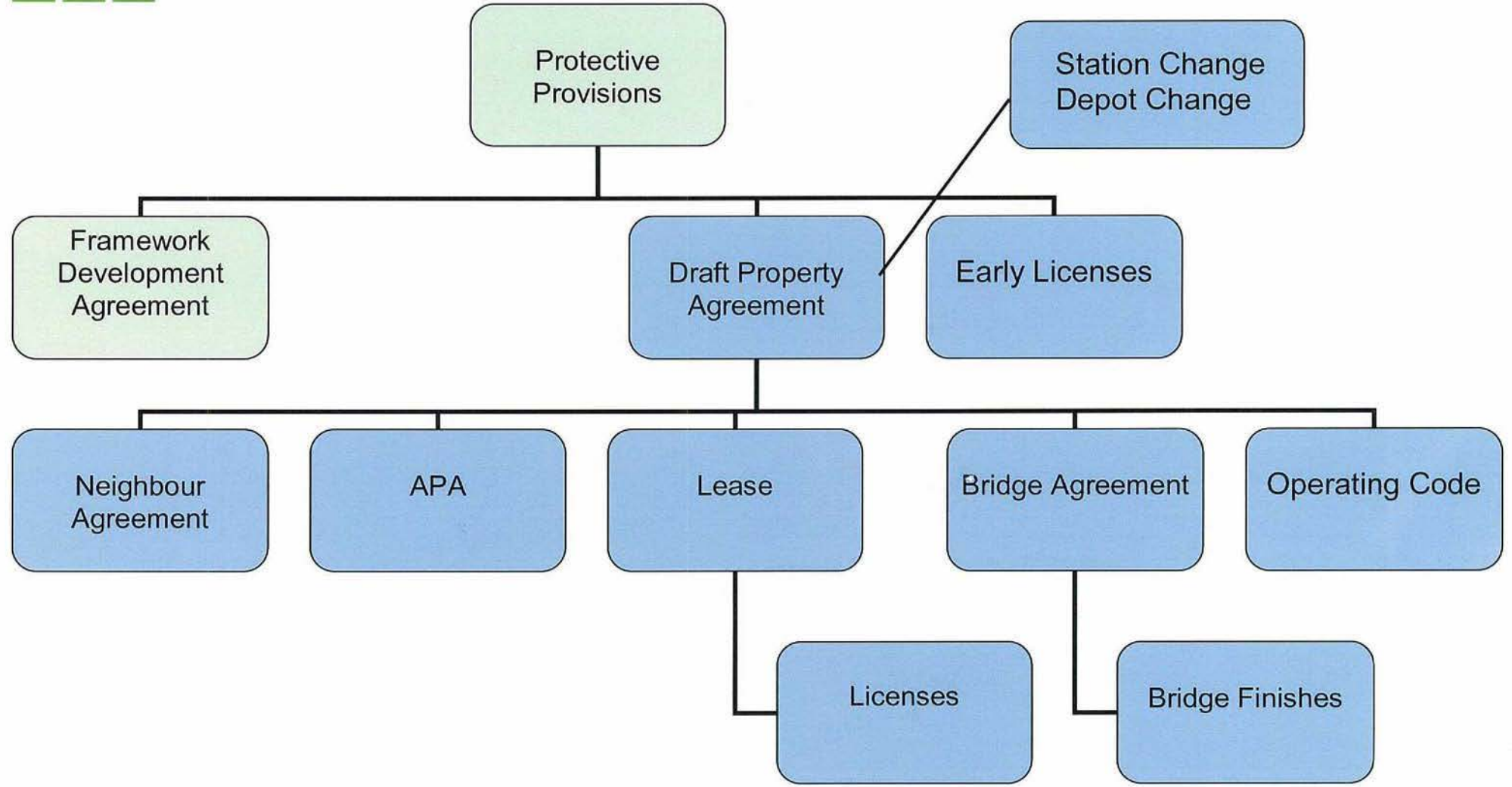
Appendix 1: Network Rail Legal Agreements Structure

TRA040 - 0005  
Network Rail



# Network Rail Legal Agreements Structure

In Place  
 Not in Place



**Signalling and Immunisation Contract**

**Paper to:** TPB **Meeting Date:** 12/07/07

**Subject:** Revised procurement programme

**Agenda Item:**

**Preparer:** Geoff Gilbert

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## 1.0 Introduction

1.1 This paper sets out the revised programme to deliver Financial Close i.e. the award of Infraco and Tramco contracts and the novation of the Tramco and SDS contracts to Infraco.

## 2.0 Background

2.1 The key milestones in the DFBC programme for Financial Close established in November 2006 are:

- Return of Stage 2 bids 5 April 07
- Appointment of preferred Infraco bidder 10 May 07
- Completion of facilitated negotiations 7 June 07
- Conclusion of final negotiations 19 July 07
- Final approvals (CEC and TS) 27 Sept 07
- Contract award 11 Oct 07

2.2 Since the DFBC preparation there are a number of events that have adversely affected these key milestones, namely:

- Bidders were not able to achieve the Stage 2 return date and bids were received on 8<sup>th</sup> May – 1 month delay.
- There has been a period of political uncertainty over the future of the Project. During this period the Infraco bidders have reduced their level of commitment and engagement – 1 month delay.
- Return of initial bids in January 07 identified that more time would be required to deliver value engineering savings and negotiated reductions to provide an affordable scheme.
- Delay to the design programme has delayed the issue of price critical design information to Infraco bidders.

2.3 Given the above, a review of the procurement programme was instigated in March 07 to bring about a full alignment of the procurement programme and design programme in a way which minimised the impact on project completion. Representatives from SDS, TEL and CEC have participated in this review, which is now concluded.

- 2.4 The objectives of the procurement programme review were to:
- Deliver affordability targets through VE and negotiation (VE not in DFBC programme).
  - Particularly enable capture, evaluation and implementation of bidder VE ideas.
  - Correctly align the procurement programme with the design programme.
  - Allow sufficient time for bidder due diligence on designs.
  - Deliver the right balance between detail of design information and cost of a more extended programme.
  - Undertake advance works to maintain project completion date for Phase 1a.
- 2.5 From the analysis of the Infraco bidder initial proposals in early January 07 it was identified that VE savings and negotiated reductions will be required in order to deliver Phase 1a within the affordability target of £500m. This is shown graphically in Appendix A.
- 2.6 In January the Tram Project Board approved the advance works paper recommending that certain works are brought forward and that Infraco and Tramco are given mobilisation contracts on approval of preferred bidder. The objective of this approach was to relieve pressure on the critical path within the construction programme.
- 2.7 The Infraco and Tramco bid process has been underway since last year and to progress to date is:
- Issued Infraco and Tramco bid documentation – summer / autumn 06.
  - Progressed Tramco evaluation – downselecting from 4 to 2 bidders.
  - Received and evaluated Infraco Initial Proposals – Jan 07.
  - Report on Infraco initial proposal evaluation was presented to TS in Jan 07 who then reviewed this in detail with the Project.
  - The Project's evaluation was independently scrutinised by Scott Wilson on behalf of TS.
  - Received Infraco consolidated proposals – 8<sup>th</sup> May 07.
  - Commenced evaluation of Infraco consolidated proposals.
  - Are advanced in the resolution of contracts terms qualifications.
- 3.0 Proposed programme**
- 3.1 Although the steps through the evaluation and negotiation process to Contract Award have generally not changed, the timescales have. Certain changes have been made to maintain the project completion date of 1<sup>st</sup> quarter 2011 and these are:

FOISA exempt

Yes

No

- Commence due diligence on designs earlier in the process than previously planned.
- At the conclusion of the evaluation and negotiation stage to propose a recommendation to award contracts to the recommended Infraco and Tramco bidders conditional on:
  - Finalising negotiations on the Phase 1b option.
  - Concluding the facilitated negotiations between Infraco and Tramco and Infraco and SDS such that there is no material change in risk balance.
  - Satisfactory conclusion of design due diligence by Infraco recommended bidder.
  - Instituting an approval process for confirming the award recommendation i.e. successful close out of the last three issues, which runs in parallel with the final stages of the procurement programme.
- Advance works consisting of a continuation of the excavations at the depot, piling work adjacent the A8 at the depot, site clearance works along the Phase 1a alignment and mobilisation of Infraco and Tramco immediately after approval of the Conditional Award recommendation by the TPB.

3.2 To achieve the objectives set out above the following steps are proposed to Contract Award.

- Conclude evaluation and negotiation of Tramco concurrent with finalisation of Infraco.
- Undertake the following steps to deliver a conclusion to the Infraco evaluation and negotiation:
  - Iterative bid update based on price-critical emerging detailed design.
  - Update bids for approved VE ideas.
  - Commence bidder due diligence on detailed designs at the end of August when the likely successful bidder is known.
  - Conclude contract negotiations by the end of July to clear the way for final negotiations on price.
  - Undertake facilitated negotiations (Infraco and Tramco) to clear the significant interface issues to ensure that there are no scope, programme or commercial gaps.
  - Undertake a final bid process to negotiate down the Infraco bids capitalising on competitive tension.
  - Final evaluation and preparation of award recommendation.
- Independent review of updated project estimate and Infraco and Tramco evaluation process and conclusions.
- OGC 3 Gateway Review.
- TPB Procurement sub committee approval of contract award recommendation.
- TPB approval of award recommendation for Infraco and Tramco.



Following TPB approval of Contract Award recommendation deliver confirmation of the Conditional Award recommendation with Infraco and Tramco by 17 December 07. This will be followed by contract award by 28<sup>th</sup> January 08. The main steps through this stage are:

- Conclusion of design due diligence.
- Final Infraco / Tramco facilitated negotiations.
- Finalisation of Phase 1b option negotiations.
- Preparation of contract packages.
- Approvals
  - CEC and TS approval of the contract award recommendation.
  - CEC and TS confirmation of the final contract packages.
- Issue contract award notification by 11<sup>th</sup> January 08.
- Award Infraco and Tramco contracts and novation of SDS and Tramco to Infraco.

3.3 The steps and activities to contract award are shown pictorially in Appendix B with the dates for delivery of the key stages.

3.4 The dates at which key approvals are required are:

For conditional Contract Award recommendation:

- Tram Project Board approval – 25/9/07
- CEC full Council meeting to approve – by 13/11/07
- TS approval – by 18/12/07

For confirmation of Contract Award recommendation:-

- Tram Project Board approval – 17/12/07
- CEC approval – by 10/1/08
- Concurrent TS approval – by 10/1/07

#### **4.0 Issues and risks to the procurement programme**

4.1 The following need to be addressed in order to achieve the revised Procurement Programme.

- Maintain and deliver the VE programme and in particular ensure that the bids include firm proposals for the majority of VE savings, and / or agreed formula for adjusting bids for VE savings when the scope changes have been designed out.
- Maintain design progress – progress of design to programme is crucial to the delivery of the revised design programme.
- Continue with procurement and delivery of advance works.

FOISA exempt

Yes

No

- CEC and TS to agree funding deal between them by mid August at the latest. This is required in order to give bidders confidence that payments will be honoured.
- CEC and TS to work with us on a parallel approval programme following TPB approval of the conditional contract award recommendation. This parallel approach is required in order to minimise delay to the contract award programme and should be feasible given that TS are represented on the TPB and TPB Procurement sub committee and there will be regular updates provided to the sub committee during this phase.

## **5.0 Consultation**

5.1 The following parties have been involved in the process of developing the updated procurement programme:-

- SDS – Steve Reynolds
- CEC – Duncan Fraser
- TEL – Alastair Richards
- Infraco Bidders

5.2 CEC, TEL, SDS and the Tram Project core team are agreed that the revised programme is deliverable and that this is the programme to which all parties must deliver to achieve a successful outcome. An informal agreement has been concluded that sets out how the parties will work together to overcome issues and problems to achieve this programme. Details are set out in Appendix C.

5.3 Both Infraco bidders have been consulted on the revised programme. One bidder, Roley, have agreed to the programme. The other bidder, Scoop, is working to the programme but is yet to formally commit to it. Discussions are ongoing with this bidder to conclude agreement.

## **6.0 Recommendation**

6.1 It is recommended that the TPB

- Approve the revised procurement programme, including the key approval milestones set out in 3.4 and the issue of contract award notifications by 11<sup>th</sup> January 07.
- Confirm the strategy to issue mobilisation agreements to the recommended Infraco and Tramco bidders during October 07 and to continue advance works to maintain the programme.
- Endorse the principle of parallel approvals process by TS for the confirmation of the conditional Contract Award.

FOISA exempt

Yes

No

**Proposed** Geoff Gilbert Date 12/07/07  
Project Commercial Manager

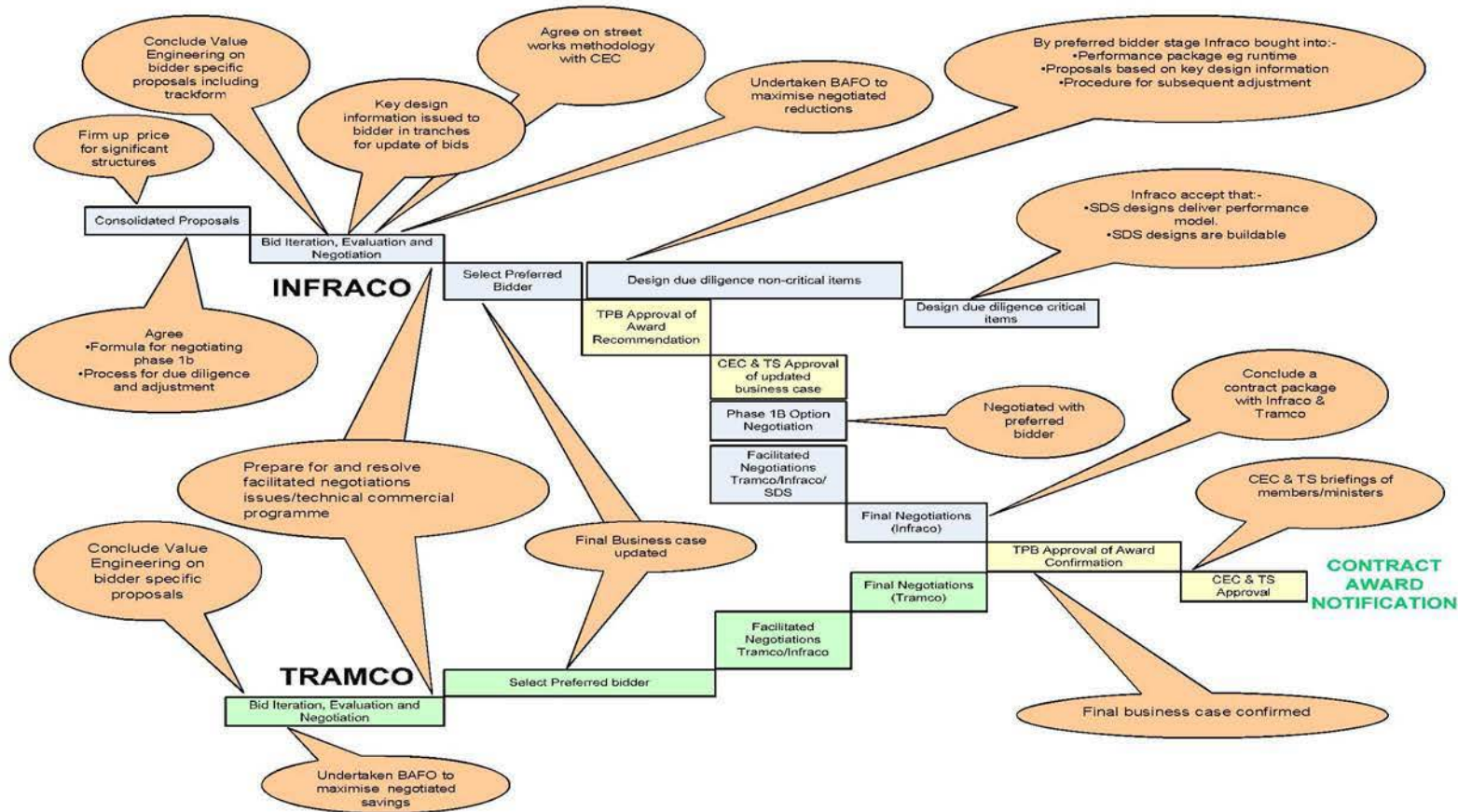
**Recommended** Matthew Crosse Date 12/07/07  
Project Director

**Approved** ..... Date: - .....  
David Mackay on behalf of the Tram Project Board

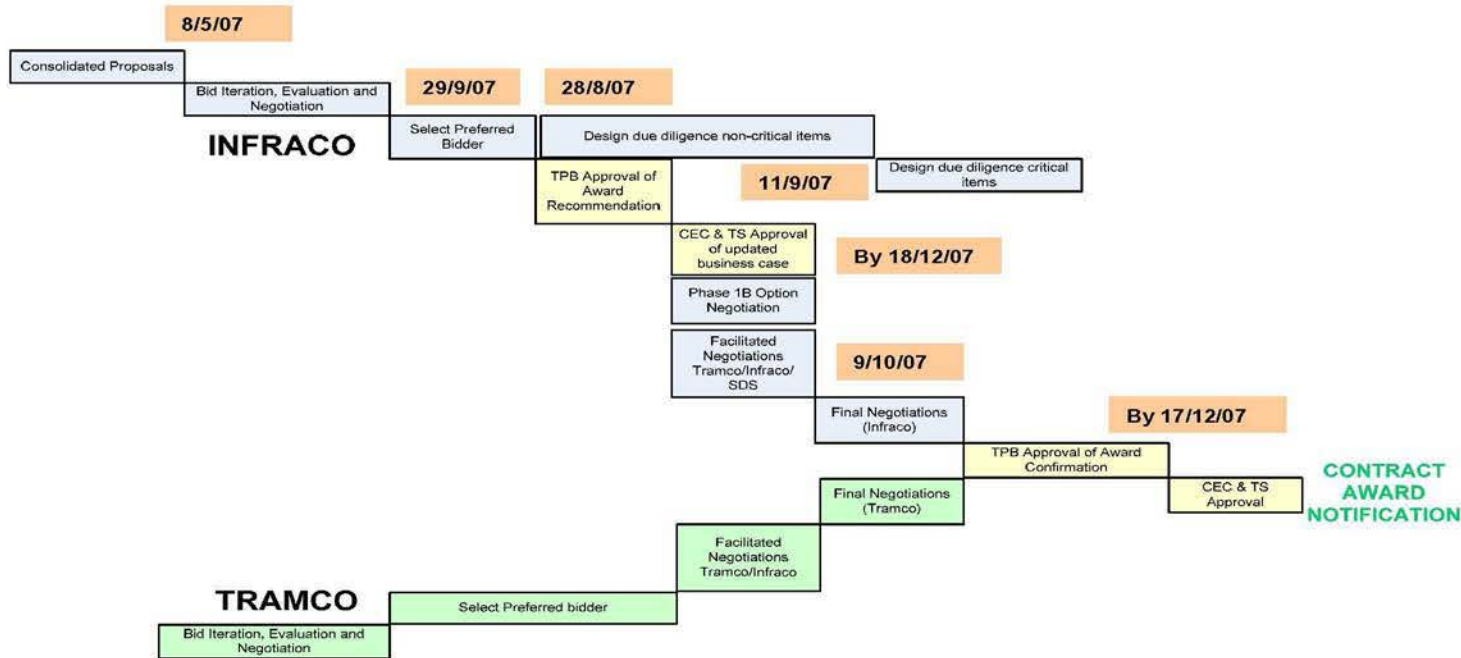
APPENDIX A

	Phase 1a £m	Phase 1b £m	Total 1a + 1b £m
Normalised bid cost	545.5	98.8	644.3
Adjust for anticipated savings - cautious view This assumes a cautious estimate of a 5% reduction bidders' and their supply chains margins and 5% reduction in underlying prices achieved by generating savings from value engineering e.g. contractor led efficiencies in the structures designs.	-28.0	-6.0	-34.0
<b>Updated Project estimate total (cautious)</b>	<b>517.5</b>	<b>92.8</b>	<b>610.3</b>
Adjust for further anticipated savings – possible anticipated final outcome. This assumes a more aggressive negotiated reduction of 10% and 15% through further value engineering e.g. reconfiguring the design of the depot and its expensive retaining walls.	-40.00	-9.0	-49.0
<b>Anticipated final outcome (upper end opportunity)</b>	<b>477.5</b>	<b>83.8</b>	<b>561.3</b>

**Appendix B**



## Plan To Deliver The Strategy



FOISA exempt  
 Yes  
 No

## APPENDIX C

Protocol in respect of agreement to the revised programme.

# EDINBURGH TRAM NETWORK

## PROTOCOL IN RESPECT OF AGREEMENT TO THE REVISED PROGRAMME

### Introduction

A review of the programme has been undertaken to ensure that the design deliverables, and decision making process upon which they are dependant (including Critical Issues resolution), are aligned with procurement activities to enable delivery of the Infraco and Tramco procurements to the new baseline programme.

This paper and supporting documents sets out the protocol for achieving this objective to which SDS, CEC, TEL subscribe.

Other than some latitude at the margins in respect of the nomination of preferred bidder for Infraco and Tramco SDS, CEC, TEL and tie recognise the importance to the Project that the dates in the agreed programme are met.

### Agreed Programme

The new baseline programme is as appended to this paper (reference D-Day 06Mar07 Scenario Rev 6) and as supplemented by the Procurement Key Design Deliverable Schedule (both appended).

The design elements of the programme are taken from the current SDS programme. The outputs identified provide information for three critical aspects of the Project:-

1. For procurement of Infraco and Tramco
  - a. To enable selection of preferred bidder
  - b. To enable delivery of a final deal, culminating in a contract award
2. To obtain the statutory prior approvals from CEC
3. For construction drawings to enable the commencement and completion of construction works to programme.

### Principles For Delivery To The Programme

All parties recognise their mutual interest in and objective of delivery to the dates set out in the agreed programme. The recommendation for preferred bidder and subsequent award of contract may only occur once activities and deliverables referred to in this programme are complete ("programme completion"). Delivery of these activities and deliverables enables delivery of an operating tram system in Edinburgh by the end of first quarter 2011 (calendar year quarter). In particular all parties:-

- Acknowledge that delivery to the agreed programme enables the programme dates for recommending preferred Infraco and Tramco bidders and award of contracts to be achieved.
- Accept delivery of the designs in complete pre agreed packages for review by CEC for the purposes of obtaining Prior Approval consent.
- Will provide all reasonable and necessary co operation and support to enable **tie** to deliver the Infraco and Tramco procurements in accordance with the agreed programme.
- Accept that the delivery of the design information to **tie** as set out in the attached schedule (Procurement Key Design Deliverable Schedule) is necessary deliver the Infraco preferred bidder and final deal.
- Recognise that in respect of Prior Approvals and issue of designs for construction delivery to the agreed programme is contingent on resolution of the Critical Issues and timely decision making and provision of information in

Date:- 9<sup>th</sup> July 2007



## EDINBURGH TRAM NETWORK

respect to all matters requiring or involving direction or input by CEC, TEL, tie or other stakeholders..

- Will co operate to resolve the Critical Issues in a timely manner, in a manner that does not compromise the Draft Final Business Case, to enable the programme to be achieved.
- Will co operate proactively, in a manner that does not compromise the Draft Final Business Case, to resolve all other issues and problems that, or if not resolved, will prevent the delivery of the agreed programme.

### Critical Issues

As at 27<sup>th</sup> June there are two unresolved Critical Issues as set out in David Crawley's Email dated 21 June 2007.

### Notes To Programme

The following explains the key linkages within the programme to deliver the operating tram system by quarter 1 2011:-

1. The items on the Procurement Key Design Deliverable Schedule are required for the delivery of Preferred Bidder.
2. The items on the Design Information for Final Deal are enable the delivery of the Infraco/Tramco Contract Award Date.
3. Prior Approvals are required by the specified dates to maintain Infraco construction commencement dates.
4. Due diligence is to commence on 28<sup>th</sup> of August to enable Contract Award by 28<sup>th</sup> January 2008.
5. Delivery of Design Assurance Packages by the dates specified on the programme is required to commence Infraco bidder design due diligence.
6. Delivery of the Advance Works by the dates specified in the programme maintains the Infraco construction delivery programme critical dates.
7. Delivery of MUDFA works by the specified dates is necessary to commencement dates of the on street sections of the Infraco works. In turn commencement of each of the MUDFA works sections is contingent on delivery of designs for Utilities diversions by the due dates and timely provision of information by tie and Statutory Utilities.

### Relationship to Contract Agreements

This protocol does not constitute a contractual agreement and does not change or affect the interpretation of contract between SDS and tie or the statutory obligations of CEC.

.....  
Matthew Crosse  
tie

.....  
Steve Reynolds  
SDS

.....  
Duncan Fraser  
CEC

.....  
Alastair Richards  
TEL

Date:- 9<sup>th</sup> July 2007

**EDINBURGH TRAM NETWORK**

**PROCUREMENT KEY DESIGN DELIVERABLE SCHEDULE**

**Design Information Required pre Preferred Bidder  
(For Phase 1a)**

<u>Info Update No</u>	<u>Description</u>	<u>Due Date</u>	<u>Comment</u>
1	Drawings reflecting interchange charette changes	Done	Complete
1	12 Critical structures	21/3/07	Complete
1	Wheel / Rail Interface report	Issued	Complete
2	Environmental management plan	Issued	Complete
2	Contaminated Land Plan	12/3/07	
2	Typical tramstop designs (within World Heritage area and outside World Heritage site) – generic designs	Issued	Complete
2	Design Assurance Process	Complete	Complete
	System Integration Plan (initial)	Issued with PD	Complete
1	Archaeological surveys	Done	
3	Indicative roads, pavings, landscaping and traffic measures – See description below for detail	7/5/07	Complete
3	System Performance Validation Package <ul style="list-style-type: none"> <li>o Run time model plus assumptions and constraints, and provide confirmation that the performance of the two Tram vehicles is within the run-time model assumptions.</li> </ul>	25/5/07	Provide Tram performance info to bidder
3	Ground Investigation for track route and depot	5/6/07	
3	Trackform and stray current requirements	11/6/07	To be resolved between Infraco Bidders, tie, TEL , CEC and SDS
1	OLE <ul style="list-style-type: none"> <li>o Dynamic simulation report</li> </ul>	16/3/07	
2	o Final Technical and Pantograph spec	27/4/07	
4	o Pole Schedule Loading Chart	29/6/07	
4	o Layouts	28/6/07	
4	o Final Building Fixings Schedule	13/7/07	
	TRO Plan / Strategy		By tie (K.Rimmer) - hold
4	S&CC systems performance specs	4/7/07	Provide what has been completed to this date
3	System integration Plan – process's, update plan, interface matrix System Integration Spec's	11/6/7	Will be updated with evolving design

## EDINBURGH TRAM NETWORK

4	Alignment drawings including MX modelling (PWay drawings)	19/7/07	
4	Indicative drainage for track and roads	6/7/07	
4	Sub stations and power supplies information	23/07/07	Provide what has been completed to this date
4	Systems Interface Matrix	23/7/07	Provide what has been completed to this date
4	Remaining structures (excl Balgreen Road Bridge)	23/7/07	Further structures information that is available at this date. (design information forecast to be available to be advised by SDS)
4	Maintenance performance regime incl RDA (Roads Demarcation Agreement)	23/7/07	For the purposes of obtaining more reliable maintenance prices from Infraco

### **Bidders**

1. Operator led issues on system wide issues
2. MTTR and MTBF data for system elements and components (other than bidders prescribed /selected components)

### **By Others**

1. Infraco TTRO Schedules

**Information required pre Preferred Bidder should be to the standard that would be issued to tenderers to enable them to price the works with minimal risk allowances and contingencies**

### **Requirements for indicative roads, pavings, landscaping and traffic requirements**

Indicative information required setting out the likely requirements for this work. The scope to be defined is the extent of roads and pavings reinstatement and/or refinishing and the standard that this work is to be delivered to in each area of the route. This should also include landscaping and the physical work (kerb realignments, traffic light work and street furniture etc) required to deliver the Core Measures and if possible an indication of likely Wider Area measures work (where this is not defined on the drawings setting out the junctions work). The information needs to be on marked up general arrangement drawings with accompanying explanatory scope definition documents.

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**Design Information for Final Deal  
(For Phase 1a)**

	<u>Due Date</u>	<u>Comment</u>
Any prior approvals and other approvals attained to date (issue approvals tracker)	n/a	Latest tracker available to be issued with Final Deal Information Pack
Final roads, pavings, landscaping and traffic measures (for the purposes of firming up prices)	22/8/07	
Core Measures and Wide Area traffic management works (work to signals, pavings and signage etc)	21/10/07	
Approvals and consents (statutory and non statutory) status schedule, plus details of all approvals and consents obtained to the date of settling the Final Deal	n/a	Latest available to be issued with Final deal Information Pack
Planned Network Rail possession details		<b>tie</b> to provide
Other information updated from Preferred Bidder stage		Issue as becomes available but no later than the date for the Final Deal Package
Design assurance documentation including <ul style="list-style-type: none"> <li>• CAT check certificates</li> <li>• HMRI letters of no objection</li> <li>• Tie/SDS assurance documentation</li> <li>• HMRI minutes</li> <li>• HAZOP data</li> <li>• Design risk profile (HAZOP, HAZIDS plans)</li> </ul>	Comp DD  Comp DD	with emerging design  with emerging design  with emerging design
Design Verification Review 1A		
Design Verification Review 1B		
Design Verification Review 1C		
Design Verification Review 1D		
Design Verification Review 2A		
Design Verification Review 5A		
Design Verification Review 5B		
Design Verification Review 5C		
Design Verification Review 6		
Design Verification Review 7A		
Immunisation – EMC and EMI and survey work		
Final structures (Including – Balgreen Road)		
CDM pre tender H&S plan		TBC
Stage 2 safety audits (road safety audits)		With relevant elements of Detailed Design