



## 4 Week Period Reporting Pack

**Project Title:**  
Edinburgh Tram Project

**Reporting Period:**  
Period 9 2007/2008

(As the report has been completed prior to Period end, the report is based on the previous period and updated where possible)

**Transport Scotland Project Manager:**  
John Ramsay

Report produced by: **tie** Limited

Signature:.....

Date:.....

<b>Contents .....</b>	<b>Page</b>
<b>1 Executive summary.....</b>	<b>3</b>
<b>2 Progress .....</b>	<b>13</b>
<b>3 Headline Cost Report.....</b>	<b>22</b>
<b>4 Time Schedule Report .....</b>	<b>26</b>
<b>5 Risk and opportunity .....</b>	<b>29</b>
<b>6 Health, safety, environment, quality and resources.....</b>	<b>30</b>
<b>7 Stakeholder and communication.....</b>	<b>33</b>

# 1 Executive summary

## 1.1 *Previous period update*

### 1.1.1 Commercial and procurement

#### Infraco / Tramco

Negotiations continue with the selected Preferred Bidders to finalise the contracts for approval in December 07 and award in January 08. The due diligence process by the bidder on the SDS design is continuing with good progress being made so far. Further facilitated negotiations between **tie** and the preferred bidders for Infraco, Tramco and the SDS contractor respectively will be undertaken during the period.

In order to maintain the overall completion date for Phase 1a in Q1 of 2011, advance mobilisation of Infraco and Tramco is required. A scope and programme has been received from the Infraco bidder and it is anticipated that the advanced mobilisation agreement will be signed during the next period.

#### MUDFA

All the potential issues related to the delayed commencement of the AMIS MUDFA utility diversion works have been discussed in detail with AMIS resulting in an agreed way forward and agreement is being finalised.

### 1.1.2 Approvals / governance / funding

#### Governance

The detailed committee structures and relationships with CEC for the delivery phase of the project have now been developed and will be presented to the Tram Project Board on 7<sup>th</sup> December. The revised **tie** / CEC operating agreement will be approved by the Council on 20<sup>th</sup> December.

#### Funding letter

All matters of substance regarding the Funding Letter have been agreed between CEC and TS and a revised Draft is expected on 5<sup>th</sup> December. The programme anticipates the letter will be approved at the IDM on 12<sup>th</sup> December and thereafter will be available to the Preferred Bidders and will be a background paper to the Council report on 20<sup>th</sup> December.

Confirmation is awaited from TS regarding a mechanism to fund payments for advance material purchases before the end of the current financial year.

#### Pre-close funding

There is sufficient funding in place to cover requirements until the projected Financial Close in January 2008.

## OGC

All OGC recommendations have either been implemented or there is a clear documented plan to have them implemented.

### **1.1.3 Design and engineering**

#### Design deliverables

To 23<sup>rd</sup> November, of the 344 design deliverables, 236 have been delivered, representing 63% of the tram system design. 66% of Phase 1A detailed design is now complete and it is expected that about 75% will be complete by the date of placement of the construction contract in Jan 2008. Some slippage occurred between V20 and V21 but the rate of progress has been recovered. This slippage is mostly due to the continuing impact of section 1A delays.

SDS design progress will be discussed with Tom O'Neill, the PB President, on the 5<sup>th</sup> December.

Heads of terms have been agreed with Forth Ports and design is progressing on this basis with agreement that any additional works will be funded by Forth Ports.

The formal design reviews are continuing on a weekly basis and good progress is being made to achieve stakeholder buy-in. There is ongoing focus on technical matters and prior approvals with CEC.

## ROGS

The Tram project is one of the first rail projects in the UK to be run under ROGS and is the first Tram project in the UK to be run under these regulations. The regulations require an Independent Competent Person to formally accept the constructed tram system for use. Work has begun to address the principal matters.

An Evidence File will be compiled before commissioning to present **tie's** case for acceptance. This process will begin immediately. The principal issues which have been raised so far include:

- The basis of the suite of standards which have been used for design and the rationale for the particular combination employed;
- Design integration of inter-related system at the detailed design stage and the degree to which CDM regulations have been properly accommodated;
- Arrangements for the independence of the Safety Verification Scheme (a requirement of ROGS); and
- The acceptability of design features which mix pedestrians, tram and cyclists.

These issues are all under review and will feature in the Evidence File.

Value engineering

VE progressed during the period in conjunction with the due diligence and technical clarifications ongoing as part of the preferred bidder process.

**1.1.4 MUDFA**

Progress to end period 8 (Period 9 figures not yet available)

		Period 08 2007/08			Overall performance to date		
		PLANNED	ACTUAL	Variance	PLANNED	ACTUAL	Variance
<b>TOTAL</b>	<b>Metres</b>	<b>1009</b>	<b>831</b>	<b>-178</b>	<b>3722</b>	<b>3915</b>	<b>193</b>
	<b>Chambers</b>	<b>8</b>	<b>14</b>	<b>6</b>	<b>18</b>	<b>28</b>	<b>10</b>
<b>BT/Comm</b>	Metres				1904	2165	261
<b>SGN</b>	Metres				86	86	0
<b>Scot W</b>	Metres				1441	1371	-70
<b>Scot P</b>	Metres				291	293	2

Programme

The revision 06 of the MUDFA programme has been finalised by **tie** and AMIS. The following key issues have a major impact on the Rev 06 programme:

- BT cabling and jointing programme – working with BT to explore ways of reducing the impact. These include BT working 24/7 and allowing early access for BT cabling and jointing. This required detailed integration with Infraco by sub-area. The program aims to minimise potential interfaces between MUDFA and Infraco to maximise the window of opportunity for the BT works; and
- Traffic Management interface between works in St Andrews Square, the Mound and Lothian Road junction. Several meetings have resulted in way forward, accepted by all stakeholders, with the construction works in this vicinity, whilst minimising disruption to the traffic flow and businesses.

Summary of work section progress:**Section 1B**

The centre reservation along Leith Walk is being removed and temporary road reinstatement installed to provide a greater working area for the utility diversions and greater flexibility with traffic management along Leith Walk. This work is essential to facilitate the achieving of the Rev 06 programme. Removal of the centre reservation is also required for Infraco works. All the proposals have been discussed and agreed with the Traffic Management

Panel, prior to implementation, with local businesses and stakeholders informed.

Jane Street road closure commenced on the 15<sup>th</sup> October 2007 for twelve weeks to accommodate a major exchange BT chamber.

Actual progress in this area is 16% against a planned 29% due to issues related to accommodating the utilities and the congestion of existing utilities. The resources in this area are being increased by 50% to recover the programme. No overall impact is expected on the final completion of the Leith Walk diversions.

### **Section 1C**

A series of 34 trial-hole investigations along Princes Street were undertaken in the period to inform construction and reducing the potential risk of delays to programme.

The utility road crossings in Princes Street at the junctions of Frederick Street and Castle Street commenced 12<sup>th</sup> November with completion of five road crossings prior to the embargo at start of December. The remaining four will be carried out in January 08.

### **Section 1D**

A series of trial-holes requested by EICC in Morrison Street commenced on the 19<sup>th</sup> November – these are non-MUDFA works which will not impact on the MUDFA programme. All trial holes were completed by the 30<sup>th</sup> November as programmed.

45 trial-holes to inform construction along Shandwick Place were undertaken in the period. The remaining 31 planned trial-holes will be completed in the next period.

### **Section 5A, 5B & 5C**

The MUDFA works available within Section 5A were completed on the 5<sup>th</sup> October 2007 amounting to 70% of the utility diversions required in this area. The remaining 30% of utility diversions are being transferred to the Infraco contractor's scope as enabling works, such as retaining walls, are required.

Section 5B and 5C IFC utility drawings are awaited for review by **tie** to confirm these works are likely to be transferred into the Infraco contract.

### **Section 6 (utilities)**

Diversion of the 33kv SP cable was completed and energised. The 250mm watermain diversion is complete under RATs (risk and trade-off) – excluding testing and commissioning. The 800mm watermain diversion final levels are under design. The main will be within the anticipated profile of the adjacent

road. These works will be carried out under a RATs proposal – early discussions are underway with SW to this effect.

### **Section 6 (Gogar)**

Earthwork operations have been completed as far as practicably possible. Completion of both the SGN and SW diversions is required to release the land area 'locked-in'. Both are anticipated for completion by end March at the latest. The BAA fence requires realigning into BAA ground. This was due before the end of November but is currently anticipated to be complete early in the New Year. This is contingent on agreement from the CAA that the flight path is not affected by the new fence alignment. The fence realignment will be completed by the approved BAA contractor. The handover of the Gogar depot site was concluded on satisfactory inspection of the area by **tie** team on 13<sup>th</sup> November.

### **Section 7A and 7B**

AMIS have submitted proposals for the utility diversions associated with the above two sections to be commenced as RATs. The submissions are currently under review and **tie** has arranged meetings with the affected SUCs and BAA to discuss and agree.

#### **1.1.5 Delivery**

The land assembly GVD notices are on schedule. GVD6, the final tranche, will be issued mid December 2007.

BAA agreements are in agreed form and will be executed by 10<sup>th</sup> December. It is anticipated that the suite of Network Rail Agreements will be in agreed form by mid December. Final sign off of the APA can only be concluded once the Depot and Station Change processes have been approved by First ScotRail. NR have confirmed that access to the remainder of NR lease land (excluding those plots affected by Depot and Station Change) will be available to Infracore under the agreed terms of the APA. The assembling of relevant information for these change procedures has been initiated.

Works started on site for Ingliston Park and Ride Phase 2.

The Traffic Management (TM) process was reviewed in the period following issues on Leith Walk in respect of alterations to TM works (post installation) and recovery periods. The review identified the need for a critical review of TM performance in early stages of installation to ensure traffic flow and behaviour crystallize as anticipated. The identification of authorised TM reviewers (AMIS / **tie**) and the review process were ratified with key stakeholders (CEC / LB).

The emerging results of modelling the wide area impacts suggest that changes in traffic patterns are likely to be localised around the tram corridor / catchment areas, and do not spread over a wide section of the city. The Traffic Model is expected to be signed off as fit for purpose by CEC during December.

The modelling support to inform the design process is proceeding well, with finalisation of Picardy Place, the Mound and the West End expected in early December.

Approval was received from SNH for destruction of the badger setts. This is programmed for December.

### **1.1.6 Health, safety, environment and quality**

There were two accidents reported in the period to date, both of a minor nature. The investigation reports are on-going. There were three incidents reported in the period, in two cases, there was damage to cables. In the third a member of the public was struck by a plastic barrier which fell over. No injury was reported.

### **1.1.7 Stakeholder and communications**

Stakeholder engagement in the last period related to the ongoing customer interaction for the MUDFA works and the progress of the final tram route design. Preparation is now well underway for the presentations to frontager and the wider community on the final design for the tram route which will be held from January to April in 2008.

The stakeholder team has continued to meet with groups and individuals affected by the project in particular the MUDFA works. Most of this is based on face to face meetings and is producing real benefits for the project through the reduction of customer complaints.

The communication strategy is focused on the MUDFA works and the drive from the wider media interest for continuing information on progress. As part of the "Edinburgh's Open for Business" strategy, a special sub-committee has been created which is chaired by the Edinburgh Chamber of Commerce. This sub-committee has a clear remit to ensure that the city is marketed as being open for business during the construction works.

Key stakeholder matters arising from the utility diversions are set out below:

- BT cabling, St Andrews Square streetscape works and Picardy Place final alignment are major issues which have been the subject of significant review in the development of the Rev 06 Programme;
- Removal of central reserve along Leith Walk is ongoing;

- Jane Street Road closure commenced 15/10/07 for 12 weeks;
- Princes St utility crossings at Frederick and Castle St were carried out between 12/11/07 and 30/11/07;
- Trial holes for the east-bound carriageway on Shandwick Place ongoing in the latter part of the period; and
- Access agreements for SUC's apparatus which remains within the Dynamic kinematic envelope (swept path) to be agreed between SUC and with both TEL and CEC for Constitution St, Shandwick Place and Haymarket. Ongoing discussions with the affected parties progressing.

## 1.2 Key issues for forthcoming period

### General

- Progress of the Preferred Bidder process – on price, programme, risk allocation, legal and contract elements;
- Agreement of the funding terms;
- Finalisation of Picardy Place;
- Steps to update the Council Report as agreed in October; and
- Approval of FBCv2.

### MUDFA specific:

- Key performance Indicators for individual sections continue to be refined;
- Complete production of detailed construction programmes for sections 1B, 1C, 1D, 6 & 7A;
- Ratify Section 2A within the Rev 06 programme;
- SGN technical and commercial issues to be resolved with the exception of a 30" gas main at the Mound which is under review and discussion with SGN;
- SGN commercial agreement was finalised for Willie Gallagher / Mel Karam agreement in early November 2007. A letter formalising the agreement was sent and confirmation is awaited; and
- BT issue re programme of cabling and jointing for diversions, particularly for section 1C. Development continues in order to identify critical interface areas with Infracore.

## 1.3 Cost

	COWD Period	COWD (YTD)	COWD YTD + forecast to year end	AFC
Phase 1a	£5.1m	£44.4m	£93.1m	£498.1m
Phase 1b	£0.0m	£ 1.1m	£ 2.0m	£ 87.3m
Phase 1a+1b	£5.1m	£45.5m	£95.0m	£585.4m

The COWD in the year to date primarily comprises continued development of design, advance works at the Gogar depot, utilities works under both MUDFA and direct works by utility companies, project management costs and land costs.

The cost of land included in the year to date totalling £16.6m (comprising both land acquired under the GVD process and land injected into the project by CEC) is included in this report for completeness. However, all payments have and will be made directly by CEC.

The forecast COWD for the year has reduced from £132.7m reported last period to £95m. This is primarily due to the treatment of payments to be made for advance material purchases (£26.7m) as prepayments, following discussion with TS. This is subject to confirmation by TS that there is a mechanism to provide cash to make these prepayments during the current year. The revised forecast also reflects current estimates of contractor mobilisation costs and a further revision to the level of contingency (risk allowance) allocated to the current year.

The new funding required during the current financial year is now **£17.9m** (£95m less £77.1m already authorised). Should this all be granted by TS then the total expenditure for the year of £95m will be funded as £6.5m from CEC and £88.5m from TS.

Forecast expenditure during FY08/09 (now estimated at £162m on Phase1a) and subsequent years is subject to continuing finalisation of tendered costs and related cost profiles with the Infraco and Tramco bidders and the element of the risk allowance allocated to that year. Cognisance is being taken of the current £120m cap on TS funding for FY08/09 to the extent it makes commercial sense.

Costs for Phase 1b relate purely to finalising design works, as previously agreed by the Board.

## **1.4 Programme**

MUDFA Rev 6 dates have now been included in the BBS programme and the critical path is becoming more developed as the programme is developed in conjunction with BBS. The visibility of BBS critical skill resource constraints are being worked through. Areas that are on or near the critical path include:

- Critical design activities include those in Section 5a Roseburn Junction to Gogar, particularly structures. Other structures have become critical since the previous period including Section 5b Edinburgh Park Station viaduct and Section 1a Victoria Dock and Tower Place bridges where Issue for Construction design has slipped to October and November 2008.

- Weekly meetings continue to be held between SDS and MUDFA to assess design progress.
- Network Rail immunisation works are showing as near critical as the final stages are tied to pre-booked possession dates in late December 2008 and early January 2009. This work has to be completed prior to the depot energisation in November 2009. This will remain critical until the scope and programme is confirmed, which is dependent on the modelling and testing strategy being completed.
  - The modelling and testing strategy is expected to be completed by the end of January 2008.
- MUDFA revision 06 construction programme has been reviewed by all major stakeholders and was signed-off on 23<sup>rd</sup> November. This highlights the previously critical area of works at St. Andrew Square particularly now that the impact of BT Openreach programme is better understood.
  - Reviews are continuing on ways to reduce these timescales or to offer protection where possible to existing BT cabling to allow Infraco construction to proceed.
- Other areas that are giving concern in the MUDFA programme and are monitored closely remain Picardy Place, Mound Junction and Lothian Road Junction.
- Infraco areas showing critical include Section 1a around Forth Ports and Tower Bridge, Section 1c, Picardy Place, the depot building and access bridge, Section 5a around the structures at Murrayfield and Section 7 test track activities.

There has been agreement with the stakeholders to the assumptions underpinning the Infraco construction programme, including likely traffic management arrangements.

## **1.5 Risk**

During this period the risk register has been reviewed with regard to updating the exposure period for each risk on the register and confirming the split of each risk with regard to Phase 1A and 1B. This will help ensure that the risk allocation per period within the QRA is as accurate as possible. During this period, there have been no risks added or closed.

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

Decisions / support required from TS

- Finalisation of the funding agreement;
- Confirmation of Ministerial / Scottish Government approval for funding; and
- Cash availability for advance material purchases.

Decisions / support required from CEC

- Approval of FBCv2;
- Finalisation of the funding agreement;
- Agreement on Contract Award; and
- Finalisation of Picardy Place.

Decisions / support required by others

- N/A

## 2 Progress

### 2.1 General / overall

- GVD 5 was signed on 20<sup>th</sup> November 2007 – This GVD included plots 267,268, 270, 271, 272. Title to these plots vests on 21st December 2007.
- At the present time, it is the Land Assembly Team intention to ensure CEC acquires all remaining plots by Infraco Contract Award date in January 2008. GVD 6 is to be used to clear up all outstanding plots identified and is programmed for issue on 14<sup>th</sup> December 2007.
- A number of short-term leases have been offered to businesses on Roseburn Street. Licences are being closely monitored by CEC and any extensions are first being discussed with the programme team to ensure that leasees are removed from properties in time for Infraco on site start.
- BAA agreement is awaiting signatures this week and all drafts of leases and licences for NR are with NR at present. It is anticipated that all critical NR documents will be in agreed form by 05<sup>th</sup> December 2007. Meetings are to be held the week commencing 3/12/07 to move the NR agreement towards completion.
- Forth Ports agreements are progressing positively although the current understanding is that CEC will be adopting Ocean Drive imminently thus potentially reducing risk to programme in this area.
- The **tie** and CEC asset management lease is on hold at the present time

#### 2.1.1 Network Rail

##### Immunisation

- Scope and programme continues to be unknown and will remain so until the Modelling and Testing strategy has been completed. The initial modelling will establish the theoretical baseline for zone of impact between Tram and Rail networks for the immunisation works and verification testing of key areas identified from that modelling will further refine the model. This will then provide an agreed impact zone through satisfaction with the requirements contained within the jointly agreed safety document being generated as a result of meetings with NR. Resource in this area has been strengthened and the modelling and testing study is progressing well and is expected to be complete by the end of January 08.

##### Relocation of existing lineside equipment (Lift and Shift)

- NR have produced a draft scope of works for the Lift and Shift works and are contracting with Jarvis to provide that resource. NR confirm that they are targeting completion of the Lift and Shift works for the end of April 08.
- **tie** have existing bookings for possessions of NR during December 07, January 08 and March / April 08. These will be used for the Lift and Shift works and SDS have been additionally asked to confirm they will be able

to carry out some of their verification testing for the modelling study during these possessions.

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

- The relocation of the Haymarket diesel tanks is still further delayed to start on site Jan 2008 and last till July 2008. This is now impacting the Infracore proposed construction programme with Roseburn Street viaduct programmed to commence May 2008 requiring the relocation of these tanks.
- This is a NR contract with Birse and was originally envisaged to have been complete by November 2007 which slipped to January 2008. Last advised from Tram Liaison Meeting No.26 as commencing October 2007 with completion March 2008.

#### General

- There has been good progress made in contract negotiations between **tie** and NR with the DSA (Development Services Agreement) to be signed in the week commencing 3<sup>rd</sup> December 2007.
- The Christmas 2007 and New Year possessions should be at no cost, unless the lead possession booker (A2B) pulls out.
- Discussions continue between **tie** and NR on preparation of an Asset Protection Agreement (APA) document and expected to signoff by early December with one week slippage to last period targeted date. It should be noted that no work on NR assets can commence until after the APA has been agreed and signed-off.

#### **2.1.2 OCIP**

- Activities have now been included into the programme now for Operational Insurance beginning in 2010.

### **2.2 Critical path**

The critical path is becoming clearer as the programme is developed in conjunction with BBS and is identifying those areas that were felt to be at risk from the outset:

- Critical design activities as identified remain those in Section 5a Roseburn Junction to Gogar, particularly structures such as the Balgreen Road bridge and the Baird Drive retaining wall, although other structures that have become critical since the previous period include Section 5b Edinburgh Park Station viaduct and particularly Section 1a Victoria Dock and Tower Place bridges where Issue for Construction design has slipped to October and November 08, respectively.
  - Weekly meetings continue to be held between SDS and MUDFA to assess design progress.

- Network Rail immunisation works are showing as near critical as the final stages are tied to pre-booked possession dates in late December 2008 and early January 2009. This will remain critical until such times that the scope and programme are confirmed. This work has to be completed prior to the depot energisation in November 2009.
  - Progress on NR issues is detailed above.
- MUDFA revision 06 construction programme has been reviewed by all major stakeholders and was signed-off on 23<sup>rd</sup> November. This highlights the previously critical area of works at St. Andrew Square, particularly now that the impact of BT Openreach programme is better understood. Reviews are continuing on ways to reduce these timescales or to offer protection where possible to existing BT cabling to allow Infraco construction to proceed.
- Other areas that are giving concern in the MUDFA programme and will have to be monitored closely remain as Picardy Place (unresolved design), Mound Junction (parallel working and dependencies on St. Andrew Square / Frederick Street), and Lothian Road Junction.
- Infraco areas showing critical include Section 1a around Forth Ports and Tower Bridge, Section 1c, Picardy Place, the depot building and access bridge, Section 5a around the structures at Murrayfield (see critical design activities) and Section 7 test track activities.
  - In order to have the depot built and commissioned ready for 1<sup>st</sup> tram deliveries in December 2009 an advance works contract was awarded to allow for enabling works and mass excavation prior to Infraco commencement. This has proceeded to programme but the final Phase is dependant on Scottish Gas Network delivering to programme which is currently experiencing delays through land access issues.

There has been agreement with the stakeholders to the assumptions underpinning the construction programme, including likely traffic management arrangements.

### **2.3 Procurement consultant**

- Infraco contract Preferred Bidder was announced as Bilfinger-Berger-Siemens and programmed for award in January 2008.
- Tramco contract Preferred bidder was announced as CAF and programmed for award in January 2008.
- Work to finalise the agreements for the advance mobilisation of the preferred bidders has been ongoing. The advance mobilisation is necessary to maintain the overall completion dated of Q1 2011 and will comprise such activities as:
  - Tree felling;
  - Developing of detailed tram design programmes;
  - Initiation of negotiations for materials, equipment and fittings; and
  - Surcharging of the Gogarburn landfill.

## 2.4 Design

### System Design Services (all Preliminary and Detailed Design informing programme and costs)

- In the period the gap between planned (V17) and actual deliverables has continued to grow and at 23<sup>rd</sup> November only 66% of Phase 1a deliverables have been issued to **tie** (and therefore to the data room and BBS). This is resulting in a situation where it is possible that 34% of Phase 1a is currently priced and programmed on Preliminary Design data which presents a risk to both programme and cost. However, this risk has, to an extent, been mitigated by the issue of work in progress drawings for that 34%.
- SDS design progress will be discussed with Tom O'Neill, the PB President, on the 5<sup>th</sup> December.

	Project Wide	Line 1a	Line 1b	Totals
No. Deliverables	96	188	60	344
Delivered to tie	60	124	52	236
	63%	66%	87%	69%

- Parsons Brinckerhoff submitted version 22 of the design schedule on Thursday 8<sup>th</sup> November 2007 progressed to a data date of 22<sup>nd</sup> October 2007. This is still the current issue of design and therefore the following dates remain the same.
- V23 update is expected to be received from Parsons Brinckerhoff on Wednesday 5<sup>th</sup> December.

The Design Programme influences many logic strings which have a direct impact on the constant "live" scheduling of, amongst other dependencies, utilities construction, traffic management, advance works (non-depot), advance works at Gogar depot site and structures construction within the Infraco package.

The issue of full design packages "for Construction" for the full section to inform the Infraco procurement process has been revised between V21 and V22 as follows:

- Section 1 Newhaven to Haymarket
  - V21 – 10Oct08 – V22 – 23Sep08
- Section 2 Haymarket to Roseburn Junction
  - V21 – 25Feb08 – V22 – 15Jan08
- Section 3 Roseburn Junction to Granton Square
  - V21 21Mar08 – V22 – 10Mar08
- Section 4 Future

- Section 5 Haymarket to Gogar
  - V21 – 16Jul08 – V22 – 12May08
- Section 6 Gogar Depot
  - V21 – 23Jul08 – V22 - 05Jun08
- Section 7 Depot to Airport
  - V21 - 23Apr08 – V22 - 20Jun08

## **2.5 Financial / funding / procurement strategy**

Based on the expenditure review detailed in section 1.3 and 3, the indication is that there is sufficient funding in place to cover the period to anticipated financial close in January 08.

To support achievement of the overall completion dates of Q1 2011 for Phase 1a, significant early mobilisation of Infracore and Tramco is required following contract award. The indicative initial expenditure is estimated at £21.3m, covering such items as:

### Initial Infracore works milestone

- Rails – steel bloom;
- Switches and rail expansion joint;
- Copper for OHLE cabling;
- Various high power switch gear;
- Substation and wayside cabling;
- Long-lead items for depot and workshop equipment and part; and
- Specialist long lead items for control centre.

### Mobilisation and design works

- Prelims and site set up costs;
- Early advance design services payments;
- Consolidated pre-mobilisation professional fees (engineering, procurement etc);
- Design mobilisation fees for all suppliers and internal design team;
- Systems integration design works and detailed interface definition stage works; and
- 3<sup>rd</sup> party specialist design services costs.

### Advance works

- Further excavation and soil stabilisation at the depot;
- Site clearance along the alignment (e.g. de-treeing);
- Drainage works; and
- Preparatory works on street.

The scope and the values for each are subject to further discussions and negotiations with BBS during the current preferred bidder phase and, in the case of the Initial Infraco Works Milestones, until a final confirmed milestone payment schedule for the entire project is agreed with all parties.

## **2.6 Parliamentary process / approvals**

- This phase is now complete.

## **2.7 Procurement construction works**

### **2.7.1 Negotiations and award of contracts**

In addition to 2.3:

- Other contracts that require consideration are:
  - Power reinforcement;
  - NR agreements and leases;
  - Enabling works at St. Andrew Square; and
  - Conclusion of BT Openreach programme impact on Infraco.
- Site specific Code of Construction Practices (CoCP) are still to be formally agreed for:
  - Forth Ports;
  - SRU; and
  - Edinburgh Park.

Board date	Milestone	Due date	Delivered date	Comment
12 <sup>th</sup> July	Conclude initial review	03/07/07	05/07/07	Complete
	Return of Update Package 3	06/07/07	07/08/07	Complete
	Initial normalisation of price	15/06/07	29/06/07	Complete
	Draft evaluation	10/07/07	14/09/07	Complete
9 <sup>th</sup> Aug	Conclude negotiation of contract terms	17/07/07	Ongoing	See comment below
	Infraco final bid proposals	07/08/07	07/08/07	Complete
	Updated evaluation	09/08/07	12/09/07	Complete
5 <sup>th</sup> Sept	Conclude negotiations with bidders	27/08/07	14/09/07	Complete
	Presentation of evaluation to evaluation panel	02/10/07	12/10/07	Complete
	Presentation of evaluation to TPB Procurement sub committee	02/10/07	12/10/07	Complete
26 <sup>th</sup> Sept	TPB update on Procurement and FBC	26/09/07	26/09/07	Complete
	OGC 3 Gateway review – final report	05/10/07	05/10/07	Complete
15 <sup>th</sup> Oct	TPB Endorsement of preferred bidder recommendation and FBCv1	10/10/07	15/10/07	Complete
31 <sup>st</sup> Oct	Conclusion of final facilitated negotiations	25/10/07	Ongoing	Nearing completion – outstanding issues generally in relation to novations and third parties.
	Conclusion of negotiations for final deal	25/10/07	Ongoing	
	CEC Council meeting to endorse recommendation	25/10/07	25/10/07	Complete
	Conditional Award – mobilisation	01/11/07		
7 <sup>th</sup> Dec	Conclusion of due diligence on critical design items	19/11/07	12/12/07	
	Conclusion of negotiations for Phase 1b option	27/11/07	12/12/07	

## 2.8 Construction works

### 2.8.1 Utility diversions

- MUDFA Programme has been revised and agreed at Revision 06.
- Utility diversion preparatory works continue in various areas with trial holes being completed in Princes Street. Trial holes in Shandwick Place have been completed and the five outstanding trial holes in Leith Walk will be completed in 2008.
- Diversion works in Section 1B from McDonald Road to Balfour Street remain ongoing with actual progress 28% complete against a planned of 37.9%. Larger work areas and an increase in resources will bring this area back on target by January 2008.
- Diversion works in Section 1C from The Mound to Castle Street East are underway with actual progress 34.7% complete against a planned of 45.1%.
- Diversion works in Section 1D from South Charlotte Street to Castle Street West are underway with actual progress 22.1% complete against a planned of 30.2%.
- Diversion works in Section 06 Depot have been undertaken in the period with Scottish Water 250mm main installed awaiting testing, programmed for first week in December, Scottish Power 2 x 33kV cables diversion complete and Cable & Wireless diversion currently 75% complete.
- Diversion works in Section 7A started on 27<sup>th</sup> November 2007.

### 2.8.2 Advanced work

#### Depot

- Depot currently closed down until removal of gas main and 800mm water main in February 2008.
- Phase 2 earthworks are complete with circa 100,000m<sup>3</sup> of spoil removed.
- Phase 3 programme remains unchanged as is dependant on the successful decommissioning of SGN Gas Main scheduled for 25<sup>th</sup> January 2008. Phase 3 will be split into to stages:
  - Redundant 800mm water main circa 30,000m<sup>3</sup> during February 08;  
and
  - Redundant Gas Main circa 20,000m<sup>3</sup> during March 08.

#### Advanced works (non-depot)

- IPR2 – construction work has now commenced. The programme has been agreed and included within **tie**'s master schedule.
- St. Andrew Square streetscape works:
  - Integration of CEC streetscape works and MUDFA programmes has been formalised in Revision 06 of MUDFA Programme.
  - Full TRO not available until April 2008

### Enabling Works

- Possession booked for December 2007 to allow tree felling adjacent Baird Drive. No enabling contract in place or scope. This may be reprogrammed to August 2008 just prior to the construction works.

## **2.9 Testing and commissioning**

This phase has not yet commenced

## **2.10 Handing over and service operations**

This phase has not yet commenced

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

This phase has not yet commenced

## **2.12 Interface with other projects**

- SGN have been informed that the issues arising between Lord Rosebery, the Land Owner, and his tenant farmer over Land Access issues have been resolved. It is now believed that the impact of this issue on their programme will be three weeks, less than was originally anticipated.
- Discussions continue between **tie** and NR on preparation of an Asset Protection Agreement (APA) document with expectation that signoff will be achieved by early December. It should be noted that no work on NR assets can commence until after the APA has been agreed and signed-off.
- Discussions continue between **tie** and BAA with the licence expected to be agreed during the 1<sup>st</sup> week of December. This will allow for integration of programmes particularly with regard to works within the confines of BAA land at or adjacent to the airport.

### 3 Headline cost report

#### 3.1 Current financial year

	COWD (YTD)	COWD YTD + forecast to year end	Funding authorised current year	COWD YTD + forecast to period to Financial Close (end Period 11)
Phase 1a	£45.5m	£95.0m	£77.1m <sup>2</sup>	£60.3m <sup>3</sup>
Phase 1b	£ 0.0m <sup>1</sup>	£ 0.0m <sup>1</sup>	£ 0.0m <sup>1</sup>	£ 0.0m <sup>1</sup>
Phase 1a+1b	£45.5m	£95.0m	£77.1m <sup>2</sup>	£60.3m <sup>3</sup>

Notes:

1. Phase 1b design costs are to be expended against Phase 1a budget as agreed by the Tram Project Board and as previously reported;
2. This comprises £60m Grant for 07/08 plus £10.6m grant carried over from 06/07 for land purchases plus £6.5m free issue land which is an injection of funding by CEC rather than TS; and
3. The forecast costs to Financial Close (end Period 11) includes anticipated costs of £7.25m to be paid to the Infraco and Tramco Preferred Bidders under mobilisation agreements but does not include any allowance for risk.

The forecast outturn expenditure for the year has reduced from £132.7m to £95.0m as a result of:

	£m
Milestone payments to Infraco / Tramco re advance material purchases (see Note)	26.7
Other reductions in forecast Infraco / Tramco expenditure in P12 & 13	10.0
Reduction in level of risk allowed for	2.5
Net other changes	(1.5)
<b>Total reduction in forecast outturn</b>	<b>37.7</b>

Note: Following discussion with CEC and TS, it is now anticipated that the milestone payments for advance material purchases will still be made before the end of FY07/08, but will be classified as prepayments. These will then be reclassified as expenditure against funding in the periods in future years when the related materials are delivered to site and incorporated in the works. This is subject to confirmation by TS that there is a mechanism to provide cash to make these prepayments during the current year.

New funding required for during the current financial year is now **£17.9m** (£95m less £77.1m already authorised). Should this all be granted by TS then the total expenditure for the year of £95m will be funded as £6.5m from CEC and £88.5m from TS.

The forecast expenditure for the remainder of the year is summarised in the following table (NB - excludes payments for advance material purchases £26.7m, as explained above):

Nature of expenditure	P10-11 £m	P12-13 £m	Total £m
SDS design	1.06	2.21	3.27
MUDFA and other utilities	2.64	5.20	7.84
Infraco	7.00	20.74	27.74
Tramco	0.25	0.60	0.85
Land	0.51	0.00	0.51
Other	3.04	2.90	5.94
Risk	0.00	2.50	2.50
<b>Phase 1a Total</b>	<b>14.50</b>	<b>34.15</b>	<b>48.65</b>
Phase 1b (Design)	0.26	0.58	0.84
<b>Overall Total</b>	<b>14.76</b>	<b>34.73</b>	<b>49.49</b>

### 3.2 Next Financial Year

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total FYF
Phase 1a	£41.1m	£36.6m	£29.5m	£54.4m	£161.6m
Phase 1b	£ 0.5m	£ 0.1m	£ 0.9m	£ 2.3m	£ 3.8m
Phase 1a+1b	£41.6m	£36.7m	£30.4m	£56.6m	£165.4m

Note: Any variance in summation of table figures is due to rounding.

The forecast for FY08/09 remains highly sensitive to:

- Commencement of Infraco works in February 08;
- Treatment of advance material purchases as prepayments (see above);
- The continued negotiation of the Infraco/Tramco expenditure profiles which will take cognisance of the current £120m cap on TS funding for FY0809 to the extent it makes commercial sense; and
- The proportion of the overall risk allowance allocated to the year (the estimate for FY08/09 includes £23.6m).

### 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	£498.1m <sup>2</sup>
Phase 1b	£ 0m	£ 0m	£ 0m	£ 87.3m <sup>2, 3</sup>
Phase 1a + 1b	£500m	£ 45m	£545m	£585.4m
Phase 1a + 1b concurrent	£500m	£ 45m	£545m	£580.4m

Total anticipated outturn is as per the Final Business Case.

Notes:

1. Includes £6.5m of CEC / s.75 free issue land.
2. If Phase 1b did not proceed then £3.0m of design costs for Phase 1b would require to be expended against Phase 1a funding.
3. Estimate is valid for Phase 1b if option under Infraco contract is exercised prior to 31<sup>st</sup> March 2009 as per FBC.

Significant work remains through to Financial Close (Jan 08) to ensure the current position is maintained. This will primarily include the pricing of provisional sections contained within the bids as detailed design is issued and targeted savings from value engineering initiatives are realised.

### 3.4 Change Control

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

£m	Phase 1a	Phase 1b	Phase 1a+1b
Project baseline (FBC)	498.1	87.3	585.4
Anticipated changes	-	-	-
Potential AFC	498.1	87.3	585.4

To date there have been no changes identified as part of the change management procedure which might impact upon the baseline estimate presented in the FBC

### 3.5 Summary Breakdown

Latest Estimate / AFC (including escalation)

	Base Cost	Risk	Opportunity	OB	(or)Contingency	Total
--	-----------	------	-------------	----	-----------------	-------

Phase 1a	£449.1m	£49.0m	£0	£0 <sup>1</sup>	£0 <sup>2</sup>	£498.1m
Phase 1b	£ 77.7m	£ 9.6m	£0	£0 <sup>1</sup>	£0 <sup>2</sup>	£ 87.3m
Phase 1a + 1b	£526.8m	£58.6m	£0	£0 <sup>1</sup>	£0 <sup>2</sup>	£585.4m

## Notes:

1. OB included in risk (QRA at P90 confidence level) as agreed with TS.
2. Contingency included as part of risk at present.

## 4 Time Schedule Report

### 4.1 Report against Key Milestones

The agreed baseline programme reference for this project is that given in the Period 3 report.

Milestones	Date	Act / Fcst
Approval of DFBC by CEC	21 Dec 06A	21 Dec 06A
Approval of DFBC by Transport Minister – approval and funding for utility diversions	16 Mar 07A	16 Mar 07A
TRO process commences	14Dec07	
Tramco – complete initial evaluation / negotiation	09 Mar 07A	09 Mar 07A
MUDFA – completion of pre-construction period of MUDFA contract	30 Mar 07A	30 Mar 07A
MUDFA – commencement of utility diversions	02 Apr 07A	02 Apr 07A
Infraco – return of stage 2 bids	08 May 07A	08 May 07A
Tramco – appointment of Preferred Bidder	21 Sep 07	20 Sep 07A
Infraco – completion of evaluation / negotiation of bid	10 Sep 07	25 Sep 07A
Infraco – appointment of Preferred Bidder.	25 Sep 07	23 Oct 07A
Tramco / Infraco – facilitation of novation negotiation complete	22 Oct 07	12 Dec 07
Infraco – negotiation of Phase 1b complete.	30 Nov 07	10 Dec 07
Approval of FBC by TS – approval and funding for Infraco / Tramco	09 Jan 08	10 Jan 08
Tramco / Infraco – final negotiation and appointment	11 Jan 08	11 Jan 08
Tramco / Infraco – award following CEC / TS approval and cooling off period.	28 Jan 08	28 Jan 08
Construction commences on Phase 1a	26 Feb 08	29 Feb 08
Construction commences on Phase 1b	29 Jun 09	6 Jul 09
TRO process complete	19 Jun 09	17 Nov 09
Construction complete Phase 1a	08 Jul 10	14 Jul 10
Operations commence Phase 1a	Jan 11	24 Feb 11
Construction complete Phase 1b	Jun 11	30 Jun 11
Operations commence Phase 1b	Dec 11	5 Dec 11

**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

- BT Openplan Programme impact on Infraco construction programme has eased slightly in the period, although remains as a very real risk with further review and mitigation being reviewed with BT.
- Delivery of design programme.
  - Many areas of the programme are dependant of timely and adequate design; therefore the programme is vulnerable to slippages in the SDS design programme which is emerging into the Infraco construction programme. The Infraco construction programme methodology and sequencing has been agreed in principal but is dependant primarily on maintaining design delivery as programmed at V22.
  - SDS Deliverables
    - In the period the gap between planned (V17) and actual deliverables has continued to grow and 23<sup>rd</sup> November only 66% of Phase 1a deliverables have been issued to **tie** (and therefore to the data room and BBS). This is resulting in a situation where it is possible that 34% of Phase 1a is currently priced and programmed on Preliminary Design data which presents a risk to both programme and cost. However, this risk has, to an extent, been mitigated by the issue of work in progress drawings for that 34%.
- Network Rail immunisation
  - Scope and programme continues to be unknown and will remain so until the Modelling and Testing strategy has been completed at end of January 2008. There are real concerns that this may impact the tram programme as disruptive possessions are required to complete the process, which is required prior to energisation of the Depot in November 2009.
- Network Rail relocation of lineside equipment
  - See above
- Award of Infraco / Tramco contracts delayed by late design assurance or risk introduced to programme by incomplete Design Assurance packages prior to Infraco award.
- Scottish Power Network re-inforcement
- Gogarburn Landfill requires pre-loading / surcharging (if preferred option) for approximately 6 months prior to construction commencement. Infraco will either do this as part of the mobilisation works or early in their programme.
- Scope associated with temporary traffic management off the tram route e.g. removal of existing traffic calming measures, lopping of tree's, removal of parking etc will increase programme content and associated cost.
- Requirement for pile-cap testing has to be determined to enable early piles to be driven if required to avoid delays to structures construction.

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

- Attached as separate pdf file.

## **5 Risk and opportunity**

### **5.1 Summary**

#### Programme Director Risks

The above risks were reviewed with the Programme Director, Programme Manager, HSQE Manager and Risk Manager.

#### Infraco Risk Review

The Infraco risk register was reviewed by the Risk Manager, Procurement Manager, Estimating Assistant and Cost Control Manager. The risk profile has been updated to ensure the exposure periods of the risks are correct.

#### Project Risk Register Review

The Project Risk Register and QRA output were reviewed at a meeting with the Project Director (designate), Programme Director, Finance Director and Risk Manager.

#### SDS Risk Review

The SDS risk register was reviewed with the recently appointed SDS Project Manager now attending.

#### Executive Risk Register

As highlighted in the Period 8 report, the Tram Project Risk Manager has assumed responsibility for updating the above and preparing the adjoining report for the **tie** Board. Meetings will be held during the remainder of Period 9 with a view to updating this document.

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

During this period the risk register has been reviewed with regard to updating the exposure period for each risk on the register and confirming the split of each risk with regard to Phase 1A and 1B. This will help ensure that the risk allocation per period within the QRA is as accurate as possible. Therefore, during this period, there have been no risks added or closed.

#### **5.2.1 Primary risk register**

The updated Primary Risk Register is enclosed as Appendix A.

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

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

As the report was completed prior to the period end, the report is based on the previous period. Updates have been provided where possible.

There were two accidents reported in the period to date, both of a minor nature. The investigation reports are on-going. The accident frequency rate (AFR) for the project remains 0.00.

There were three incidents reported in the period:

- A low voltage cable was damaged while breaking out concrete on Princes Street. Repairs were undertaken by Scottish Power (**tie** ref: AIIR00026).
- A street lighting cable was damaged at the Gogar depot whilst excavating new trench for water main (**tie** ref: AIIR00027).
- A member of the public was struck by a plastic barrier which fell over. No injury was reported (**tie** ref: AIIR00028).

There were three site inspections in the period:

- Two were at utility diversion sites. All findings were of a minor nature and have been actioned. Reports closed.
- One was undertaken at Gogar depot. Two findings were reported. An action plan to address the findings is awaited.

### **6.2 Environment**

There are no environmental incidents to report.

### **6.3 Quality**

Seven external systems safety audits were completed in the period. A total of 24 audit findings were raised – 1 major, 7 minor and 16 observations. Action plans are being agreed with the auditees.

Four non-conformances were raised in the period.

- NCR011 – trial holes were backfilled with temporary surface material. Action agreed and complete, NCR closed.
- NCR012 – site staff witnessed refuelling petrol operated hydraulic pump whilst equipment was still hot. Action agreed and complete, NCR closed.
- NCR013 – operatives observed operating equipment without appropriate PPE. Action agreed and complete, NCR closed.
- NCR014 – sand used in lieu of aggregate to bed, surround and cover water mains. This NCR is currently open.



## **6.4 Resource management**

The resource management plan as approved by the Board 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***

Stakeholder engagement in the last period related to the ongoing customer interaction for the MUDFA works and the progress of the final tram route design. Preparation is now well underway for the presentations to frontager and the wider community on the final design for the tram route which will be held from January to April in 2008.

The stakeholder team has continued to meet with groups and individuals affected by the project in particular the MUDFA works. Most of this is based on face to face meetings and is producing real benefits for the project through the reduction of customer complaints.

### ***7.2 Communication strategy / plan***

The communication strategy is focused on the MUDFA works and the drive from the wider media interest for continuing information on progress. As part of the "Edinburgh's Open for Business" strategy, a special sub-committee has been created which is chaired by the Edinburgh Chamber of Commerce. This sub-committee has a clear remit to ensure that the city is marketed as being open for business during the construction works.

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

A balanced reporting and media communication strategy has been developed in the last period. This addresses the requirement to proactively manage wider media interest in the project.