



## 4 Week Period Reporting Pack 09/10

**Project Title:**

Edinburgh Tram Project

**Reporting Period:**

Period 05 2009/10

**Transport Scotland Project Manager:**

John Ramsay

**Progress Meeting Date:**

Report authorised by: Steven Bell

Signature: [Redacted]

Date: 21 August 2009

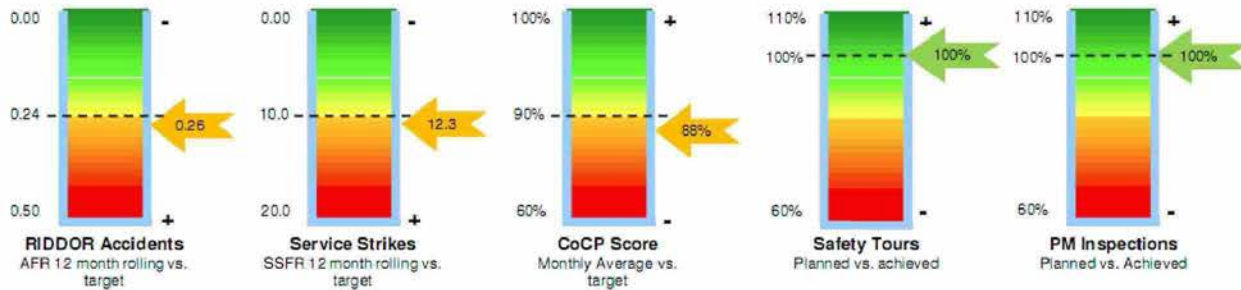
For and on behalf of tie Limited



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# 1 Executive Summary



HS&E ACCIDENTS and INCIDENTS SUMMARY											
Total	Total Hours	>3 day	Major	Injury	NM/Unsafe Condition	Service Damage	ENV	RTA	MOP	AFR	SFR
Period	108,377	0	0	2	14	8	2	0	5	0.00	7.38
13 period rolling	1,551,754	1	3	35	215	191	3	16	67	0.26	12.31

There have been no reportable accidents during Period 5. The Accident Frequency Rate remains at 0.26 for the 13 period rolling hours worked. Service strike frequency has decreased for the period from 13.4 (P4) to (7.4) P5, however, there has been an increase in service damage caused by Front Line Construction and Farrans during the period. There has been an increase in the number of “near misses” reported during Period 5 this appears mainly due to increased vigilance by **tie** staff as opposed to improved reporting from the contractors.

An inspection on CoCP compliance has been introduced by **tie** over the last 2 periods – see page 55. **tie** HSQE and project management have carried out 413 observations, of which there were 57 breaches noted. The average score for the inspections carried out was 88% compliance. Main issues noted were; Contractor not parking in designated areas and public signs with 0800 number not displayed in prominent area.

There were two environmental incidents reported during period 5, one of which was significant. The significant incident occurred at the site set up at Gogarburn. Farrans, working for BSC lost approximately 200 litres of diesel due to a leaking pipe from a bunded diesel tank to a generator. The incident has been reported to SEPA and a full report is awaited from BSC.

The Period 5 “Deliver a Safe Tram” inspection metrics were carried out on 2 activities in Princes Street, these activities involved Drainage and the Formation Improvement Layer beneath the track-form. Results for these 2 activities have shown slight improvement from the last period.

## Progress

As previously reported, following the failure to reach a satisfactory resolution to the outstanding contractual matters with BSC during the intensive mediation process held between 29 June and 6, the Tram Project Board (TPB) agreed on 29<sup>th</sup> July 2009 to elevate matters through the formal Dispute Resolution Procedures (DRP) available within the Contract. **tie** formally entered 2 issues into DRP on 11<sup>th</sup> August 2009.

Transport Scotland and City of Edinburgh Council were briefed on the implications of the TPB decision and this was reported on at the Council meeting on 20 August. Strong and full Council support was given to the strategy being adopted by **tie**.

The lack of an agreed commercial programme and the decision to apply formal contractual measures to resolve outstanding issues with the BSC consortium will present potential further risks in relation to the attribution of additional costs and delay to completion of the project. **tie** Ltd has taken extensive legal and technical advice, including Counsel's opinion, and is confident of its position on the key matters in dispute. However, given the nature of the process and the complexity of certain issues, it is unreasonable to expect that all adjudication outcomes will be awarded in favour of **tie** Ltd and it will also be open to the BSC consortium to use the contract formally to pursue their objectives.

We continue in this report to reflect an outturn estimate of £527.1m. However, given the commercial uncertainties with the Infraco and continuing delays to the project it is now considered unlikely that the full scope of Phase 1a will be completed within the available funding envelope of £545m. Until the key issues are resolved through the contractual and legal process, it will not be possible to forecast accurately a revised budget outturn. It is also not possible at the present time to predict the conclusions of reviews of contingency options programme delivery options, including possible additional sources of funding.

***The contract with the BSC consortium prescribes a timetable for resolution of contractual disputes and it is expected that the budget and programme implications will become increasingly clearer during the remainder of 2009.***

***Regular briefings will be provided to both CEC and Transport Scotland to keep them updated on progress and implications for the project programme and finances of all the above matters.***

The cost, programme and risk information in this period 5 report continues to be based unapproved forecast on the information reported in May 2009.

Overall progress remains behind the master programme, primarily due to:

- Finalisation of the agreement of change delaying the commencement of work;
- Incomplete utility diversions in the On-Street sections caused in part by traffic management constraints ;
- Slow mobilisation of INFRACO, including lack of formal sub-contracts being in place;
- Failure of INFRACO to submit preparatory paperwork in a timely manner i.e. Work Package Plans, Method Statements etc;
- Requirement for re-design of temporary works;
- Design slippage since novation of design to INFRACO (now recorded in v46 of the design programme);
- Design changes as a result of the Prior and Technical Approvals process; and
- Consortium integrated design programme and validation.

Programme is one of the remaining significant differences between the parties and **tie** continue to discuss the overall entitlement to extension with BSC as well as the production of a revised programme to assist with planning and monitoring.

The **tie** live programme currently predicts an Open for Revenue Service date of **October 2012**. This has slipped slightly since last period and is mainly due to the lack of progress being achieved by INFRACO across the route compounded by delays caused by Utility Diversions at Haymarket and Newhaven.

As per the previous period reporting **tie** retain an unapproved recalibrated baseline programme which reflects an Open for Revenue Service date of 23 Feb 2012. This remains a **tie** only view as to date a recalibrated programme although now submitted by INFRACO has

not been agreed with BSC. **tie** has commented on submissions received from INFRACO and detailed discussions have continued with both teams to resolve the causes and effects of delay.

### Progress – Design

No new submissions have been lodged in the period. A summary of Prior and Technical Approval progress is presented below:

Phase 1a only	Number required		Number	
	v31	v47	Submitted	Granted
Prior Approvals	49	55 **	51 (93%)	50 (91%)
Technical Approvals	71	87*	77 (86%)	70 (80%)

\*7 additional TAA added in V46-V475 \*\*1 additional PAA in V47

Although there continues to be evidence of better management of SDS by BSC, this has not yet resulted in improved design performance. The approvals task force has been supplemented by a Design Progress and Design Issues meeting to provide additional management focus on design resolution. V47 includes a number of design integration activities and the impact of these is being discussed with Infraco.

### Progress – MUDFA

Progress on MUDFA works during Period 5 is presented below ( this excludes the remaining utility works being undertaken outwith the MUDFA contract on sections 1A & 7B):

Rev.08 Figures - Period 05 2009-10	Period		Delta	Cumulative		Delta
	Plan	Actual		Plan	Actual	
<b>MUDFA PERIOD 05 PROGRESS</b>						
Section 1a Newhaven to Foot of the Walk	0.0%	4.8%	4.8%	100.0%	100.0%	0.0%
Section 1b Foot of the Walk to McDonald Road	0.0%	0.0%	0.0%	100.0%	99.9%	-0.1%
Section 1c McDonald Road to Princes Street West	1.9%	4.3%	2.4%	100.0%	89.2%	-10.8%
Section 1d Princes Street West to Haymarket	0.4%	1.8%	1.5%	100.0%	96.5%	-3.5%
Combined Sections 1A-1B-1C-1D (On-Street) Newhaven Road to Haymarket	0.7%	2.6%	2.0%	100.0%	95.8%	-4.2%
Section 2 Haymarket to Roseburn Junction	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 5a Roseburn Junction to Balgreen Road	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 5b Balgreen Road to Edinburgh Park Central	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 5c Edinburgh Park Central to Gogarburn	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 6 Gogar Depot	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 7a Gogarburn to Edinburgh Airport	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Combined Sections 2A-5A-5B-5C-6A-7A (Off-Street) Haymarket to Edinburgh Airport	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
<b>FULL ROUTE PHASE 1A NEWHAVEN ROAD TO EDINBURGH AIRPORT</b>	<b>0.5%</b>	<b>2.1%</b>	<b>1.6%</b>	<b>100.0%</b>	<b>96.6%</b>	<b>-3.4%</b>

Key points to note are:

- Progress in the period has been slower than planned in those sections that MUDFA are working particularly at Broughton St & Haymarket junction. These poor productivity and performance levels can be attributed in part to underground obstructions and technical issues;
- Utilities diversion works for Section 1A are now out to tender. These works are not being carried out by Carillion;
- Utilities works in Section 1C (Broughton St) are being reviewed against Programme available space and TM requirements following the discovery of an uncharted Scottish Water sewer which may result in the redesign and relocation a number of utilities.
- Utilities diversion works for Section 1D continue between Haymarket and Shandwick Place although are being hindered partly by underground obstructions.

- Utilities diversion works for Section 7 were awarded to Farrans with works progressing during Period 05.
- All utilities works are complete in Sections 2, 5a, 5b, 5c and 6 are now complete.

### Progress – INFRACO

The project continues to experience problems with slow progress for INFRACO works and, in particular, the appointment of direct BSC resource and the final appointment of the main package contractors. The BSC sub-contractors continue to operate with Limited Letters of Intent whilst awaiting conclusion of the full sub-contracts. Slow provision of estimates and finalisation of the agreement of change - Base Date Design Information (BDDI) and IFC is delaying the commencement of works at various locations including at Haymarket Viaduct, Russell Road Bridge, Murrayfield pitches Retaining Wall, Baird Drive Retaining Wall, Carricknowe Bridge, Depot building and Tower Place bridge.

Progress during Period 5 can be summarised as follows:

#### **Section 1C/1D: City Centre Princes Street:**

- Track and carriageway works are continuing, including blinding, track improvement slab, track laying, track slab, central reserve works, OLE base work, carriageway formation prep, footpath works and kerbing.
- Access has now also been taken to the Mound area, following the completion of the bulk of the utility works, and the road surface has been planed and the underlying concrete broken out over the majority of the area.
- Pedestrian access routes opened on 03/08/09, for the duration of the Festival, to link the Mound with Hanover Street and Princes St West Gardens to both Frederick Street and Castle Street.
- Enabling works commenced late period 05 between South Charlotte St and Lothian Rd.

#### **Section 5B Balgreen Road to Edinburgh Park Central:**

- Trial holes/Preparation works at guided bus way section for piling works early in Period 06.
- Edinburgh Park Station Bridge: BSC continued to work on diaphragm construction and deck slab reinforcement;

#### **Section 5C Edinburgh Park Central to Gogarburn:**

- A8 underpass combined phase 1 & 2 programme has now been adopted. BSC are progressing with the site clearance and utility diversion; further work required to quantify scope of work required by Scottish Power to confirm status of existing cables. Construction methodology has been agreed with Telecoms companies for a re-commencement in period 06.

#### **Section 6 Gogar Depot**

- Depot - Earthworks have not recommenced since 23 June09. Further excavation will commence on BDDI to IFC Change agreement. The agreed total to date is **107607** cubic metres out of a total expected **141000** cubic metres (**76%**). Work due to commence:
  - Depot Access Rd - 17<sup>th</sup> August 2009
  - Depot Building Foundations 31<sup>st</sup> August 2009
  - Depot Building Steelwork 21<sup>st</sup> September 2009.

#### **Section 7 Gogarburn to Edinburgh Airport**

- Gogarburn Bridge replacement piers and capping beam being constructed. Pre-cast concrete beams due for delivery and installation early Period 06.
- Gogar Culvert No.1 due to recommence early Period 06
- Gogar Culvert No.3 due to recommence early Period 06

Progress is now being monitored against the Revision 1 programme. The summary milestones against the agreed INFRACO contract and the short term Rev 1 programme milestones are shown in the table below.

Milestones	Period 05		Cumulative (Short-Term)		Contract Planned to P05
	Planned	Actual	Planned	Actual	
<b>Prelims</b>	2	2	50	50	50
<b>Construction</b>	7	5	42	40	581

#### Progress – TRAMCO

Good progress continues to be made with the progress of deliverables against the schedule. The production line commenced during Q1 2009, with the modules for the first unit expected to be complete by the end of period 05. Testing of the first units remains on schedule for September 2009, with the delivery of the first tram still on schedule for April 2010.

#### Progress – Testing & Commissioning

The process for acceptance of the Edinburgh Tram is designed to ensure that it is delivered in an acceptably safe, compliant and efficient manner. This process is undertaken via the testing and commissioning regime to validate and verify the system against applicable standards. To this end, a number of processes are underway including:

- Design Assurance. This process being undertaken by BSC(SDS)/**tie**
- Quality Checking: 11 of the 37 BSC inspections and test plans are in progress
- Systems Safety: Safety verification plans are in place and this process of verification is underway with INFRACO, the ICP, TEL and Transdev all involved in the process.

BSC have produced Inspection and Test Plans (ITP's) for the current set of construction works, however they have not yet produced a consolidated Test and Commissioning Plan. Constituent elements are available from CAF, the tram manufacturer, the Operator and an overall framework from TEL exists to cover the activities.

It is intended over the next three periods to obtain collective engagement on testing and commissioning, and agreement to the formation of a project wide multi-disciplinary test coordination team as part of the "Preparing for Operations" key workstream.

#### Progress – Interface with 3<sup>rd</sup> Party Projects

**tie** and CEC identify other projects ongoing within the City that may impact on the tram project. This is reviewed on an ongoing basis both internally and with TS, to identify any conflicts and mitigations. The key projects to note in this regards are:

- With regard to the Gogar Surface Station promoted by Transport Scotland, **tie** has supported Network Rail and Transport Scotland in their review of options for the vertical circulation tower and connection between the heavy rail station and the tram stop. During this review SDS has put much of the design activity for the tram elements of the Gogar Interchange on hold to avoid abortive work. SDS has also not been able to start work on architectural elements due to the fact that the architectural concept for the buildings has not been confirmed by Network Rail. Work on the vertical and horizontal alignment of the



tram track has been brought forward and SDS is completing the sighting study based on that alignment. The decision not to continue with design activity for scheme 4BB during the review of the base scheme design by Network Rail has meant that the tram elements are approximately 5 weeks in delay at present. If the Network Rail preferred option is chosen then there are opportunities to improve on the existing design programme and on the construction programme. **tie** will investigate these in Period 6 if the Network Rail preferred option is confirmed by Transport Scotland. To date approximately £80K has been expended on SDS design fees to date.

- The redevelopment of the St James Centre, which has been downgraded from red to amber in the period as commencement for this project is expected to take place towards the completion of the tramworks.
- CEC/**tie** and NR are currently in discussion over agreeing a process to accommodate traffic management arrangements for the construction of the Waverley Steps following withdrawal of the objection to the TAWs order.

### Progress – Other

#### Temporary traffic regulation orders (TTROs)

- Weekly visual summary being produced of all tram traffic management throughout the city.
- Successful switch of traffic for utilities works at Haymarket during Period 5.
- Traffic management planning ongoing for Princes St Phase 3, Haymarket and Picardy Place.

#### Traffic regulation orders (TROs)

- A TRO programme is in place to ensure that the first order TRO 1, which will allow for operation of the tram system, is made by October 2010. The informal consultation process for this has been completed and BSC have incorporate minor design revisions into the final design. **tie** received a set of TRO drawings on 19 August 2009, this enabling the statutory consultation process to commence (expected during September 2009).

#### Network Rail

- INFRACO has now delivered its EMC Management Plan and EMC Strategy for NR infrastructure assets and established the scope for the immunisation works. A programme for these works is being developed with INFRACO;
- INFRACO will be developing the full assurance case for NR acceptance. Preliminary assurance case to enable traction power testing and commissioning will be completed by August 2009. Further assurance will be provided up to, and including, bringing into service;

#### Third party interfaces

- NR – the Bridge Agreements are not yet concluded. There is an outstanding issue on indemnities to close out. CEC are taking this matter up directly with TS and the ORR. The Operating Agreement draft with NR is currently on hold pending resolution of the same indemnities issue that is concerning CEC with the Bridge Agreement. Both matters are with CEC for resolution.
- Forth Ports – have introduced a new clause into the Agreement drafting which seeks to link payment for the Tram works with the Planning Approval for the Leith Harbour Development, this is unacceptable to CEC and the matter has been raised for resolution at a senior level.
- Haymarket car park compensation – **tie** have agreed compensation with NR and will settle this in Q1 09/10. **tie** continue to discuss with TS the additional compensation payable to First ScotRail, as a result of the extension of the FSR franchise from Nov 2011 to Nov 2014, as it is believed to be a TS cost;
- Building fixings – deemed consent has been obtained from 306 owners as well as 66 consents with the owners' agreement. There are twelve fixings where matters remain unresolved and CEC have committed to pursue these through Sheriff Court action. Dates for hearings are to be established. The building fixing construction programme will commence in Spring 2010;

BAA - Burnside Road (BAA)

- BRR: Raynesway Construction. Started on 10<sup>th</sup> August with mobilisation and advance works.

Section 7B Utilities

- MUD works – The MUD contractor (Farrans) continues on site with trial holes ongoing, RBC removal, and the trench excavated for the multi utilities services with new services being laid. Utilities exposed at Eastfield Avenue.

Hilton Car Park & Phase 1

- INFRACO – No works have commenced. Reviewable Tram Works Design (RTWD) Issued. BAA response received.

Section 1 Utilities

- Invitation to Tender documents (ITT) sent to 5 companies (Farrans, Morrisons, Raynesway, Clancy Docwra and UUPLC). Tenders return due on end of August.

Fast link modifications (Front Line)

- Works completed.
- BT manhole is to be built after the Scottish Power cable has been diverted

Murrayfield Pitches (Souters)

- Final accounts now agreed. Subject to works being carried out during maintenance and establishment period.

Archaeological works at Constitution Street (Frontline):

- General excavation of the archaeological works site recommenced

CostCurrent Financial Year

- The budget for Phase 1a in 2009/10 is £150.1m which has been produced linking the **tie** re-baselined programme to Infraco construction milestones. **tie** have escalated two key issues to Dispute Resolution Procedure (DRP) following the failure of mediation to bring both parties to an agreement. It is anticipated that a fully agreed programme will not be made available from the Infraco contractor until key DRP issues have been resolved.
- The current outturn of £150.1m is due to be fully re-assessed in period 6 in-line with **tie**'s latest internal view of programme and Project Managers view of Infraco deliverables in 2009/10.
- The unresolved commercial issues introduced a high degree of uncertainty of the outturn costs for financial year 09/10 in relation to activities which the Infraco may not start until commercial differences are resolved and **tie** may not have sufficient contractual leverage to instruct commencement. **tie** have assessed a range of sensitivities to the 09/10 forecast which indicate that current Infraco progress is likely to impact spend by between **-£5m to -£30m** in the year [see Section 3.1 Headline Cost Report].
- Funding available from TS for the project in 2009/10 is £149m. The TS share of this year's budget (£153.3m) is £140.6m, giving available headroom of £8.4m.

Actual YTD P5 & forecast P6-P13 FY09/10

£m	YTD P 5	Forecast P6 - P13,09/10	Total FY09/10
Infrastructure and vehicles	27.0	88.6	115.6
Utilities diversions	6.5	1.8	8.3
Design	1.1	1.4	2.5
Land and compensation	0.7	0.9	1.6
Resources and insurance	5.0	8.3	13.3
<b>Base costs</b>	40.3	101.1	141.4
Risk allowance	0.0	8.7	8.7
<b>Total Phase 1a</b>	40.3	109.8	150.1

- COWD to Period 5 is £40.3m (Period 4 £31.0m) against budget £40.9m. The main drivers for the £0.6m variance are: the timing of Infraco costs forecast in 2009/10 offset by MUDFA costs incurred over the original plan.
- Forecast payment of £3.2m was made to the Infraco Contractor in August relating to phase 1b costs.

#### Total Project Anticipated Forecast Cost

#### **Re-baselined Phase 1a AFC and profiling**

£m	Cum FY07/08	Actual 08/09	FY 09/10	FY 10/11	FY 11/12	AFC
Infrastructure and vehicles	30.7	45.4	115.6	108.7	2.8	303.1
Utilities diversions	18.4	33.4	8.3	0.0	0.0	60.1
Design	21.4	4.7	2.5	1.1	0.1	29.8
Land and compensation	16.8	1.7	1.6	0.1	0.8	21.1
Resources and insurance	42.7	15.8	13.3	11.3	7.4	90.6
<b>Base costs</b>	130.0	101.0	141.4	121.2	11.1	504.7
Risk Allowance	0.0	0.0	8.7	10.7	3.0	22.4
<b>Total Phase 1a</b>	130.0	101.0	150.1	131.9	14.1	527.1
Phase 1b postponement	3.0	0.0	3.2	0.0	0.0	6.2
<b>Total Phase 1a and Phase 1b</b>	133.1	101.0	153.3	131.9	14.1	533.3

- The table above reflects the base costs and risks aligned to the **tie** re-baselined programme (Feb-12) and re-alignment of the Infraco milestones schedule. The AFC for Phase 1a above includes an unapproved increase of £15.1m to the project risk allowance. The approved cost estimate for delivery of Phase 1a of the project remains at £512m. The phasing of the £527.1m plan remains in-line with period 3 and will be updated in period 6 by **tie**, and following that when there is an updated agreed programme with the Infraco contractor.
- The latest forecast view includes £3.2m of costs relating to Phase 1b which crystallised as contractually payable to BSC due to the postponement of Phase 1b (this will require to be covered by current funding). Coupled with the re-baselined forecast, there is £11.7m of funding headroom within the £545m total funding available.

#### **Risk & Opportunity**

There were nine risk reviews held in the period. Four items were close on the Infraco concerns register and three risks closed on the Project Risk Register. There were fourteen risk draw downs approved in the period totaling £7,507,036. These are detailed later in this report. This leaves a risk and contingency balance of £9,512,072 (based upon the approved Project Risk Allowance at Financial Close).

From the Cost Quantitative Risk Analysis undertaken during Period 5, the Project Risk Allocation has reduced by £7,507,036 in the period. The current Project Risk Allocation (based on the approved budget) is £9,512,072. All existing risks, as well as those recently added, are being reviewed to ensure the QRA output is as accurate as is reasonably possible. It is accepted that the additional risks and increase in QRA output are currently unapproved. These are within the unapproved range in costs provided to TS on 26<sup>th</sup> May. **tie** will continue to report on the risk allocation at Financial Close until a new budget (with an updated QRA) is approved.

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## **Communications/Customer Service**

### Media Features

The press and broadcast media has produced a mix of positive and not so positive coverage on a wide range of topics in local and national press during this reporting period. Positive included:

- over 100,000 visitors to the tram mock-up since February
- commentary on the back of Network Rail's Gogar Interchange announcement
- the Council's front page leader in Scotsman in relation to the positive economic news for the city

Less positive coverage has been dominated towards the end of this period mainly as a result of reports of **tie** and its contractors entering into the Dispute Resolution Process over a number of outstanding issues. The coverage was in the main fairly balanced with minimal criticism of **tie** and the project generally.

### Customer Service

Incoming correspondence during Period 5 totalled 398, a reasonably significant drop of 50 contacts compared to Period 4's total.

### Public Information Planning

Online communication has evolved considerably over the last period, particularly with our entry into "Web 2.0" or social media networking sites such as Facebook and Twitter. There has been a substantial increase in visits to the tram website with 15382 hits being recorded this period against last period's 9252.

### Partner and Stakeholder Communications

The Tramformer programme launches in schools at the end of August and presentations will be given to Primary 6 classes to recruit two children from each school.

### Freedom of Information Requests – FOI

During this period a total of three new requests have been received under the Freedom of Information (Scotland) Act 2002 as well as two requests for reviews from previous responses. One application to the Scottish Information Commissioner's Office for appeal which is carried forward from the last reporting period is still pending.

### Edinburgh Festival 2009

A range of measures are being implemented over the festivals period to ensure they can proceed as smoothly as possible while tram construction continues. These measures included:

- An alternative venue for the Festival Cavalcade
- Revised arrangements for the Festival Fireworks
- Improved pedestrian signage for routes across Princes Street and to venues
- Improved tidiness of construction sites and refreshed city promotion and information

An additional publicity and city promotion campaign was undertaken by the Council along with **tie** ltd, Festivals Edinburgh and Essential Edinburgh.

## 2 Progress

### 2.1 Overall

The cost, programme and risk information in this Period 5 report continues to be based unapproved forecast on the information reported in May 2009. This will be updated once the above actions are progressed.

Overall progress remains behind the master programme, primarily due to:

- Finalisation of the agreement of change delaying the commencement of work;
- Incomplete utility diversions in the On-Street sections caused in part by traffic management constraints ;
- Slow mobilisation of INFRACO, including lack of formal sub-contracts being in place;
- Failure of INFRACO to submit preparatory paperwork in a timely manner i.e. Work Package Plans, Method Statements etc;
- Requirement for re-design of temporary works;
- Design slippage since novation of design to INFRACO (now recorded in v46 of the design programme);
- Design changes as a result of the Prior and Technical Approvals process; and
- Consortium integrated design programme and validation

Agreement of a revised programme is one of the key priorities for the PMP and this was one of the key discussion topics at mediation. Discussions on programme revision and potential extension of time awards to BSC are continuing during Period 5. It is one of the remaining significant differences between the parties.

The **tie** live programme currently predicts an Open for Revenue Service date of **October 2012**. This has slipped slightly since last period and is mainly due to the lack of progress being achieved by INFRACO across the route compounded by delays caused by Utility Diversions at Haymarket and Newhaven.

As per the previous period reporting **tie** retain an unapproved recalibrated baseline programme which reflects an Open for Revenue Service date of 23 Feb 2012. This is still a **tie** only view as, to date a recalibrated programme although now submitted by INFRACO has not been agreed with BSC. **tie** has commented on submissions received from INFRACO and detailed discussions have continued with both teams to resolve the causes and effects of delay.

The table below remains as was previously reported and as well as the recalibrated baseline programme it also reflects a completely unmitigated programme as a control scenario only. This is an unapproved delay to the Open for Revenue Service date. On a section by section basis there are "swings and roundabouts" identified in terms of improvement / degradation of delivery dates. Integration of these sections by BSC is now underway and the re-baselined programme assumes the all logic changes will be accepted by BSC.

Area	Description	Unmitigated Finish	Re-baseline Finish
Section 1A	Newhaven Road to Foot of the Walk	03-MAY-12	08-SEP-11
Section 1B	Foot of the Walk to McDonald Road	10-JAN-12	09-SEP-11
Section 1C	McDonald Road to Princes Street west	28-MAR-12	06-SEP-11
Section 1D	Princes Street west to Haymarket	19-OCT-11	17-MAR-11
Section 2A	Haymarket to Roseburn junction	14-FEB-11	28-JUL-10
Section 5A	Roseburn Junction to Balgreen Road	20-MAR-12	17-JUN-11
Section 5B	Balgreen Road to Edinburgh Park central	23-JUN-11	04-FEB-11
Section 5C	Edinburgh Park Central to Gogarburn	24-OCT-11	20-JAN-11
Section 6A	Gogar depot	28-MAR-11	15-OCT-10
Section 7A	Gogarburn to Ingliston Park and Ride	07-JUL-11	11-MAR-11

Section 7B	Ingliston Park and Ride to Airport	26-JUL-11	11-MAR-11
Section A	Depot (ready to receive trams)	21-JAN-11	15-OCT-10
Section B	Test track	07-JUL-11	27-DEC-10
Section C	All construction complete	20-APR-12	27-AUG-11
Section D	Open for Revenue Service	17-OCT-12	23-FEB-12

Importantly, the re-baseline programme does not take account of any opportunities regarding:

1. Improved productivity rates – Princes Street will be an important test in this regard;
2. Embargo relaxations;
3. Alternative construction methodologies to recover time;
4. Adjustments to the testing and commissioning phase (the original programme window has been held); or
5. Partial opening options.

## 2.2 Design

### IFC Design

Approvals and Consents V47 are progressing as follows:

- IFCs – Phase 1a 78 issued out of 124 (a number of new IFCs included in V45 –V47 programmes);
- Prior Approvals are progressing well with 91% granted, four left to be submitted (the RBS Gogarburn Tramstop, Murrayfield Accommodation Works, Modifications to Murrayfield TS retaining Wall & Gogar Interchange) and five left to be granted;
- Technical approvals also progress well with 80% granted (from an increased no. of TAA), Ten remaining to be submitted and 15 (4 from v31) left to be granted;
- Structures approvals are progressing well – 6 to date remain to be approved and all original structures in V31 have been approved.
- Roads approvals - Two areas remain outstanding for Technical Approval in Phase 1a (1A3 & 1C2);
- Scottish Water has sent formal acceptances to BSC for all sections excepting 1A3, 1C2 & 1C1. BSC have responded to these acceptances; the permit for construction for section 6 was issued 27/07/09.
- Sections 1B, 1D, 1C3 & 5B close reports have been signed off by CEC, subject to BSC concluding any concessions included in the reports during construction. CEC are reviewing all other sections based on the prioritisation list provided by BSC.

Phase 1a only	Number required		Number	
	v31	v47	Submitted	Granted
Prior Approvals	49	55 **	51 (93%)	50 (91%)
Technical Approvals	71	87*	77 (86%)	70 (80%)

\*7 additional TAA added in V46-V475 \*\*1 additional PAA in V47

Reasons for design slippage are being reviewed and recorded each week at the design taskforce meeting which is focused on resolving outstanding design issues. This slippage has been addressed as part of the re-calibration of the programme. **tie** is identifying and implementing opportunities to mitigate the impacts of this slippage.

Although there is evidence of better management of SDS by BSC, this has not yet resulted in improved design performance. The approvals task force has been supplemented by a Design Progress and Design Issues meeting to provide additional management focus on design resolution. V47 includes a number of design integration activities and the impact of these will be analysed over the coming period – it should be noted that this is a consortium issue to manage and **tie** will provide support in this respect. **tie** has implemented an extensive programme of site based monitoring to validate & verify the installation of works in line with an integrated design assured construction. See section 6.3 for amplification.

### 2.3 Utility works (MUDFA)

Progress on MUDFA works during Period 5 is presented below ( this excludes the remaining utility works being undertaken outwith the MUDFA contract on sections 1A & 7B):

Rev.08 Figures - Period 05 2009-10	Period		Delta	Cumulative		Delta
	Plan	Actual		Plan	Actual	
<b>MUDFA PERIOD 05 PROGRESS</b>						
Section 1a Newhaven to Foot of the Walk	0.0%	4.8%	4.8%	100.0%	100.0%	0.0%
Section 1b Foot of the Walk to McDonald Road	0.0%	0.0%	0.0%	100.0%	99.9%	-0.1%
Section 1c McDonald Road to Princes Street West	1.9%	4.3%	2.4%	100.0%	89.2%	-10.8%
Section 1d Princes Street West to Haymarket	0.4%	1.8%	1.5%	100.0%	96.5%	-3.5%
Combined Sections 1A-1B-1C-1D (On-Street) Newhaven Road to Haymarket	0.7%	2.6%	2.0%	100.0%	95.8%	-4.2%
Section 2 Haymarket to Roseburn Junction	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 5a Roseburn Junction to Balgreen Road	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 5b Balgreen Road to Edinburgh Park Central	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 5c Edinburgh Park Central to Gogarburn	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 6 Gogar Depot	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 7a Gogarburn to Edinburgh Airport	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Combined Sections 2A-5A-5B-5C-6A-7A (Off-Street) Haymarket to Edinburgh Airport	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
<b>FULL ROUTE PHASE 1A NEWHAVEN ROAD TO EDINBURGH AIRPORT</b>	<b>0.5%</b>	<b>2.1%</b>	<b>1.6%</b>	<b>100.0%</b>	<b>96.6%</b>	<b>-3.4%</b>

Key points to note are:

- Progress in the period has been slower than planned in those sections that MUDFA are working particularly at Haymarket junction. These poor productivity and performance levels can be attributed in part to underground obstructions and technical issues;
- Utilities diversion works for Section 1A are now out to tender. These works are not being carried out by Carillion;
- Utilities works in Section 1C (Broughton St) are being reviewed against Programme available space and TM requirements following the discovery of an uncharted Scottish Water sewer which may result in the redesign and relocation a number of utilities.
- Utilities diversion works for Section 1D continue between Haymarket and Shadwick Place although are being hindered partly by underground obstructions.
- Utilities diversion works for Section 7 were awarded to Farrans with works progressing during Period 05.
- All utilities works are complete in Sections 2, 5a, 5b, 5c and 6 are now complete.

Section	Commentary
Section 1a Newhaven to Foot of the Walk	<p>Section 1A Plates 11-12 (The Bridges) Temp telecoms works completed Telecom recabling at The Bridges:</p> <ol style="list-style-type: none"> <li>1) Virgin Media – Cabling and transfers complete.</li> <li>2) BT – Cabling and transfers complete.</li> <li>3) Cable and Wireless – Cabling and transfer programmed for 12<sup>th</sup> August 2009</li> </ol> <p>Queen Charlotte Street junction reopening delayed until mid August due to SW issues. Gas Service Transfers works continue in Constitution Street between Duke Street and Baltic Street.</p>
Section 1b Foot of the Walk to McDonald Road	<p>Gas main abandonment works continue – on programme for 28<sup>th</sup> August 2009 completion. Water works at Pilrig Street delayed due to SW supply issues and leaking joint on a tee – emergency works to repair planned for w/c 10<sup>th</sup> August 2009. Water works at Albert Street complete</p>

Section 1c McDonald Road to Princes Street West	<p>Worksites installed at:</p> <ol style="list-style-type: none"> <li>1) Junction of Leith Walk/Elm Row/London Road</li> <li>2) Opposite Playhouse on Leith Walk</li> </ol> <ul style="list-style-type: none"> <li>• Bodies uncovered in Leith Walk/Elm Row/London Road worksite</li> <li>• Traffic Management in place on West side of Picardy Place</li> <li>• Uncovered an uncharted sewer in last period – impact of uncharted sewer on programme, available space and Traffic Management arrangements for utility diversions still being assessed. Likely impact is need to relocate and redesign a number of utility diversions</li> <li>• Carillion work scope at The Mound/Princes Street/Hanover Street junction planned for completion on Friday 14<sup>th</sup> August.</li> </ul> <p>The Mound reopened to pedestrians on Monday 3<sup>rd</sup> August 2009</p>
Section 1d Princes Street West to Haymarket	<p>CUS works at Lothian Road Junction completed on programme. Inspection of BT ducts scheduled for Monday 10<sup>th</sup> Aug. Cabling works programme for Communications Companies to be confirmed.</p> <ul style="list-style-type: none"> <li>• CUS forecast remains completion 8<sup>th</sup> November 2009 for Haymarket to Manor Place.</li> <li>• BT continues to rebuild existing manhole in the junction of Palmerston Place. This work is programmed for completion early W/C 10<sup>th</sup> Aug. TM at Haymarket revised to mitigate delay.</li> <li>• SGN carrying out the required lift and lay at Clifton Terrace to minimise CUS work and allow SGN access to carry out planned works.</li> <li>• Instruction issued to CUS to progress abandonment of 15" main in Shandwick Place to allow for access for BSC.</li> <li>• Solution provided by SDS for crossing underground structure at Grosvenor Street. Modification required to current approved TM to gain access to complete crossings. This is included in CUS reported completion date of 8<sup>th</sup> Nov.</li> </ul>
Section 2 Haymarket to Roseburn Junction	As-Built drawings being progressed by SDS BT, Thus and C&W cabling to be complete.
Section 5a Roseburn Junction to Balgreen Road	MUDFA Diversions COMPLETE. Utilities transferred to Infraco remain in ScotRail Depot
Section 5b Balgreen Road to Edinburgh Park Central	Sewer diversion at South Gyle Access bridge transferred to InfracoTelecoms proximity to South Gyle Access bridge West abutment & Bankhead Drive RW
Section 5c Edinburgh Park Central to Gogarburn	Utility diversion works complete. Telecoms re-cabling works underway.
Section 6 Gogar Depot	COMPLETE
Section 7a Gogarburn to Edinburgh Airport	Removed from CUS scope. Keir have completed and tested all utility diversion associated with the BAA Walkway project. Remainder of scope will require to be delivered by a non-MUDFA party (Farrens).

## 2.4 Tramworks (INFRACO)

The project continues to experience problems with slow progress for INFRACO works and, in particular, the appointment of direct BSC resource and the final appointment of the main package contractors. The BSC sub-contractors continue to operate with Limited Letters of Intent whilst awaiting conclusion of the full sub-contracts. Slow provision of estimates and finalisation of the agreement of change- Base Date Design Information (BDDI) and IFC is delaying the commencement of works at various locations including at Haymarket viaduct, Russell road bridge, Murrayfield pitches Retaining Wall, Baird Drive Retaining Wall, Carricknowe bridge, Depot building and Tower Place bridge.

The work has continued on a number of worksites including:



**Section 1C/1D: City Centre Princes Street:**

- Throughout the site track and carriageway works are continuing, including blinding, track improvement slab, track laying, track slab, central reserve works, OLE base work, carriageway formation prep, footpath works and kerbing.
- Access has now also been taken to the Mound area, following the completion of the bulk of the utility works, and the road surface has been planed and the underlying concrete broken out over the majority of the area.
- Pedestrian access routes opened on 03/08/09, for the duration of the Festival, to link the Mound with Hanover Street and Princes St West Gardens to both Frederick Street and Castle Street.
- Enabling works commenced late period 05 between South Charlotte St and Lothian Rd.

**Section 5B Balgreen Road to Edinburgh Park Central:**

- Trial holes/Preparation works at guided bus way section for piling works early in Period 06.
- Edinburgh Park Station Bridge: BSC continued to work on diaphragm construction and deck slab reinforcement;

**Section 5C Edinburgh Park Central to Gogarburn:**

- A8 underpass combined phase 1 & 2 programme has now been adopted. BSC are progressing with the site clearance and utility diversion; further work required to quantify scope of work required by Scottish Power to confirm status of existing cables. Construction methodology has been agreed with Telecoms companies for a re-commencement in period 06.

**Section 6 Gogar Depot**

- Depot - Earthworks have not recommenced since 23 June09. Further excavation will commence on BDDI to IFC Change agreement. The agreed total to date is **107607** cubic metres out of a total expected **141000** cubic metres (**76%**). Tie notification of change issued for foundation and steel works. Work due to commence
  - Depot Access Rd - 17<sup>th</sup> August 2009
  - Depot Building Foundations 31<sup>st</sup> August 2009
  - Depot Building Steelwork 21<sup>st</sup> September 2009.

**Section 7 Gogarburn to Edinburgh Airport**

- Gogarburn Bridge replacement piers and capping beam being constructed. Pre-cast concrete beams due for delivery and installation early Period 06.
- Gogar Culvert No.1 due to recommence early Period 06
- Gogar Culvert No.3 due to recommence early Period 06

Progress is now being monitored against the Revision 1 programme. The summary milestones against the agreed INFRACO contract and the short term Rev 1 programme milestones are shown in the table below.

Milestones	Period 05		Cumulative (Short-Term)		Contract Planned to P05
	Planned	Actual	Planned	Actual	
Prelims	2	2	50	50	50
Construction	7	5	42	40	581

The Revision 1 programme incorporates the agreed 38 business days (seven weeks plus three days) EOT variation to the contract programme as in the table below. As had been the case in the contract programme progress, the common denominator in the Revision 1 programme remains that every activity in the programmes has a work content generated against it which translates into a weighting, allowing accurate reporting of progress.

	Period		Delta	Cumulative		Delta
	Plan	Actual		Plan	Actual	
<b>INFRACO PERIOD 05 PROGRESS (Contract Rev.01 Programme)</b>						
Section 1a Newhaven to Foot of the Walk	3.7%	0.0%	-3.7%	26.3%	0.0%	-26.3%
Section 1b Foot of the Walk to McDonald Road	1.8%	0.0%	-1.8%	43.9%	1.5%	-42.5%
Section 1c McDonald Road to Princes Street West	1.3%	0.0%	-1.3%	12.2%	0.0%	-12.2%
Section 1d Princes Street West to Haymarket	2.6%	2.8%	0.2%	56.6%	11.6%	-44.9%
Combined Sections 1A-1B-1C-1D (On-Street) Newhaven Road to Haymarket	2.6%	0.6%	-2.0%	32.3%	2.8%	-29.5%
Section 2 Haymarket to Roseburn Junction	0.6%	0.0%	-0.6%	73.1%	12.6%	-60.5%
Section 5a Roseburn Junction to Balgreen Road	3.8%	0.0%	-3.8%	69.9%	3.5%	-66.4%
Section 5b Balgreen Road to Edinburgh Park Central	0.6%	1.8%	1.3%	83.6%	13.2%	-70.4%
Section 5c Edinburgh Park Central to Gogarburn	6.8%	0.0%	-6.8%	65.7%	2.8%	-62.9%
Section 6 Gogar Depot	3.0%	0.0%	-3.0%	84.5%	5.4%	-79.1%
Section 7a Gogarburn to Edinburgh Airport	3.8%	0.1%	-3.7%	50.8%	13.3%	-37.4%
Combined Sections 2A-5A-5B-5C-6A-7A (Off-Street) Haymarket to Edinburgh Airport	2.7%	0.6%	-2.1%	74.2%	8.6%	-65.6%
<b>FULL ROUTE PHASE 1A NEWHAVEN ROAD TO EDINBURGH AIRPORT</b>	<b>2.7%</b>	<b>0.6%</b>	<b>-2.1%</b>	<b>57.7%</b>	<b>6.3%</b>	<b>-51.4%</b>

Section	Commentary
Section 1a Newhaven to Foot of the Walk	Section 1A4 Lindsay Road under review. Design awaited to allow Utility diversions to be carried out for W1 Lindsay Rd RW which releases Infraco works in this section. Temp. Utility diversions at bridges complete. Infraco Bridges works start date depending on BDDI – IFC agreement
Section 1b Foot of the Walk to McDonald Road	Roadworks due to commence - delayed to Sep-09 awaiting MUDFA completion.
Section 1c McDonald Road to Princes Street West	Roadworks due to commence - delayed to Sep-09 awaiting MUDFA completion. Section of Princes St between the Mound and Waverley bridge progressing.
Section 1d Princes Street West to Haymarket	Princes Street works re-started 23Mar09 and continue between South Charlotte Street and the Mound. Section between South Charlotte St and Lothian Rd commenced week 4 of Period 05. Tram Works in Haymarket are dependent on MUDFA completion in Nov.09 apart from area in Shandwick place which is under commercial discussion with Infraco..

Section 2 Haymarket to Roseburn Junction	Haymarket Viaduct temporary works design resolved although contractor has not yet mobilised following Christmas 2008 break. Verity House access rd complete 23rd May. All required consents in place for track installation. Commercial issues holding-up commencement of works.
Section 5a Roseburn Junction to Balgreen Road	Temporary & permanent works re-design along with commercial resolution delaying various structures. All required consents in place for track installation.
Section 5b Balgreen Road to Edinburgh Park Central	Temporary & permanent works re-design along with commercial resolution delaying various structures. Only progress in period is against S27 Edinburgh Park viaduct. All required consents in place for track installation.
Section 5c Edinburgh Park Central to Gogarburn	A8 Underpass recommenced during P13 but has since been on hold due to discovery of obstructions & refusal of piles. Design solution to combine Phases 1 & 2 now in place. Traffic diversion completed. Delayed awaiting BSC to resolve construction methodology issues with telecoms companies.
Section 6 Gogar Depot	Depot handed over from MUDFA to INFRACO 9Feb09 Earthworks have not progressed since 23Jun09. Access road due to commence 17Aug09 Building Foundations due to commence 31Aug09
Section 7a Gogarburn to Edinburgh Airport	Remedial works continue at S29 Gogarburn underbridge. S30 Culvert No.1 change issues resolved and due to recommence 17Aug09. S34 Culvert No.3 change issues resolved and due to recommence 24Aug09.

## 2.5 Tram construction (Tramco)

Good progress continues to be made with the progress of deliverables against the schedule. The production line commenced during Q1 2009, with the modules for the first unit expected to be complete by the end of period 05. Testing of the first units remains on schedule for September 2009, with the delivery of the first tram still on schedule for April 2010.

The CAF contract programme is incorporated in the Master Tram Project Programme and the current position indicates the following confirmed milestone dates:

- 1<sup>st</sup> Tram delivery – 09-Apr-10
- 5<sup>th</sup> Tram delivery – 10-May-10
- 27<sup>th</sup> Tram delivery – 17-Jan-11

## 2.6 Testing and commissioning

The process for acceptance of the Edinburgh Tram Project is designed to ensure that it is delivered in an acceptably safe, compliant and efficient manner. The objectives of the process are to ensure that the system performance, integrity, reliability, availability and safety are rigorously tested and that throughout all stages of the delivery process the many sub-systems and the overall system are validated and verified against the requirements and applicable standards. The detailed sequence and scope of testing and commissioning prior to systems Acceptance testing is to be programmed out and proposed by BSC in further detail in the next year.

To achieve these objectives there is a layered approach to the overall testing and commissioning as laid out in the table below.

What	Who	Status
Design assurance	BSC (SDS) / tie	Underway.
Quality	INFRACO	11 of the 37 BSC Inspections and Test Plans have been revised by BSC incorporating tie comments. tie have requested an update of the status of the remaining ITP's.
Systems Safety	INFRACO / Independent Competent Person(ICP) / TEL / Transdev	Started - Safety verification plan in place and process of verification already underway. The ICP has been appointed and has started his verification process.
Performance*	INFRACO / Transdev / TEL	Requirements set out in the employer's requirements and will be tested following completion of each section of the network.

BSC have produced Inspection and Test Plans (ITP's) for the current set of construction works, however they have not yet produced a consolidated Test and Commissioning Plan. Constituent elements are available from CAF, the tram manufacturer, the Operator and an overall framework from TEL exists to cover the activities.

It is intended over the next three periods to obtain collective engagement on testing and commissioning, and agreement to the formation of a multi-organisation, multi-disciplinary test coordination team.

Testing undertaken and witnessed in the period has included the A8 piles at Gogar and the first tram set of body shells, (weld quality, dimensional tolerances and water tightness).

\*Pre-system acceptance testing includes both Factory Acceptance Tests(FATs), site Acceptance Tests (SATs), Sub-system integration tests (SITs) and System commissioning Tests(SCTs). Once a section of the network is physically completed and the SITs are satisfactorily completed then the formal acceptance process requires BSC to carry out and pass a series of systems Acceptance Tests in order to achieve Sectional Completion. These are shown in the table below.

Test	Test Name	Test Description	Programme
T1	Post Commissioning Test	To demonstrate that each Section of the ETN in sequence is able to perform in an acceptably safe manner and deliver the required run times. This is the gateway test to driver training.	Post Commissioning Test immediately follows successful commissioning of each section and is required for progressing to Driver Training.
T2	Performance Test 1	After Phase 1a is complete and has passed Test T1, this test demonstrates that Phase 1a is able to perform satisfactorily before starting the three-month Shadow Running period. This is the gateway test to shadow running.	Performance Test 1 will immediately precede the Shadow Running period and is a requirement for progressing to this phase of the programme.
T3	Pre-operations Test	The test covers a seven day period during the latter part of the Shadow Running phase of the programme using the initial 6/12 tph service timetable.	Pre-operations Test shall immediately precede the Service Commencement Date.
T4	Network Performance Test	The Test is carried out over a 28 day period in Passenger Service to establish that the ETN can reliably operate.	To be completed within twelve months of the Service Commencement Date.
T5	Network	Reliability Testing of key sub-	To be completed within

	Reliability Test	systems in Passenger Service.	twelve months of the Service Commencement Date.
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This whole process can be described by the following flowchart.

Stage	Flow Chart	Tests	Description
8	Passenger Service	Network Performance (T4) and Reliability Test (T5)	The date upon which the Edinburgh Tram Network starts in public service
			<b>PASSENGER SERVICE COMMENCEMENT</b>
7	Shadow Running	Pre-Operations Test (T3)	The period of Tram operations that simulates full public service operation including running to published timetable and calling / dwelling at Tramstops before the ETN enters public service
			<b>ENERGISATION OF COMPLETED PHASE OF THE ETN</b>
6	Test Running & Driver Familiarisation		The period post-ETN commissioning used to complete driver and control room staff training and gain confidence to enter Shadow Running Phase
		Post-Commissioning Test (T1)	
5	Commissioning	System Integration Test	All subsystems, including the tram, are fully-integrated to form the ETN and are tested to demonstrate that they work together successfully and meet the Employer's Requirements
			<b>ENERGISATION OF SECTION OF THE ETN</b>
4	Set to Work Tests	Site Tests	The point at which subsystems have been installed and then tested to prove they meet their requirements with both Type tests and Site Acceptance tests
			<b>LIMITED ENERGISATION OF PART OF THE ETN</b>
3	Installation / Construction		Once the subsystem has successfully passed Factory Acceptance Tests installation / construction at site will take place and as appropriate a delivery test undertaken.
2	Factory Acceptance Tests	FAT	Thorough demonstrable testing of the subsystem at Infraco's premises
1	Build / Manufacture		Manufacture and assembly of the System by the Infraco
D	Design		The scope of the works designed through Approval in Principle and Approved for Construction & Manufacturing Drawings; with associated verification and validation test and integration plans complete

## 2.7 Interface with other projects

The following table identifies the other projects ongoing within the city which may impact on the Tram project. This is reviewed on an ongoing basis both internally and in conjunction with TS to identify conflicts and mitigations. The most significant interface of concern is the Gogar interchange. **tie** has instructed the design change and this is underway. The St James centre re-development remains as amber as commencement of this project is now indicated towards the completion of the Tramworks and therefore interfaces should diminish.

External Projects	Promoter	Project Description	Potential Conflict	Tram Contract Dates		Project Dates		Comments
				Start	Finish	Start	Finish	
New Hotel adjacent Ocean Terminal	Ocean Points Development Limited	New build hotel	Potential conflict with Infraco dependent on timescales. To be monitored.	Sep-09	Apr-12	TBA	TBA	To be monitored.
Former Bus & Tram Depot nr Shrub Place	Fraser & Neave	Transformation of former Tram and Bus Depot into 121 room serviced apartments.	None identified. Dependent on timescales.	Now		TBA	TBA	To be monitored. Utility completion by end Aug09. Potential TM interface dependent on Infraco proposals
Shrubhill House	Unite	Transformation of former council social work headquarters into 200 bed hotel	None identified. Dependent on timescales.	Now		TBA	TBA	Awaits planning consent. To be monitored. Utility completion by end Aug09. Potential TM interface dependent on Infraco proposals
Baxter Place Development	Fitzpatrick Hotel Group	Conversion of existing building adjacent Greenside Lane and with frontage onto Leith Street	Proposal to divert existing utilities through basement of building. Also potential TM interface issues with Picardy Place construction.	Oct-09	Oct-11	TBA	Dec-10	
St.James Centre Re-development	CEC / Henderson Global	Redevelopment of existing shopping centre.	Interface with Picardy Place junction re-construction and Cathedral Lane sub-station	Mar-10	Jan-12	2011	2016	Downgraded from red to amber as commencement of this project is now indicated towards the completion of Tramworks and therefore interfaces should diminish.

National Portrait Gallery		Major building construction and re-furbishment. The renovation of the external facades, the overhauling of the existing windows, the renewal of the existing rooflights and roof covering. Additionally, it is proposed that an external ramp is formed to the front main entrance to allow disabled access.	Interface with Infracore works on St Andrew Street / York Place	Mar-10	Oct-11	Oct-09	Nov-11	Decant complete June 09 Lane closures (west bound) on Queen street, to allow space for a large hiab to be positioned full time outside the premises (October 2009 onwards). Also two, three week periods in January & February 2010, when further closures were required to allow a large crane in to remove/reinstate the roof. Conflict with the Tram traffic management team looking at making the section of Queen Street, between North St David Street and Broughton Street one-way (part of the Leith Street, Princes Street, South St David Street, North St David Street gyratory).
St.Andrew Square Development	CEC	Demolition of existing buildings bordering South Side St.Andrew Square, South St David Street and Meuse Lane	Infracore Programme	Jan-10	Mar-10	TBA	TBA	Infracore activities will not commence until Jan 2010
Waverley Steps	Transport Scotland	Refurbishment of existing Waverley Steps with inclusion of new escalators and elevators	<b>PRINCES STREET</b> Traffic management issues when Infracore in Princes Street should this project require deliveries, craneage or Traffic management in same time period	Feb-09	Nov-09	Jun-10	May-12	Under the revised Waverley Steps programme received 7/5/9 Tramworks will be complete in this area prior to Waverley Steps works progressing. Downgraded from Amber to green May09. PLI (Public Liability Inquiry) held and refreshed programme due in Period 6

Haymarket Interchange	First Scotrail	Capacity Increase Project - Installation of new lifts and walkways from Haymarket Terrace	Utility diversions continue until late June 2009 Potential Interface with Infraco works at Haymarket junction commencing July 2009	Jan-10	Sep-11	Dec-11	Dec-12	<a href="#">NR/Edinburgh Tram Project Delivery Group Meeting 11 Buchanan House, Edinburgh 08 April 2009</a> ScotRail are required under their franchise to install lifts due to the uncertainty over the integrated scheme at Haymarket. ScotRail will progress but it will be at the end of their Franchise 2011/12.
Haymarket Station Re-furbishment	Network Rail/Scotrail	Main Building refurbishment works	Any external works could conflict with TM for either or both MUDFA and Infraco and could conflict with Infraco construction works. Bridge to be installed from Haymarket terrace to Platform 0 to comply with DDA	Jan-10	Sep-11	Aug-09	Jan-10	May Gurney programme received during Aug09. No conflicts expected. TM requirements being monitored. Remaining utility works are to the east of the station/haymarket junction. Infraco works not expected to commence until Jan 2010.
Haymarket Station	First Scotrail	Installation of new lifts and walkways from Haymarket Terrace	Construction of Haymarket viaduct	Jan-10	Sep-11	Jan-10	TBA	
Haymarket Terrace	DTZ Surveyors	Common Repairs to buildings at 2-4-6-8-68 & 74 Haymarket Terrace	Scaffolding and external repairs	Jan-10	May-11	May-09	ASAP	Scaffold erected and building repairs underway between Infraco TM phases.
Airdrie - Bathgate	Transport Scotland	New track installation	Tram possessions mainly "piggy-backed" on A2B possessions which could be altered / cancelled.	TBA	TBA	Mar-09	Mar-10	Various possessions and RotR workings
RBS Tramstop - Gogarburn	RBS	Design by RBS - Build by Infraco	Design and consents not in place in a timely manner to allow Infraco to build to programme	Nov-10	Mar-11	TBA	TBA	Design and approvals progressing to programme. Confirmed that this will now be a generic tram stop design



Gogar Surface Station	Transport Scotland	New station to east of Gogar Depot	Approvals and Consents	Aug-08	Oct-11	Oct-09	Mar-11	SDS Revised Design information (v48) received early Period 6. Gogar Interchange Programme to be updated and re-issued.
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Colour code

Green	No conflict anticipated but being monitored
Amber	Managing any conflict
Red	Conflict which causes programme concern / unknown effect on tram programme

This has been sent to TS for their input for projects they are sponsoring and will continue to be reviewed by **tie** to identify any potential impacts on the Tram programme as early as possible in order to manage them. A review of the TS projects was carried early June 2009 with TS. A further session during Period 05 was postponed to week 1 of period 06.

## 2.8 Other

### Gogar Surface Station

**tie** has supported Network Rail and Transport Scotland in their review of options for the vertical circulation tower and connection between the heavy rail station and the tram stop.

During this review SDS has put much of the design activity for the tram elements of the Gogar Interchange on hold to avoid abortive work. SDS has also not been able to start work on architectural elements due to the fact that the architectural concept for the buildings has not been confirmed by Network Rail.

In particular, work has been on hold/restricted on the following:

Activity	v47 start	v47 finish	Status
Preliminary Design for Gogar Tramstop	7/7/09	27/7/09	limited work done – options considered - location to be confirmed
BSC review of Preliminary Design	28/7/09	10/8/09	not started
Design canopy over additional tram stop	11/8/09	24/8/09	not started

Work on the vertical and horizontal alignment of the tram track has been brought forward and SDS is completing the sighting study based on that alignment.

#### Programme impact

The decision not to continue with design activity for scheme 4BB during the review of the base scheme design by Network Rail has meant that the tram elements are approximately 5 weeks in delay at present.

If the Network Rail preferred option is chosen then there are opportunities to improve on the existing design programme and on the construction programme. **tie** will investigate these in Period 6 if the Network Rail preferred option is confirmed by Transport Scotland.

#### **tie** support for revised option

It is **tie**'s view that the new preferred scheme represents a significantly better solution for passengers interchanging between train and tram and has avoided the need to bridge over the main through tram route to the airport.

It is a simpler scheme that reduces a number of risks associated with the original option 4BB. However, **tie** must report that the revised scheme depends on the ability of Network Rail to agree access to the 1500mm combined sewer with Scottish Water.

Decision requested from Transport Scotland

**tie** requests that Transport Scotland:

- confirm to City of Edinburgh Council that it wishes to proceed with Network Rail's preferred option
- provide engineering drawings from Network Rail for that option to allow **tie** to instruct BSC on the change of preferred option and to allow **tie** to assess the potential programme and cost impacts of the preferred option in more detail and report against these in Period 6

Alternatively tie requests Transport Scotland's confirmation that BSC should restart work on Option 4BB or that BSC should remain on hold for further design that depends on the location of the vertical circulation tower.

#### Other information required

Design of the canopy roof can only begin once confirmation of the architectural concept is given by Network Rail. **tie** believes that this should be possible following the design workshop on 19 August and notes that some information has already been provided by Network Rail and Mott MacDonald.

#### Overall design co-ordination

Project management meetings have continued between **tie**, TS and NR and a further design workshop has been arranged by Network Rail for 19 August.

It has been agreed that fortnightly technical co-ordination meetings will take place between **tie** and Network Rail and our consultants. These can begin in earnest once the preferred option for the vertical circulation tower is confirmed.

Initial results of the sighting study have been presented to Network Rail and the study is being finalised. SDS has also provided a summary of utilities information held by them for the wider Gogar Interchange site. To date approximately £80K has been expended on SDS design fees.

#### Temporary traffic regulation orders (TTROs)

- Weekly visual summary being produced of all tram traffic management throughout the city.
- Successful switch of traffic for utilities works at Haymarket during Period 5.
- Traffic management planning ongoing for Princes St Phase 3, Haymarket and Picardy Place.

#### Traffic regulation orders (TROs)

- A TRO programme is in place to ensure that the first order TRO 1, which will allow for operation of the tram system, is made by October 2010. The informal consultation process for this has been completed and BSC have incorporate minor design revisions into the final design. **tie** received a set of TRO drawings on 19 August 2009, this enabling the statutory consultation process to commence (expected during September 2009).

#### Network Rail

- INFRACO has now delivered its EMC Management Plan and EMC Strategy for NR infrastructure assets and established the scope for the immunisation works. A programme for these works is being developed with INFRACO;
- INFRACO will be developing the full assurance case for NR acceptance. Preliminary assurance case to enable traction power testing and commissioning will be completed by August 2009. Further assurance will be provided up to, and including, bringing into service;
- The contractor has submitted for ROTR possessions according to the look-ahead programme.

#### Third party interfaces

- NR – the Bridge Agreements are not yet concluded. There is an outstanding issue on indemnities to close out. CEC are taking this matter up directly with TS. The Operating Agreement draft with NR is currently on hold pending resolution of the same indemnities issue that is concerning CEC with the Bridge Agreement. Both matters are with CEC for resolution.
- Forth Ports – have introduced a new clause into the Agreement drafting which seeks to link payment for the Tram works with the Planning Approval for the Leith Harbour Development, this is unacceptable to CEC and the matter has been raised for resolution at a senior level.
- Haymarket car park compensation – **tie** have agreed compensation with NR and will settle this in Q1 09/10. **tie** continue to discuss with TS the additional compensation payable to First ScotRail, as a result of the extension of the FSR franchise from Nov 2011 to Nov 2014, as it is believed to be a TS cost;

- 
- Building fixings – deemed consent has been obtained from 306 owners as well as 66 consents with the owners' agreement. There are twelve fixings where matters remain unresolved and CEC have committed to pursue these through Sheriff Court action. Dates for hearings are to be established. The building fixing construction programme will commence in Spring 2010;
  - Interfaces are being managed to ensure that the SRU accommodation works and events are cohesive. tie have now agreed approach to the design and construction of the works with SRU, and
  - Network rail and CEC have signed a side agreement which addresses the concerns tie had over possible conflicts with tram construction works. As a result tie have withdrawn their objection to the TAWS Order.

#### BAA - Burnside Road (BAA)

- BRR: Raynesway Construction. Started on 10<sup>th</sup> August with mobilisation and advance works.

#### Section 7B Utilities

- MUD works – The MUD contractor (Farrans) continues on site with trial holes ongoing, RBC removal, and the trench excavated for the multi utilities services with new services being laid. Utilities exposed at Eastfield Avenue.

#### Hilton Car Park & Phase 1

- INFRACO – No works have commenced. Reviewable Tram Works Design (RTWD) Issued. BAA response received.

#### Section 1 Utilities

- Invitation to Tender documents (ITT) sent to 5 companies (Farrans, Morrisons, Raynesway, Clancy Docwra and UUPLC). Tenders return due on end of August.

#### Fast link modifications (Front Line)

- Works completed.
- BT manhole is to be built after the Scottish Power cable has been diverted

#### Murrayfield Pitches (Souters)

- Final accounts now agreed. Subject to works being carried out during maintenance and establishment period.

#### Archaeological works at Constitution Street (Frontline):

- General excavation of the archaeological works site recommenced

## 3 Headline cost report

### 3.1 Current financial year

	FY 09/10 COWD Period			FY 09/10 COWD Year To Date			FY 09/10 COWD Full Year Forecast			COWD To Date	Costs To Go	Total AFC
	Actual	Budget	Variance	Actual	Budget	Variance	Forecast	Budget	Variance	Actual	Forecast	Forecast
Total Project COWD	9.532	12.698	-3.166	40.319	40.877	-0.558	150.084	150.072	0.013	271.338	255.761	527.099
Other Funding	0.846	1.048	-0.203	3.407	3.375	0.032	12.656	12.391	0.265	22.482	21.304	43.786
Demand on TS	8.686	11.649	-2.963	36.912	37.502	-0.590	137.428	137.680	-0.253	248.856	234.457	483.313

- The lack of an agreed commercial programme and the decision to apply formal contractual measures to resolve outstanding issues with the BSC consortium will present potential further risks in relation to the attribution of additional costs and delay to completion of the project. tie Ltd has taken extensive legal and technical advice, including Counsel's opinion, and is confident of its position on the key matters in dispute. However, given the nature of the process and the complexity of certain issues, it is unreasonable to expect that all adjudication outcomes will be awarded in favour of tie Ltd and it will also be open to the BSC consortium to use the contract formally to pursue their objectives.
- We continue in this report to reflect an outturn estimate of £527.1m. However, given the commercial uncertainties with the Infraco and continuing delays to the project it is now considered unlikely that the full scope of Phase 1a will be completed within the available funding envelope of £545m. Until the key issues are resolved through the contractual and legal process, it will not be possible to forecast accurately a revised budget outturn. It is also not possible at the present time to predict the conclusions of reviews of contingency options programme delivery options, including possible additional sources of funding.
- **The contract with the BSC consortium prescribes a timetable for resolution of contractual disputes and it is expected that the budget and programme implications will become increasingly clearer during the remainder of 2009.**
- **Regular briefings will be provided to both CEC and Transport Scotland to keep them updated on progress and implications for the project programme and finances of all the above matters.**
- The budget for Phase 1a in 2009/10 is £150.1m which has been produced linking the tie re-baselined programme to Infraco construction milestones. tie are now escalating all key issues to Dispute Resolution Procedure (DRP) and other contractual measures following the failure of mediation to provide an acceptable outcome. It is anticipated that a fully agreed programme will not be made available and/or agreed by the Infraco contractor until key commercial issues have been resolved.
- The current outturn of £150.1m is due to be fully re-assessed in period 6 in-line with tie's latest internal view of programme and Project Managers view of Infraco deliverables in 2009/10.
- The unresolved commercial issues introduced a high degree of uncertainty of the outturn costs for financial year 09/10 in relation to activities which the Infraco may not start until commercial differences are resolved and tie may not have sufficient contractual leverage to instruct commencement. tie have assessed a range of sensitivities to the 09//10 forecast which indicate that current Infraco progress is likely to impact spend by between **-£5m to -£30m** in the year. The high side of the sensitivity range split identifies £6.5m on-street and £22.3m off-street value of work at risk. Included in this range of sensitivity is £13.5m for BDDI/IFC forecast milestone and change items currently 'on hold'; the majority of which are off-street works along the railway corridor.
- In addition to the forecast phase 1a (£150.1m) 2009/10 costs, the budget also includes costs of £3.2m which relate to the postponement of Phase 1b Infraco construction contract. A payment of £3.2m was made to the Infraco Contractor in August relating to phase 1b costs.
- Funding available from TS for the project in 2009/10 is £149m. The TS share of this year's budget (£153.3m) is £140.6m, giving available headroom of £8.4m. This figure

is anticipated to fall in period 6 in-line with the reassessment of Infraco construction milestone progress during the DRP period.

#### Actual YTD P5 & forecast P6-P13 FY09/10

£m	YTD P 5	Forecast P6 - P13,09/10	Total FY09/10
Infrastructure and vehicles	27.0	88.6	115.6
Utilities diversions	6.5	1.8	8.3
Design	1.1	1.4	2.5
Land and compensation	0.7	0.9	1.6
Resources and insurance	5.0	8.3	13.3
<b>Base costs</b>	<b>40.3</b>	<b>101.1</b>	<b>141.4</b>
Risk allowance	0.0	8.7	8.7
<b>Total Phase 1a</b>	<b>40.3</b>	<b>109.8</b>	<b>150.1</b>

- Phase 1a COWD to Period 5 is £40.3m (Period 4 £31.0m) against budget £40.9m. The main drivers for the £0.6m variance are: the timing of Infraco costs forecast in 2009/10 offset by MUDFA costs incurred over the original plan.
- Tramco production activity is running ahead of schedule; this is reflected in the Tramco construction works forecast profile. It should be noted that the Tramco forecast has been amended with the release of the advanced payment now being smoothed periodically rather than quarterly to avoid 'spikes' in the cash application.
- As previously reported and agreed with CEC and TS, initial milestones under the Infraco and Tramco contracts in the aggregate amount of £24.2m, in respect of advance material purchases, have been classified as prepayments. These will be reclassified as expenditure against funding in the periods when the related materials are delivered to site and incorporated in the works. The release will occur on the achievement of trackwork and structures milestones in 2009/10 and future years.

### 3.2 Current financial year profile

#### Profile for FY09/10 - Phase 1a only

£m	Q1 (p1-3)	Q2 (p4-6)	Q3 (p7-10)	Q4 (p11-13)	Total FY09/10
Infrastructure and vehicles	15.8	17.3	46.1	36.5	115.6
Utilities diversions	3.2	4.3	2.8	-2.0	8.3
Design	0.7	0.5	0.6	0.6	2.5
Land and compensation	0.6	0.8	0.1	0.0	1.6
Resources and insurance	2.9	3.2	4.1	3.1	13.3
<b>Base costs</b>	<b>23.2</b>	<b>26.1</b>	<b>53.8</b>	<b>38.2</b>	<b>141.4</b>
Risk allowance	0.0	0.0	3.6	5.1	8.7
<b>Total Phase 1a</b>	<b>23.2</b>	<b>26.1</b>	<b>57.5</b>	<b>43.3</b>	<b>150.1</b>

- A full reforecast of the cost profile was produced at the beginning of the financial year which linked the re-baselined programme to Infraco constructions milestones. The realigned base costs and risk have then been linked against this programme; and
- The latest forecast for 2009/10 shows base cost of £141.4m and risk £8.7m, giving a total phase 1a cost of £150.1m. There is no movement in outturn forecast in the period.
- tie** will undertake to fully re-assess the £150.1m forecast in-line with an updated **tie** programme in period 6. In anticipation of this exercise being carried out in period 6 **tie** has identified that it is likely that the £150.1m forecast in 2009/10 could be reduced by between-£5m and -£30m as flagged in Section 3.1 of the Headline Cost Report.
- The cost profile above shows a ramp-up in activity throughout 2009, with base costs increasing from £23.2m in Q1 to a peak of £57.5m in Q3. This reflects the anticipated shift in INFRACO milestone activity from Q1 to Q3.

- Note: Utilities diversions -£2m forecast in Q4 relates to final betterment elements forecast against utilities providers.

### 3.3 Total project anticipated forecast cost

#### Re-baselined Phase 1a AFC and profiling

£m	Cum FY07/08	Actual 08/09	FY 09/10	FY 10/11	FY 11/12	AFC
Infrastructure and vehicles	30.7	45.4	115.6	108.7	2.8	303.1
Utilities diversions	18.4	33.4	8.3	0.0	0.0	60.1
Design	21.4	4.7	2.5	1.1	0.1	29.8
Land and compensation	16.8	1.7	1.6	0.1	0.8	21.1
Resources and insurance	42.7	15.8	13.3	11.3	7.4	90.6
<b>Base costs</b>	130.0	101.0	141.4	121.2	11.1	504.7
Risk Allowance	0.0	0.0	8.7	10.7	3.0	22.4
<b>Total Phase 1a</b>	130.0	101.0	150.1	131.9	14.1	527.1
Phase 1b postponement	3.0	0.0	3.2	0.0	0.0	6.2
<b>Total Phase 1a and Phase 1b</b>	133.1	101.0	153.3	131.9	14.1	533.3

- The table above reflects the base costs and risks aligned to the **tie** re-baselined programme (Feb-12) and re-alignment of the Infraco milestones schedule. The AFC for Phase 1a above includes an unapproved increase of £15.1m to the project risk allowance. The approved cost estimate for delivery of Phase 1a of the project remains at £512m. The phasing of the £527.1m plan remains in-line with period 3 and will be updated in period 6 by **tie**, and following that when there is an updated agreed programme with the Infraco contractor.
- The latest forecast view includes £3.2m of costs relating to Phase 1b which crystallised as contractually payable to BSC due to the postponement of Phase 1b (this will require to be covered by current funding). Coupled with the re-baselined forecast, there is £11.7m of funding headroom within the £545m total funding available.

## 4 Time schedule report

### 4.1 Report against key milestones

In advance of developing agreement with BSC, **tie** has developed an unapproved recalibrated baseline programme which reflects an Open for Revenue Service date of 23 Feb 2012. A completely unmitigated programme as a control scenario only has also been produced which shows a date of 17 Oct 2012. However, the live programme has been used to generate the milestone data below and this is based on all current information fed into the master programme. This indicates an open for revenue service date of early October 2012.

*(The agreed baseline programme reference for this project is that at Financial Close leading to revenue service in July 2011.)*

Milestones	Baseline programme date	Actual / current forecast date live
Approval of DFBC by CEC	21 Dec 06A	21 Dec 06A
MUDFA – commencement of utility diversions	02 Apr 07A	02 Apr 07A
TRO process commences	14Dec07A	10-Dec-07A
Approval of FBC by TS – approval and funding for INFRACO / Tramco	09 Jan 08	Dec 07A
Princes Street closed	03-Feb-09	22-Feb-09A
Tramco / INFRACO – award following CEC / TS approval and cooling off period and SDS novation.	28 Jan 08	14 May 08A
Construction commences	14-Apr-08	14-May-08A
First track installation commences – on street	03-Nov-08	Jun 2009A
Carrick Knowe Bridge commences	21-Aug-08	19-Aug-08A
A8 underpass commences	08-Aug-08	28-Aug-08A
Haymarket viaduct commences	08-May-08	01-Sep-08A
Edinburgh Park viaduct commences	06-Aug-08	01-Sep-08A
Tram mock-up delivered	Oct 2008	Nov 2008A
Demolition of Wanderers clubhouse	25-Aug-08	16-Nov-09
Edinburgh Park viaduct complete	24-May-09	25-Nov-09
Princes Street re-opened	01-Aug-09	25-Nov-09
NR immunisation complete	Nov 2009	Dec 2009
Utilities works complete	Nov 2008	Dec 2009
All demolition work complete excluding Wanderers clubhouse	22-Aug-08	04-Feb-10
All Issue for Construction (IFC) drawings delivered (inc Gogar interchange design)	21-Jan-09	Feb-10
Haymarket viaduct complete	08-Dec-08	19-Mar-10
All consents and approvals granted	18-May-09	Mar-10
Design assurance complete	20-Jan-09	Mar-10
1 <sup>st</sup> Tram delivered	09-Apr-10	09-Apr-10
Carrick Knowe bridge complete	11-May-09	23-Apr-10
A8 underpass complete	14-Jul-09	17-May-10
Roseburn viaduct commences	20-Jan-09	08-Jul-10
TRO process complete	01-Dec-09	Oct-10
Driver recruitment commences	July 2010	Oct-10
1 <sup>st</sup> OHL installed (Commence Section 2)	11-Dec-09	02-Nov-10
1 <sup>st</sup> section (other than depot) complete ready for energisation	25-June-10	Nov-10
Commission Section 2 (Haymarket to Roseburn junction)	11-Jan-10	Jan-11
Final tram delivered	17-Jan-11	17-Jan-11
Driver training commences (depot only)	Dec-10	Jan-11
Commission Section 6 (depot)	25-Mar-10	May-11



Roseburn viaduct complete	20-Apr-10	15-Jun-11
Test track complete	23-Apr-10	Sep-11
Commission Section 7 (Gogar to Edinburgh Airport)	25-June-10	Oct-11
Commission Section 1 (Newhaven to Haymarket)	11-Mar-11	Mar-12
Commission Section 5 (Roseburn junction to Gogar)	09-Nov-10	Apr-12
Driver training commences (excludes depot)	Nov 2010	May-12
System testing complete off street	09-Dec-10	May-12
Construction Line 1a complete	17-Jan-11	Apr-12
System testing complete on street	16-Feb-11	May-12
Letter of "no objection" from Independent Competent Person to commence tram running	17-Apr-11	Jun-12
Shadow running starts	18-Apr-11	Jul-12
Shadow running complete	July 2011	Oct-12
Letter of "no objection" from Independent Competent Person to commence revenue service	July 2011	Oct-12
Open for revenue service	July 2011	Oct-12

**Guidance for Completion:**

Legend for colouring of Actual / forecast date text

<b>Green:</b>	Actual / forecast date is ahead or in line with baseline
<b>Yellow:</b>	Slight slippage – readily recoverable with action.
<b>Pink:</b>	Significant slippage but expect recovery can be achieved
<b>Red:</b>	Notable / significant slippage – difficult to recover, even with action.

**4.2 Key issues affecting schedule**

Programme is one of the priorities of the PMP and a refresh of the key issues affecting schedule will be provided in future periods following engagement with BSC.

**4.3 12-week look-ahead**

Milestones	Actual / current forecast date
1A Complete Victoria bridge temporary utility diversions	12-Aug-09A
1A Complete Tower bridge temporary utility diversions	12-Aug-09A
1B Complete Utility diversions Foot of the Walk to Balfour Street	17-Aug-09
6 Depot Access Roads – Track & Stabling	17-Aug-09
7 Gogar Culvert No.1	17-Aug-09
5B Trackworks Bankhead to Edinburgh Park Stn	24-Aug-09
7 Gogar Culvert No.3	24-Aug-09
7 Gogarburn bridge beams	25-Aug-09
6 – Depot Building Foundations	31-Aug-09
1B Complete Utility diversions Balfour Street to McDonald Road	03-Sep-09
1D Complete Track works Lothian Rd junction	14-Sep-09
6 – Depot Building Steelwork	21-Sep-09
7 Complete Utility diversions Ingliston Park and Ride to Airport	25-Sep-09
1A3 Commence Temporary Platforms and Demolition Tower Place bridge	28-Sep-09
5B Trackworks Balgreen Rd Saughton Road North	28-Sep-09
5B Trackworks Saughton Rd to Bankhead	28-Sep-09
2A S19 Haymarket viaduct re-commences	02-Oct-09
2A Track works Haymarket to Roseburn Junction	02-Oct-09

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1B Recommence road works Leith Walk Ch 100-350m	05-Oct-09
5A S20 Russell Road bridge	23-Oct-09
5A W3/W4 Russell Road retaining walls	26-Oct-09
1C1 Complete Utility diversions McDonald Road to Picardy Place	28-Oct-09
1D Complete Utility diversions Haymarket to Shandwick Place	15-Nov-09
5A Demolition of Wanderers Clubhouse	16-Nov-09
1C2 Complete Utility diversions Picardy Place to St Andrew Sq	25-Nov-09
1C Complete track installation on Princes Street*	25-Nov-09

## 5 Risk and opportunity

### 5.1 Review of risk register

#### Summary

There were nine risk reviews held in the period. Four items were close on the Infraco concerns register and three risks closed on the Project Risk Register. There were fourteen risk draw downs approved in the period totaling £7,507,036. These are detailed later in this report. This leaves a risk and contingency balance of £9,512,072 (based upon the approved Project Risk Allowance at Financial Close).

#### Risk and Opportunity Reviews

The following reviews took place in the period:

Date	Format of review	Attendees	Comments
22/7/09	Change and Risk Review	Project Risk Manager Infraco QS Cost Control Manager	Review of current and proposed changes against risk allowance
30/7/09	Project Risk Register Review	Project Risk Manager Infraco Director Deputy Project Director	All Risks and Treatment Plans Reviewed
10/8/09	Mudfa Risk Review	Project Risk Manager Mudfa Commercial Manager	Risks and Treatment Plans Reviewed
10/8/09	Roads and Drainage Risk Review	Project Risk Manager Project Manager	Risks and Treatment Plans Reviewed
10/8/09	Princes Street Risk Review	Project Risk Manager Project Manager	Risks and Treatment Plans Reviewed
11/8/09	Structures Risk Review	Project Risk Manager Project Manager	Risks and Treatment Plans Reviewed
11/8/09	Signalling, Communication and Control (SCC) Risk Review	Project Risk Manager SCC Project Risk Manager	Risks and Treatment Plans Reviewed
11/8/09	Network Rail Risk Review	Project Risk Manager NR Project Manager	Risks and Treatment Plans Reviewed
12/8/09	High-level Infraco Risk Review	Project Risk Manager Infraco Director	Risks and Treatment Plans Reviewed

**Risk Register**

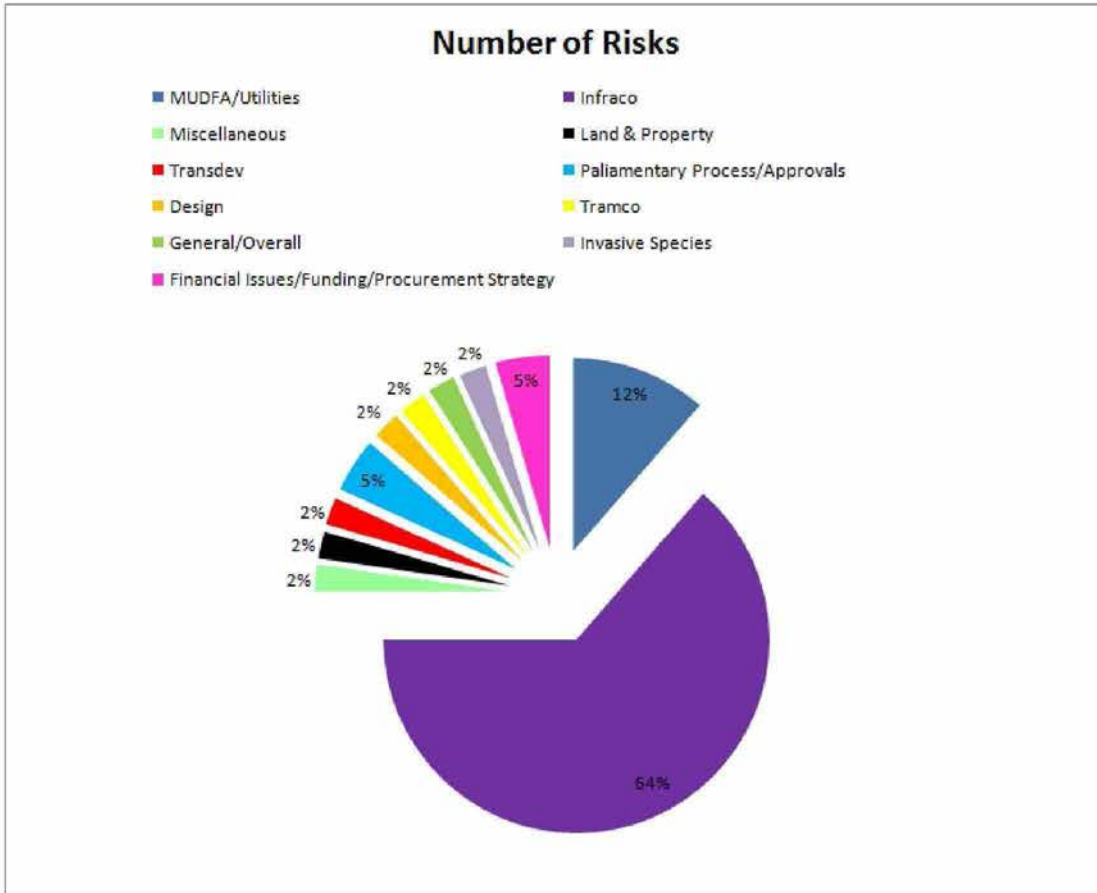
The Primary Risk Register is attached at Appendix D. The Primary Risk Register contains those high impact risks which are impacting (or have the potential to impact) the project at this moment in time. In addition, the potential risks identified in regard to programme slippage are being reviewed periodically and will form part of the updated QRA. There are 44 risks in the risk register. The top five project risks are listed on the following pages.

## Top 5 Risks - Period 05 2009/10

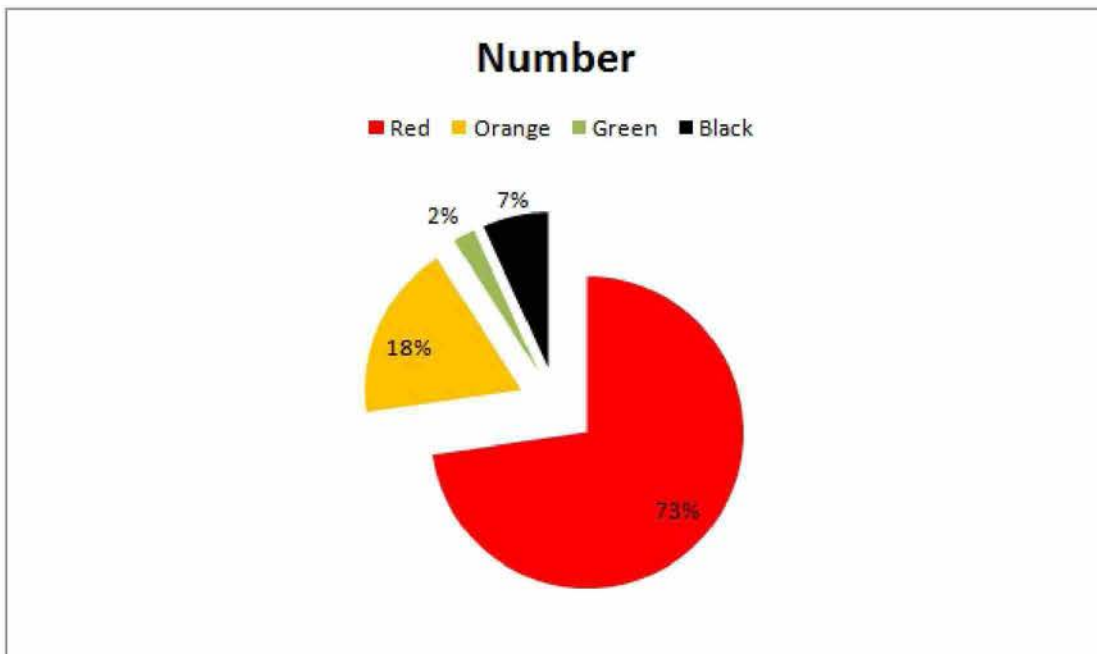
Risk Description										
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
343	General delay to programme with various causes e.g. failure to obtain approvals on time; parliamentary processes, contractor issues.	Delay to completion of project	Increased out-turn cost due to delay plus revenue loss	S Bell	High - 25.00	DRP on programme management (EOT1)	N/A	On programme	30-Jul-09	S Bell
						Liason between tie/BSC programme managers	On Programme	On Programme	30-Dec-11	T Hickman
						Programme Management Panel process	On Programme	On Programme	30-Dec-11	F McFadden
						Weekly tie/BSC commercial meetings	On Programme	On Programme	30-Dec-11	M Paterson
1077	Base Date Design Information to Issued For Constructions (BDDI-IFC). Lack of visibility of design changes between November 2007 and May 2008	Tramworks price based on a design which may have been altered. Unclear who authorised design change.	Additional cost and programme delay	R Bell	High - 25.00	Establish a process which will act as a control mechanism for design changes.	Complete	Complete	30-Jun-09	T Glazebrook
						Intensive Mediation Marathon 29/6/09 to 6/7/09 to try and resolve issues.	Complete	Complete	30-Jun-09	S Bell
						Mediation resulted in no overall agreement on BDDI - IFC although it gave useful background information. Strategy paper to be presented to TPB on 29 July to seek approval for way forward including utilising necessary contract mechanisms (DRP, audit etc)	Complete	Complete	14-Aug-09	S Bell
						Resolution Strategy approved - 1st DRP to go 10th August. Audit requests to BSC for information going w/c 3.8.09	Complete	Complete	10-Aug-09	S Bell

1091		Excavation of soft, unsuitable material below Earthworks outline	Additional cost	F McFadden	High - 25.00	Donaldsons to carry out surveys	Complete	Complete	30-Jul-09	C Neil
						Extent of soft ground being investigated. External specialist advice deployed.	On Programme	On Programme	31-Dec-09	M Paterson
1101	Unreasonable behaviour of BSC commercial management	Unrealistic estimates being submitted for potential changes	Programme delay while disputes regarding estimates are resolved	F McFadden	High - 25.00	Additional resource from T&T	Complete	Complete	30-Jul-09	M Paterson
						Agreed with BSC for independent evaluation to get benchmark	Complete	Complete	30-Jul-09	M Paterson
						All estimates to be scrutinised by the commercial team and, where appropriate, challenge made to BSC. Additional resource (T&T) being used to check estimates to reduce delay.	On Programme	On Programme	30-Dec-10	M Paterson
1094		Roads throughout works require full depth reconstruction	Programme impact plus additional costs. £1.5m cap applies to only 4 areas. Total exposure estimated at £3m	F McFadden	High - 24.00	Carry out surveys to confirm extent of roads requiring full depth reconstruction	Complete	Complete	30-Jun-09	C Neil
						Suite of options from surveys to be reviewed and agreement reached	On Programme	On Programme	31-Oct-09	M Paterson

The risks within the Project Risk Register are categorised below.



The ratings of the risks are illustrated below.



**New risks and concerns**

The Project Risk Manager, in conjunction with the relevant director, agrees which concerns are escalated to risks and are added to the Project Risk Register. New risks are discussed in section 5.3.

The following concerns were closed on the Infraco Concerns Register:

Discipline	Risk description			
	Risk Number	Cause	Risk Event	Effect
Structures	30	Utilities delay in diversion works of BT services	South Gyle Access Bridge: BT diversions are not completed to meet Infraco programme to allow construction of west abutment of bridge.	Delay and disruption to programme.
Structures	31	Utilities delay in diversion works of BT services	Bankhead Drive Retaining Wall: BT and Easynet diversion work not completed till end Jan 09	Delay and disruption to programme.
General	48	Utilities do not finish diversion works prior to Tramworks commencing work	Tramworks are unable to commence work or work is delayed/disrupted (ARM ID 1076)	Delay and disruption claims from BSC.
Structures	90	Additional diversion works required at A8 underpass phase 1 and 2	Delay to BSC construction of A8 underpass	Delay to programme, extension of time claim. Additional costs.

The following three risk were closed on the Project Risk Register:

ID	Event	Activity Name	Risk Impacts			RR	Significance	Owner
1080	Leith Walk embargo causes delay to construction and utility diversion works.	7.3 Infraco	Possible	NIL	Major	18.0	High	C Neil
1081	Princes Street works take longer than programmed due to one lane being kept open.	7.3 Infraco	Possible	NIL	Major	18.0	High	C Neil
1093	Movement below track support zone	7.3 Infraco	Frequent	Minor	NIL	15.0	High	F McFadden



## 5.2 Risk action plan for next three periods

The following treatment plans are due for completion in the next three periods.

Action Owner	Risk ID	Action ID	Action Name	Due	Active	Complete	Late	Next 3 periods
A Hill	164	42	In conjunction with MUDFA, undertake trial excavations to confirm locations of utilities and inform designer. All complete but section 1A1 and York Place to Picardy Place outstanding.	30/10/2009	Yes	No	No	Period 8
A Hill	139	42	In conjunction with MUDFA, undertake trial excavations to confirm locations of utilities and inform designer. All complete but section 1A1 and York Place to Picardy Place outstanding.	30/10/2009	Yes	No	No	Period 8
B Campbell	999	656	Bus concessionary fare support scheme currently under review. New proposals for bus and tram will be submitted in autumn 2009.	30/10/2009	Yes	No	No	Period 8
C Kerr	932	362	tie/TSS to undertake assurance review as necessary	30/10/2009	Yes	No	No	Period 8
C Neil	1078	647	Engagement between tie and BSC at different levels. Regular review of BSC management of third parties as per Employers Requirements.	31/10/2009	Yes	No	No	Period 8
D Burns	869	644	Length of Line 1a to be re-surveyed on regular basis	30/10/2009	Yes	No	No	Period 8
D Sharp	44	467	Weekly meetings of Approvals Task Force	30/10/2009	Yes	No	No	Period 8
D Sharp	279	634	Weekly meetings of Approvals Task Force	30/10/2009	Yes	No	No	Period 8
D Sharp	271	559	Assure the quality and timing of submissions	31/10/2009	Yes	No	No	Period 8
D Sharp	271	637	Weekly meetings of Approvals Task Force	31/10/2009	Yes	No	No	Period 8
G Barclay	1084	654	Assess TM Implications to minimise enabling works and additional cost	31/08/2009	Yes	No	No	Period 6
G Barclay	1085	655	Where applicable pursue third party funding	31/08/2009	Yes	No	No	Period 6
G Barclay	139	664	Solution to be developed to manage the issue of the underground structures at Picardy Place and Lothian Rd and the cellar in York Place.	31/08/2009	Yes	No	No	Period 6
I Clark	914	573	SDS to obtain consent for design in accordance with programme requirements - Scottish Water and all Telecoms. Complete with the exception of section 1A1	30/10/2009	Yes	No	No	Period 8
M Blake	911	628	Liase with Scottish Power to agree and approve method of crossing tunnel	30/09/2009	Yes	No	No	Period 7
M Blake	914	557	SDS to obtain consent for design in accordance with programme requirements - SGN and Scottish Power. Complete with the exception of section 1A1	31/10/2009	Yes	No	No	Period 8
M Paterson	1094	673	Suite of options from surveys to be reviewed and agreement reached	31/10/2009	Yes	No	No	Period 8
S Clark	977	682	TRO strategy approved by board, discussion to be held with CEC head of transport to reduce risk of legal challenge.	31/10/2009	Yes	No	No	Period 8
T Glazebrook	932	365	Undertake regular liaison during Immunisation Works design development (attend progress meetings with NR contractor)	30/10/2009	Yes	No	No	Period 8

## 5.3 Cost Quantative Risk Analysis

The Project Risk Allocation has reduced by £7,507,036 in the period. All draw-downs are shown in the table below. The current Project Risk Allocation (based on the approved budget) is £9,512,072.

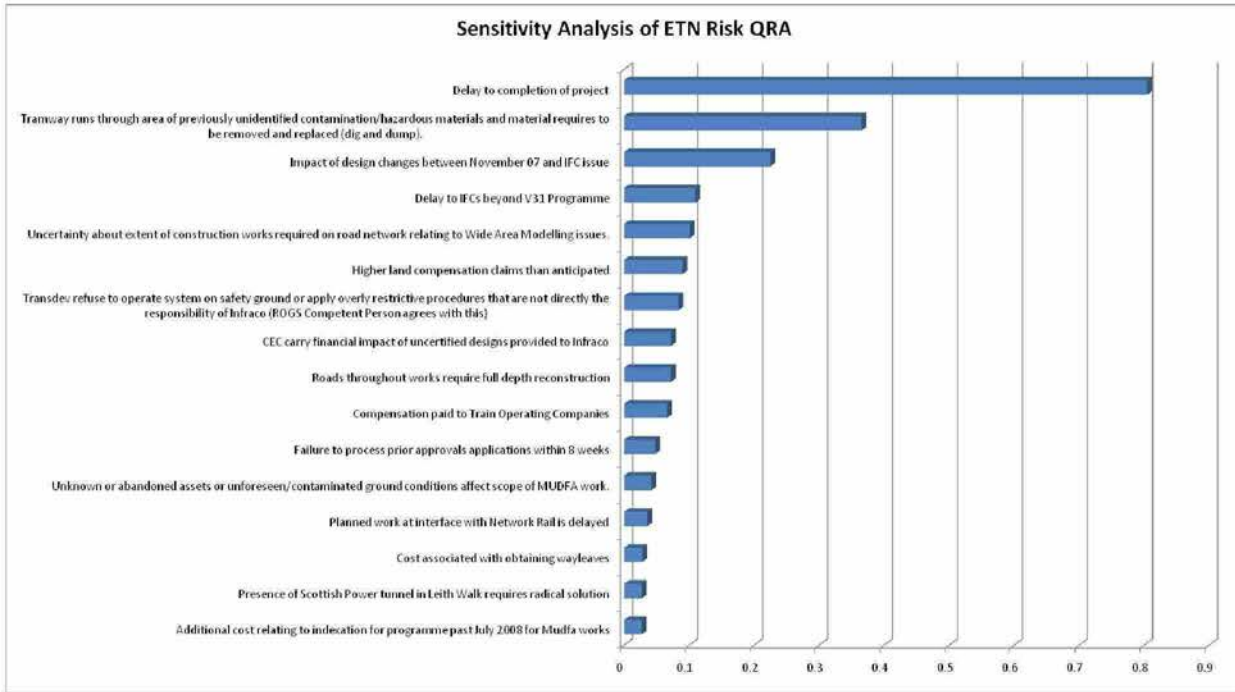
All existing risks, as well as those recently added, are being reviewed to ensure the QRA output is as accurate as is reasonably possible. It is accepted that the additional risks and increase in QRA output are currently unapproved. These are within the unapproved range in costs provided to TS on 26<sup>th</sup> May. tie will continue to report on the risk allocation at Financial Close until a new budget (with an updated QRA) is approved.

Risk drawdown

The following table includes the approved drawdown applications on the project risk allocation in Period 5.

Description	Owner	Value (£)
Depot Steelwork and Foundations	Mike Paterson	£318,155
Stray current monitoring	Colin Kerr	£89,596
Mudfa Risk Drawdown	John Casserly	£6,761,000
Utility Design Changes	Damian Sharp	£44,223
South Gyle Access Bridge Option 4	Mike Paterson	£72,604
Murrayfield Stadium Retaining Wall Patterned Finish	Mike Paterson	£3,243
Murrayfield Tram Stop Design	Mike Paterson	£32,648
Redesign Gogarburn Retaining Wall	Mike Paterson	£48,620
Design Alternative to Haymarket Junction	Mike Paterson	£52,168
Gogarburn Retaining Wall Finish	Mike Paterson	£4,999
Shandwick Place CEC Preferential Treatments	Mike Paterson	£56,900
Shandwick Place CEC Preferential Treatments	Mike Paterson	£15,001
Balgreen Road Bridge Amending Technical Design	Mike Paterson	£2,894
Gogar Roundabout Lighting	David Carnegie	£4,985
	<b>Total</b>	<b>£7,507,036</b>

Sensitivity analysis of approved cost QRA.



The above chart highlights those component risks which are correlated most closely with the overall risk allocation. These risks are the ones which, if changed in terms of probability or impact, would have the most significant effect on the final output.

**5.4 Schedule QRA**

tie is currently working with the supplier of Active Risk Manager (ARM – the risk management software which tie uses) with a view to integrating Primavera and ARM so that a schedule risk analysis can be developed. A schedule QRA will be created following agreement of the recalibrated programme.

## 6 Health, safety, quality and environment

### 6.1 H&S accidents and incidents, near misses, other or initiatives

HS&E ACCIDENTS and INCIDENTS SUMMARY											
Total	Total Hours	>3 day	Major	Injury	NM/Unsafe Condition	Service Damage	ENV	RTA	MOP	AFR	SFR
Period	108,377	0	0	2	14	8	2	0	5	0.00	7.38
13 period rolling	1,551,754	1	3	35	215	191	3	16	67	0.26	12.31



There have been no reportable accidents during Period 5. The Accident Frequency Rate remains at 0.26 for the 13 period rolling hours worked. Service strike frequency has decreased for the period from 13.4 (P4) to (7.4) P5, however, there has been an increase in service damage caused by Front Line Construction and Farrans during the period. There has been an increase in the number of “near misses” reported during Period 5, this appears mainly due to increased vigilance by **tie** staff as opposed to improved reporting from the contractors.

Joint inspections between **tie** and BSC are highlighting and addressing issues with Pedestrian and Vehicle segregation, Housekeeping and Security and Excavations. Action has been taken by BSC to target these areas through increased awareness, tool box talks and risk assessment.

An inspection on CoCP compliance has been introduced by **tie** over the last 2 periods. **tie** HSQE and project management have carried out 413 observations, of which there were 57 breaches noted. The average score for the inspections carried out was 88% compliance. Main issues noted were; Contractor not parking in designated areas and Public signs with 0800 number not displayed in prominent area.

Specific walkabouts have been undertaken with the emphasis on pedestrian safety prior to the Edinburgh Festival. Trends have highlighted potential slips and trips from the installation of temporary traffic signal cable. BSC are addressing the issue with Siemens and Class One.

There is a concern regarding the lack of progress of Handover Packs to the Statutory Utility Companies from Carillion/**tie**. This is being addressed but diminishing resource and knowledge and lack of perceived importance from the contractor is hindering the process.

There was an alleged incident involving an MOP who claimed to have suffered Carbon Monoxide poisoning as a result of MUDFA works venting gas during the abandonment of a gas main. The operation of venting the existing gas pipe was planned and controlled in a safe manner in conjunction with SGN. This incident was investigated by **tie**. **tie** have concluded that this operation could not have resulted in Carbon Monoxide poisoning. Report is being compiled. Letter to be written to MOP confirming findings.

### 6.2 Environment

There were two environmental incidents reported during period 5, one of which was significant. The significant incident occurred at the site set up at Gogarburn. Farrans, working for BSC lost approximately 200 ltrs of diesel due to a leaking pipe from a bunded diesel tank to a generator. The leaking pipe was out-with the bund and fuel leaked into the ground over a 1 week period until it eventually reached the burn and was noticed. The incident has been reported to SEPA and a full report is awaited from BSC. **Possible risk of contractor prosecution.**

**6.3 Deliver a Safe Tram (Quality)**

Section	Activity	Data Checked					
		Interdisciplinary Design Check	Hazards	Inspection and Test Plan System	Design Variation/Change	As Built	Asset Register
Princes St	Drainage	0.5	0.5	1	0.5	1	1
Princes St	Formation Imp Level	0.5	0	1	0.5	1	0.5
<b>Period 5</b>	<b>Total (y)</b>	1	0.5	2	1	2	1.5
	<b>Max Possible Total (y)</b>	2	2	2	2	2	2
<b>Period 3, 4 &amp; 5</b>	<b>Average Compliance to date</b>	21%	69%	83%	50%	79%	75%

Key - Y = Evidence exists (1) N = No evidence exists (0) NA = Not applicable (-) P = Part evidence in place (0.5)

Action taken from Period 3 – Formal response received from BSC in reply to letter sent by tie. Letter details measures taken by BSC to help mitigate the risk of partial IDC and refers to forthcoming internal workshops. Letter also states BSC’s commitment and aligned goals to tie’s “Deliver a Safe Tram” strategy.

Period 5 “Deliver a Safe Tram” inspection metrics were carried out on 2 activities in Princes Street, these activities involved Drainage and the Formation Improvement Layer beneath the track-form. Results for these 2 activities have shown slight improvement from the last period.

Of the 2 activities checked, both show partial evidence of having gone through BSC’s Inter-Disciplinary Check process, however, this was still only ad-hoc through CVI’s and SDS internal IDC process as opposed the full BSC process. However, there is evidence of improvement in this area.

This periods inspections have highlighted that 3 out of 4 hazards identified in the BSC Hazard Log linked to the 2 construction activities have not been mitigated / closed before construction had commenced. BSC will be formally requested to provide information detailing status of proposed mitigation. Mitigation may have been carried out and hazard log may not yet have been updated. *To be confirmed during Period 6.*

Inspection and Test Plans, the contractors’ process for quality control during construction appeared to be to a good and acceptable standard. The correct revision of ITP for reinforced concrete pour and drainage was being used. Full evidence was in place for both activities.

Changes to design on site were backed up by technical queries from BSC to SDS, however there was no evidence to show if the change had been assessed for the need to go through the IDC process. This is still outstanding from previous inspections. A presentation from BSC is taking place to tie regarding design change management in September.

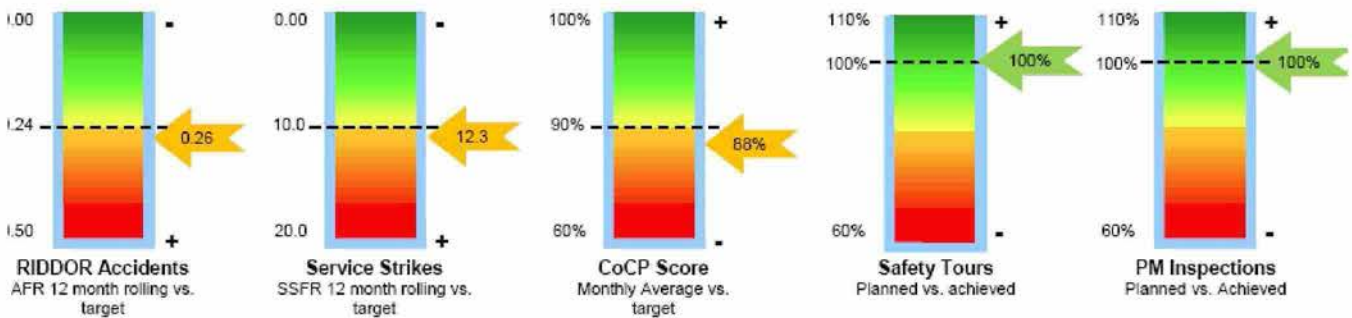
Evidence that as-built information was being recorded and stored in the appropriate way to facilitate future records and the Asset Register was provided during the inspections.



Deliver the Tram Safely

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HS&E ACCIDENTS and INCIDENTS SUMMARY											
Total	Total Hours	>3 day	Major	Injury	NM/Unsafe Condition	Service Damage	ENV	RTA	MOP	AFR	SFR
Period	108,377	0	0	2	14	8	2	0	5	0.00	7.38
13 period rolling	1,551,754	1	3	35	215	191	3	16	67	0.26	12.31
Carillion	Total Hours	>3 day	Major	Injury	NM/Unsafe Condition	Service Damage	ENV	RTA	MOP	AFR	SFR
Period	33,986	0	0	2	9	4	0	0	4	0.00	11.77
13 period rolling	725,415	1	2	21	159	167	0	16	57	0.41	23.02
BSC	Total Hours	>3 day	Major	Injury	NM/Unsafe Condition	Service Damage	ENV	RTA	MOP	AFR	SFR
Period	56,347	0	0	0	5	1	2	0	1	0.00	1.77
13 period rolling	604,406	0	1	11	50	19	3	0	7	0.17	3.14
Other Tram	Total Hours	>3 day	Major	Injury	NM/Unsafe Condition	Service Damage	ENV	RTA	MOP	AFR	SFR
Period	3,079	0	0	0	0	3	0	0	0	0.00	97.44
13 period rolling	9,279	0	0	1	1	5	0	0	1	0.00	53.89



**EXECUTIVE SUMMARY**

- There have been no reportable accidents during Period 5. The Accident Frequency Rate remains at 0.26 for the 13 period rolling hours worked.
- Service strike frequency has decreased for the period from 13.4 (P4) to 7.4 (P5), however, there has been an increase in service damage caused by Front Line Construction and Farrans during the period.
- There has been an increase in the number of "near misses" reported during Period 5; this appears mainly due to increased vigilance by **tie** staff as opposed to improved reporting from the contractors.
- A significant environmental incident occurred during Period 5 with diesel leaking from a contractors generator and entering a watercourse. See Key Issues for further information. **Possible risk of contractor prosecution.**
- Joint inspections with BSC are highlighting and addressing issues with Pedestrian and Vehicle segregation, Housekeeping and Security and Excavations. Action has been taken by BSC to target these areas through increased awareness, tool box talks and risk assessment.
- A large number of CoCP observations have taken place over periods 4 and 5 by **tie** HSQE and project management. Out of 413 observations there were 57 breaches noted and an average score of 88% compliance was achieved. For more information see Appendix B

	<h1>Deliver the Tram Safely</h1>
	<h2>Company Report – Period 05<sub>09/10</sub></h2>

HS&E INSPECTIONS SUMMARY <small>(a summary of significant inspection findings can be found in appendix B)</small>			HS&E KEY ACHIEVEMENTS
Project Running Totals	HS&E Tours	HS&E PM Inspection	CoCP briefings carried out by <b>tie</b> to all BSC operatives on Princes St. Temporary handover of pedestrian areas in Princes St, Castle St, Fredrick St and The Mound – agreed with <b>tie</b> and CEC. Service Strike Frequency Rate has decreased for BSC and Carillion sites this period so far. Commenced significant data collection on CoCP breaches. <b>tie</b> and BSC collecting information.
Number planned	6	13	
Number achieved	6	13	
Average Score		88%	

HS&E KEY ISSUES/ AREAS OF CONCERN/ GENERAL NOTES
<ul style="list-style-type: none"> <li>Significant Environmental Incident at Gogarburn. Farrans, working for BSC lost approximately 600 ltrs of diesel due to a leaking pipe from a banded diesel tank to a generator. The leaking pipe was out-with the bund and fuel leaked into the ground over a 1 week period until it eventually reached the burn and was noticed. The incident has been reported to SEPA and a full report is awaited from BSC. FIRST REPORT REJECTED.</li> <li>Possible Dangerous Occurrence involving Carillion man access into a confined space. The operative dropped approximately 1m whilst attached to the winch. Awaiting investigation report from GAP (Gordon Anderson Plant) on the possible failure of the man winch. – POST INVESTIGATION NOTE, confirmed that there was no fault with equipment, incorrect equipment used.</li> <li>A near miss reported from Carillion that the hand break on a compressor failed during an attempt to couple it to a dumper. The compressor rolled down a slight incline for about 5m and came to rest in a trench. Report has revealed that operative did not engage handbrake. Tool box talk carried out with ops.</li> <li>There have been a number of health and safety issues with Farrans at Burnside Rd. Farrans are contracted direct to <b>tie</b> at this location. Work was stopped by <b>tie</b> on 12<sup>th</sup> August until specific tool box talks were given to the subcontractors operatives by Farrans. Further inspections, visits and discussions are ongoing with Farrans.</li> <li>Specific walkabouts have been undertaken with the emphasis on pedestrian safety prior to the Edinburgh Festival. Trends have highlighted potential slips and trips from the installation of temporary traffic signal cable. BSC are addressing the issue with Siemens and Class One.</li> <li>CUS HSQE Manager has left the project and Carillion. CUS Quality Manager has resigned and will be leaving the project in Period 6. <b>tie</b> will confirm with Carillion the appropriate cover required.</li> <li>Lack of progress of Handover Packs to the SUC's from Carillion/<b>tie</b>. is a concern. This is being addressed but diminishing resource, knowledge and lack of perceived importance from the contractor is hindering the process.</li> <li>There was an alleged incident involving an MOP who claimed to have suffered Carbon Monoxide poisoning as a result of MUDFA works venting gas. The operation of venting the existing gas pipe that was to be abandoned was planned and controlled in a safe manner in conjunction with SGN. <b>tie</b> have investigated the incident and concluded that this operation could not have resulted in Carbon Monoxide poisoning.</li> </ul>

SIGNIFICANT RISKS FOR THE NEXT PERIOD	
RISK	ACTION
<ul style="list-style-type: none"> <li>Edinburgh Festival – increased number of members of the public within the City of Edinburgh.</li> <li>BSC blacktop works in Princes St. – increase in traffic, pedestrian interface and traffic management on site.</li> <li>Handover of a section of permanent reinstated areas in Princes St. by BSC to <b>tie</b>/CEC.</li> <li>Foundations for the Depot starting mid August – New contractor for BSC, Barr Construction.</li> <li>Edinburgh Park structural concrete pours to bridge, being carried out under possession.</li> <li>Raynsway are the new contractor starting direct to <b>tie</b> for the construction of the Burnside Road diversion.</li> <li>Continuation of Handover and As-builts from Carillion to <b>tie</b>/CEC</li> </ul>	<ul style="list-style-type: none"> <li>Specific inspections have been carried out by <b>tie</b> and the contractor regarding access and security.</li> <li>Method Statement and Risk Assessment to be requested from BSC and reviewed by <b>tie</b>.</li> <li>Handover Certificate format and process to be finalised with BSC, CEC and <b>tie</b>.</li> <li>Method Statement and Risk assessment to be in place by BSC/Barr, to be sent to <b>tie</b> for info.</li> <li>Specific WPP has been reviewed by <b>tie</b>.</li> <li>Raynsway have been approved by <b>tie</b> as a Principal Contractor. <b>tie</b> to review CPHSP prior to start and any high risk MS's. Prestart to be held.</li> <li><b>tie</b> are continuing to manage the process, improvements still being made to remove blockers.</li> </ul>



# Deliver the Tram Safely

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## ENVIRONMENTAL SUMMARY

List any significant environmental events, initiatives, breaches etc

- Gogarburn environmental incident – As described in Key Issues – Initial report rejected.
- A hydraulic hose burst on an excavator in Princes St. the spillage was contained successfully by BSC/ Crummocks minimizing contamination
- Additional bodies have been discovered by Carillion at Elm Row / London Road, these are being dealt with by Headland.
- All CAR licences for Gogarburn are now in place. CAR licence for Gogarburn landfill still outstanding. All other licences in place. Otter licence has been received for Burnside Rd.
- Invasive Species progress at Viking Building - Response still awaited from BSC.
- Environmental Inspections will take place towards end of Period 6 by **tie**.
- Standing water needs to be kept at a minimum at the Gogarburn Roundabout / depot site to reduce the number of birds in the area that may pose a risk to Edinburgh Airport. BSC have been instructed to control this.

## QUALITY SUMMARY

List any significant quality events, initiatives, breaches etc

- Continuing with the *Deliver a Safe Tram* Inspections. – See Deliver a Safe Tram report
- Handover information from Carillion and **tie** and infraco continue to be managed and monitored.
- NCR close outs at MUDFA – good progress has been made.
- Deliverables and ITP trackers need to be ratified with information held by BSC.
- BSC carrying out utility works, need to ensure ITP's are in place.
- BSC Design Assurance audit 17, close out of NCR's - **tie** and BSC have agreed in principal the close out of all remaining findings bar 2. Final confirmation and evidence of close out due week 4 Period 5.
- Environmental Management Plan has been submitted by BSC to **tie** period 5 for review and response.

## BEST PRACTICE SUMMARY

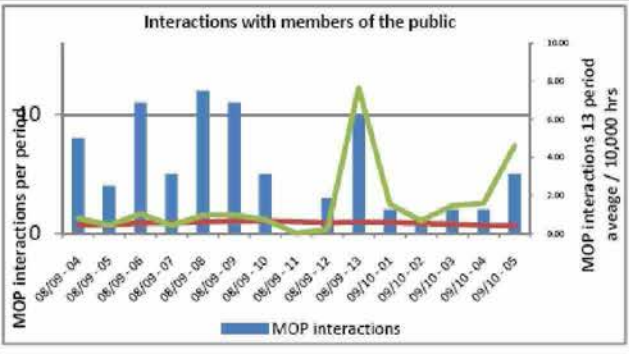
List key significant best practice initiatives

- John Derbyshire gave presentation to Farrans on Invasive Species and Protected Wildlife.
- BSC have produced a video on Edge Protection for material vehicles. Edge protection system developed by BSC. This was shown to the consortiums contractors at their regular meeting.
- **tie** have validated the operatives culture survey undertaken over the last 6 months
- BSC have produced an Occupational Health Standard for *Dust and Fumes*.

## MEMBER OF PUBLIC INTERACTION SUMMARY

List any significant interactions with members of the public, including RTA's, alleged incidents

- MOP incidents have increased slightly due to a number of claims from past periods.
- The CUS/**tie** Investigation is being finalised into the use of the "blue ramps" at pedestrian crossings after the incident involving the MOP who tripped and fell. A report will be issued Period 6.
- Increased inspections have been taking place prior to the Edinburgh festival concentrating on pedestrian safety and security.
- Two recent incidents have again highlighted poor Heras fencing resulting in torn clothing.



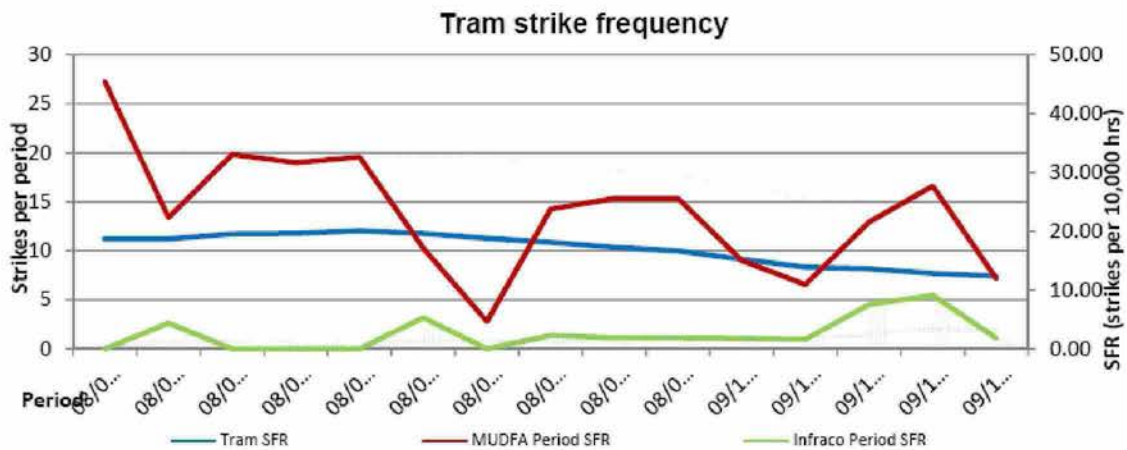
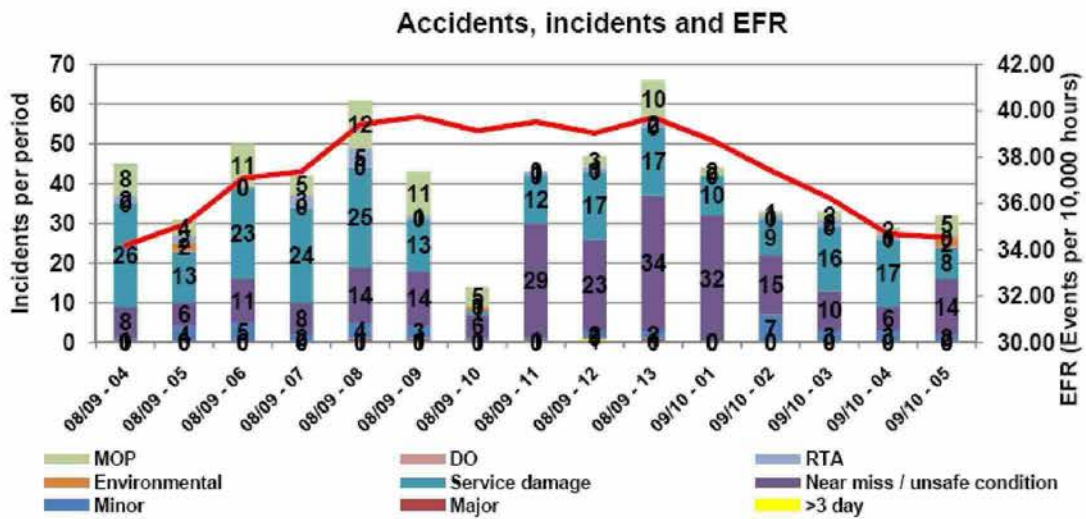




## Deliver the Tram Safely

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**GRAPHS**





## Deliver the Tram Safely

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### APPENDIX A SIGNIFICANT ACCIDENT / INCIDENT

AIIR Ref:	00854	Serious/Significant	Yes	Action taken by tie (if required):
Contr Ref:		Description:		
Project	ETN	Utility diversion being carried out with single lane working under traffic lights. 20t excavator excavating trench within the traffic management slewed slightly over the live carriageway (lights on green), missing a vehicle and shocking the driver. Incident occurred while the banksman had gone to sweep the road.		Incident report to 2 <sup>nd</sup> on-call. 2 <sup>nd</sup> On-call meeting Farrans to review incident AM 24/07/09. Plant competency certification to be checked.
Location:	Utility Diversions, Burnside Road, Edinburgh Airport			
Date & Time	16.00hrs 22/07/09			
A/I type:	Near Miss / Unsafe Condition			
tie PM:	Ian Clark	Action taken by Contractor:		
Contractor:	Farrans	Personnel re-briefed on correct methodology. Incident report to be provided by Farrans		
Sub Contr:	N/A			

AIIR Ref:	00863	Serious/Significant	Yes	Action taken by tie (if required):
Contr Ref:		Description:		
Project	Infraco	Diesel spill discovered in Gogarburn at commencement of shift. Traced to existing fire clay pipe. SEPA informed. BSC submitted method statements for remedial works to SEPA on 04/08. Permission received from SEPA on 05/08 to allow BSC to progress remedial works.		SEPA informed of immediate action plan with further investigation to follow.  tie to complete review of BSC incident investigation report
Location:	Gogarburn			
Date & Time	29/07/09 08:45			
A/I type:	Environmental			
tie PM:	Andy Scott	Booms placed in burn 29/07/09		
Contractor:	BSC	BSC environmental response team attended site to prevent further contamination.		
Sub Contr:	Farrans			

AIIR Ref:	00864	Serious/Significant	Yes	Action taken by tie (if required):
Contr Ref:		Description:		
Project	MUDFA	After installing step irons into a 3m chamber, the operative was clipped on to the winch and was being lifted approx 1m when the winch failed. The operative dropped 1m but was unhurt.		tie are awaiting Carillion report and will review upon receipt  Later reported that there was no mechanical failure. The incorrect equipment was used by Carillion.
Location:	Bankhead Drive			
Date & Time	29/07/09 – 16:30			
A/I type:	Possible DO/ Near Miss			
tie PM:	Michael Blake	Action taken by Contractor:		
Contractor:	Carillion	A 2nd winch was fitted and operative was lifted out of the chamber. Winch has been returned to the hire company for investigation and Carillion also investigating. Possibly RIDDOR reportable Dangerous Occurrence		
Sub Contr:	N/A			



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AIIR Ref:	00870	Serious/Significant	Yes	Action taken by tie (if required):
Contr Ref:		Description:		
Project	MUDFA	Heras fencing to site was opened to let out a reversing vehicle. Woman walking to cross could not wait until the vehicle had fully reversed out and decided to walk into site to get around the front of the vehicle. She tripped over the foot of a fence panel and fell.		Contractor to ensure that when any gate opened, for any reason, that an operative be present at that gate point to physically stop any pedestrian entering the site.
Location:	Union Street			
Date & Time	04/08/09 @ 10:08			
A/I type:	MOP	Action taken by Contractor:		
tie PM:	Michael Blake	Ambulance called and woman checked over by paramedics. Their assessment was that although a little shaken, she was fine with no physical injuries. No need for hospital treatment.		
Contractor:	CUS			
Sub Contr:				

AIIR Ref:	00873	Serious/Significant	Yes	Action taken by tie (if required):
Contr Ref:		Description:		
Project	MUDFA	Operative was unhitching a compressor from a dumper which was parked on an incline. Although trying to apply the brake on the compressor, the compressor moved away and rolled down the hill and it ended up in a trench.		Request a report from Carillion and review.
Location:	Jnct of London Road and Leith Walk, Edinburgh			
Date & Time	03/08/09 08:30			
A/I type:	Near Miss/ Unsafe Condition	Action taken by Contractor:		
tie PM:	Michael Blake	Carried out investigation. Delivered toolbox talks to site operatives		
Contractor:	CUS			
Sub Contr:				

AIIR Ref:	AIIR 00883	Serious/Significant	Yes	Action taken by tie (if required):
Contr Ref:		Description:		
Project	MUD BAA	Works stopped at Farrans site BBA due to sequence of recent events		Works stopped until contractor action confirmed.  tie HSQE advisor to carry out an investigation into events that lead to the stoppage of works.  Tie have met with Farrans HS advisor and will carry out joint inspections
Location:	Farrans BAA Burnside road			
Date & Time	12-08-09 at 16.45hrs			
A/I type:	Unsafe condition	Action taken by Contractor:		
tie PM:	Ian Clark	A toolbox talk will be carried out on all site personnel 13/08/09 morning reinforcing the site rules and what is required from the operatives. The PPE issue and additional PPE required for certain tasks was heavily reiterated to them along with our 3 strike policy, which has been issued to one operative this morning.		
Contractor:	Farrans			
Sub Contr:	A & C contracting			

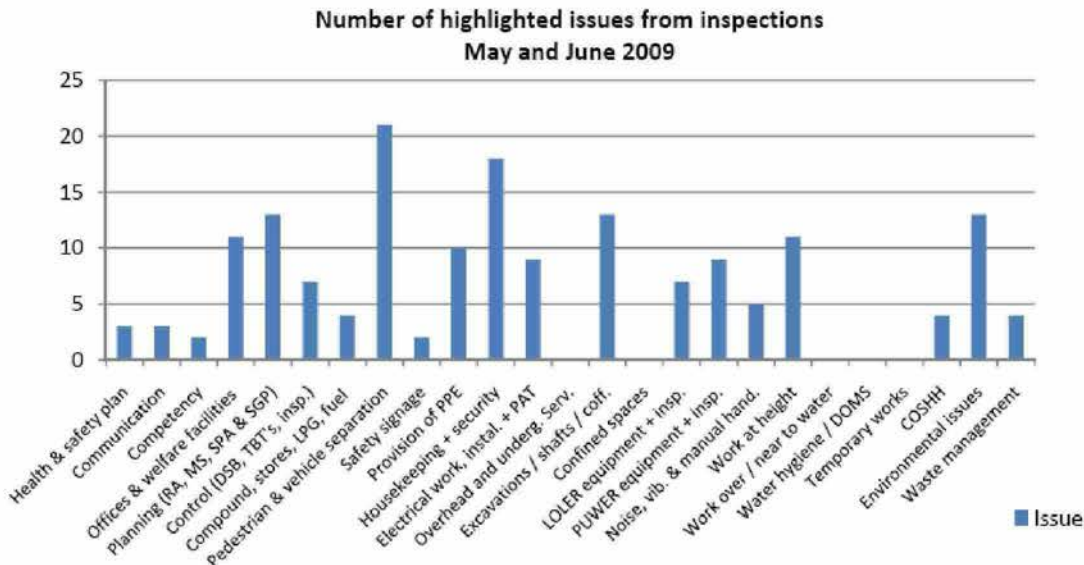


## Deliver the Tram Safely

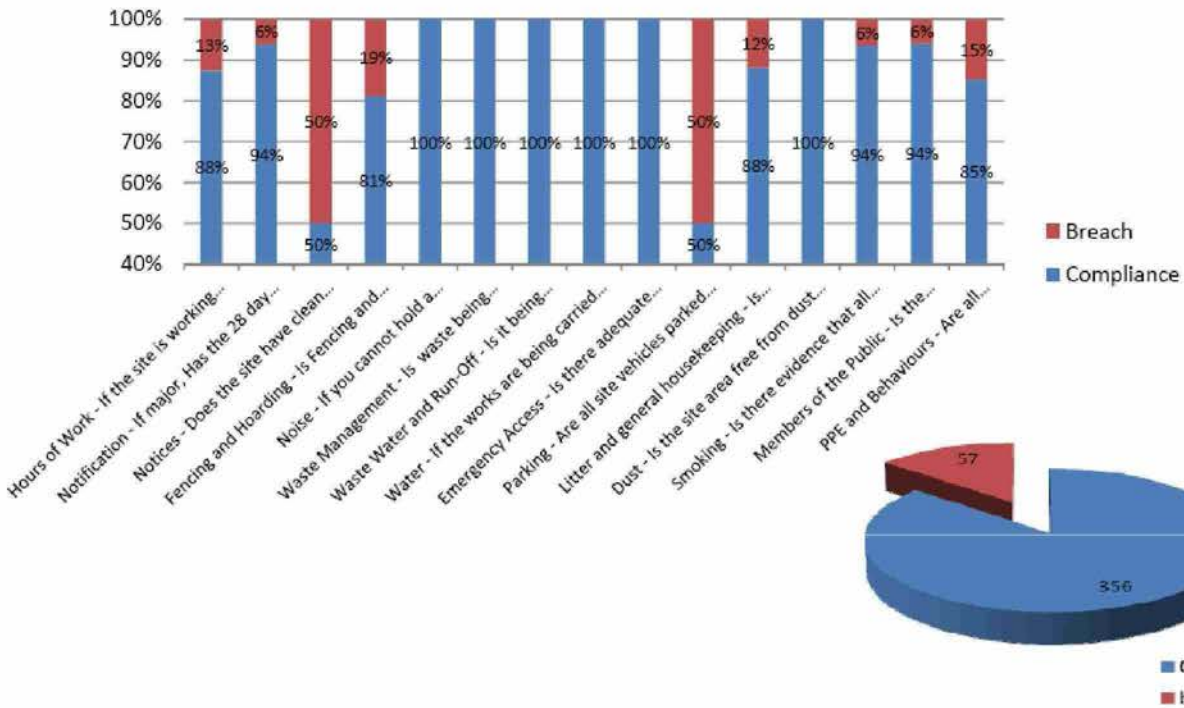
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### APPENDIX B – INSPECTIONS

#### BSC Inspection trends



#### CoCP Inspections by tie July/ August



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**APPENDIX C – SERVICE STRIKES**




**SIGNIFICANT SERVICE STRIKES**

<b>AllR Ref:</b>	00838	<b>Serious/Significant</b>	Yes	<b>Action taken by tie (if required):</b>
<b>Contr Ref:</b>		<b>Description:</b>		
<b>Project</b>	Infraco	During lifting of reinforcement exposed bus tracker cable was caught and found to be live. Bus Tracker cable was above pavement level and had previously been marked as tested and isolated.		To review BSC report when delivered
<b>Location:</b>	Princes Stret			
<b>Date &amp; Time</b>	12/07/09 1430hrs			
<b>All type:</b>	Service Strike	<b>Action taken by Contractor:</b>		
<b>tie PM:</b>	P Dobbin	BSC are carrying out an investigation with Scottish Power to confirm why cable was left live		
<b>Contractor:</b>	BSC			
<b>Sub Contr:</b>	MacKenzie			

	<h2>Deliver the Tram Safely</h2>
	<p>Company Report – Period 05<sup>09/10</sup></p>

### Appendix D Benchmarking

#### Benchmarking

Organization	AFR target (till March 09)	AFR Actual (13 month rolling)
Edinburgh Tram Project	0.24	0.26 
Carillion PLC	0.10	0.22 
Bilfinger Berger	0.25	0.36 
CECA (Civil Engineers Contractors Association)	0.28	
HSE (Health and Safety Executive)	TBC	
SWS (Scottish Water Solutions)	0.11	0.14 

The above table shows organisations target AFR until the year end and where available, their actual performance against target. For Carillion and Bilfinger Berger, the targets shown are for the UK organisation not the project.

## Deliver a Safe Tram

Company Report – Period 05

Section	Activity	Data Checked					
		Interdisciplinary Design Check	Hazards	Inspection and Test Plan System	Design Variation/Change	As Built	Asset Register
Princes St	Drainage	0.5	0.5	1	0.5	1	1
Princes St	Formation Imp Level	0.5	0	1	0.5	1	0.5
Period 5	Total (y)	1	0.5	2	1	2	1.5
	Max Possible Total (y)	2	2	2	2	2	2
Period 3, 4 & 5	Average Compliance to date	21%	69%	83%	50%	79%	75%

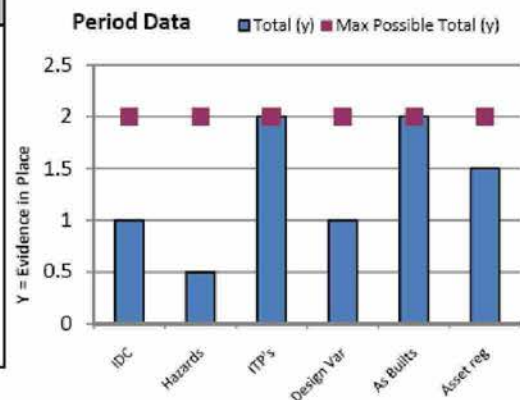
**Key - Y = Evidence exists (1) N = No evidence exists (0) NA = Not applicable(-) P = Part evidence in place (0.5)**

**1.0 Deliver a Safe Tram Key Metrics**

- Action taken from Period 3 – Formal response received from BSC in reply to letter sent by **tie**. Letter details measures taken by BSC to help mitigate the risk of partial IDC and refers to forthcoming internal workshops. Letter also states BSC’s commitment and aligned goals to **tie**’s “Deliver a Safe Tram” strategy.
- Period 5 “Deliver a Safe Tram” inspection metrics were carried out on 2 activities in Princes Street, these activities involved Drainage and the Formation Improvement Layer beneath the track-form. Results for these 2 activities have shown slight improvement from the last period.
- Of the 2 activities checked, both show partial evidence of having gone through BSC’s Inter-Disciplinary Check process, however, this was still only ad-hoc through CVI’s and SDS internal IDC process as opposed the full BSC process. However, there is evidence of improvement in this area.
- This periods inspections have highlighted that 3 out of 4 hazards identified in the BSC Hazard Log linked to the 2 construction activities have not been mitigated / closed before construction had commenced. BSC will be formally requested to provide information detailing status of proposed mitigation. Mitigation may have been carried out and hazard log may not yet have been updated. *To be confirmed during Period 6.*
- Inspection and Test Plans, the contractors’ process for quality control during construction appeared to be to a good and acceptable standard. The correct revision of ITP for reinforced concrete pour and drainage was being used. Full evidence was in place for both activities.
- Changes to design on site were backed up by technical queries from BSC to SDS, however there was no evidence to show if the change had been assessed for the need to go through the IDC process. This is still outstanding from previous inspections. A presentation from BSC is taking place to **tie** regarding design change management in September.
- Evidence that as-built information was being recorded and stored in the appropriate way to facilitate future records and the Asset Register was provided during the inspections.

**1.1 Deliver a Safe Tram – Required Action**

- Princes Street has been revisited to establish if the status of IDC has improved; there are indications that it has.
- Letter from BSC received, further letter to be written asking for information regarding the close out of the Hazard Log.
- A presentation from BSC to **tie** will be given in September regarding the BSC design change process.
- The “Deliver a Safe Tram” metrics are to be used in areas not yet under construction to test if ready to construct.
- Safety Verification Audit planned for period 6.
- Schedule of forthcoming internal IDC workshops requested from BSC by **tie**.

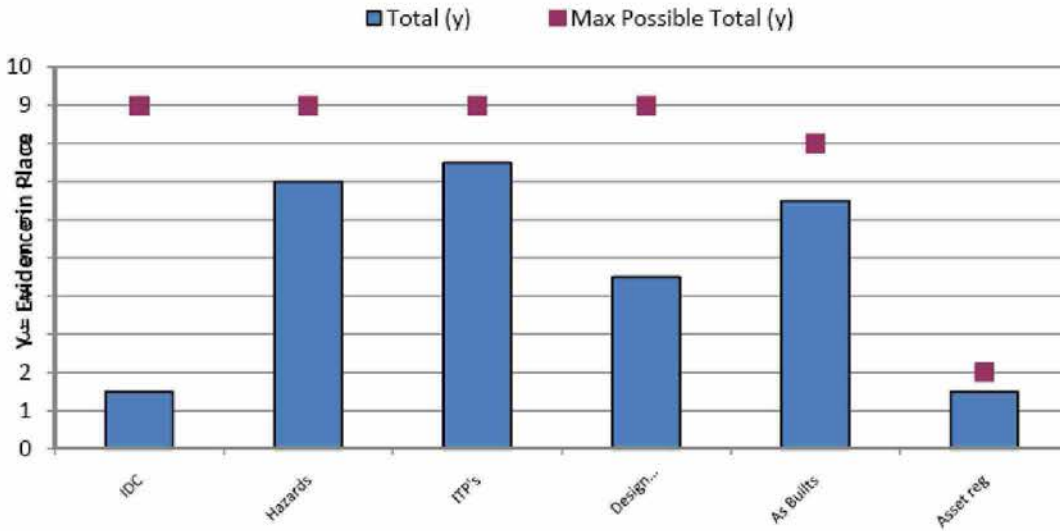




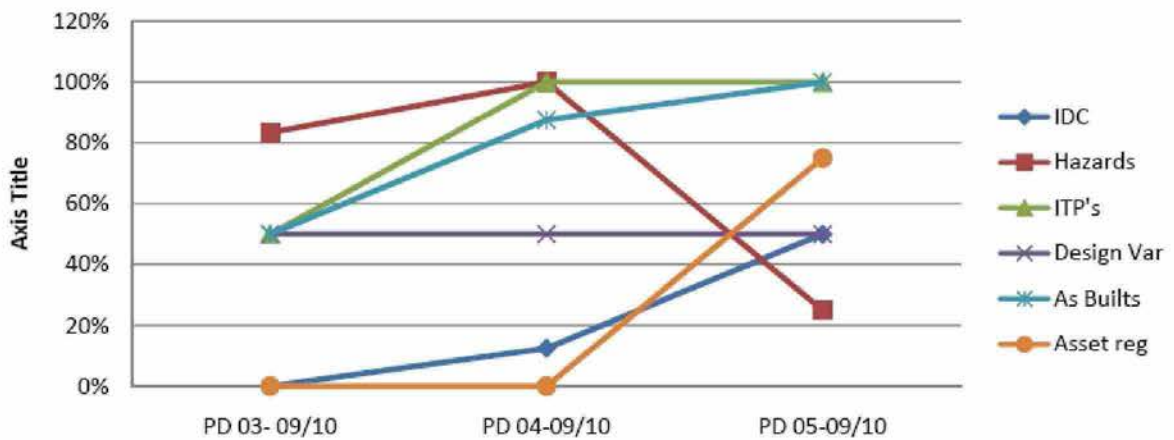
Deliver a Safe Tram

Company Report – Period 05

### Periods 3, 4 and 5 to date Data



### Period Tracker





## 7 Stakeholder and Communications

### 7.1 Media / Press Activity

The press and broadcast media has produced a mix of positive and not so positive coverage on a wide range of topics in local and national press during this reporting period.

Positive coverage has included over 100,000 visitors to the tram mock-up since February as well as some positive commentary on the back of Network Rail's Gogar Interchange announcement. We achieved some substantial positive coverage in relation to the increased crossing points across tram works and improved signage in time for the start of the festival season. We have also had various bits of coverage around the archaeological excavations taking place on small parts of the tram construction site. The Council's front page leader in Scotsman in relation to the positive economic news for the city also provided some positive coverage for the trams project.

We have also seen a rise in the number of positive letters and comments published in the press from members of the general public in relation to the trams project as well as more positive reactions from communities although there is still much work to do to redress the balance.

Less positive coverage has been dominated towards the end of this period mainly by tie and its contractors entering into the Dispute Resolution Process over a number of outstanding issues. The coverage was in the main fairly balanced with minimal criticism of tie and the project generally.

Our much closer working relationships with the Council, other partners and community stakeholders, as well as the activities of the new Account Management Team for the nine response areas (see Process Team 1.7), as well as a fully integrated approach to public relations regarding festival related matters are all showing significant signs of a positive impact in the media coverage over this period. This approach to our work will continue on an ongoing basis.

### 7.2 Customer Service Activity

Incoming correspondence during Period 5 totalled 398, a reasonably significant drop of 50 contacts compared to Period 4's total. In Period 5 phone calls (172) and face to face meetings (109) continue to make up the majority of contacts. Email correspondence made up 107 of the total contacts to the customer service team, only two behind face to face meetings. Compared to last month the difference between face to face contacts and email correspondence was greater with 17 more contacts being logged for face to face meetings. This distribution of contacts does not constitute a change in trend as phone calls, meetings and emails still stand as the main ways we are contacted compared to letters, faxes or TCA reports which only made up 10 of the 398 contacts overall.

The subject of correspondence represents a much more diverse range of areas in which the incoming contacts are placed. Information requests are the most common reason for contacting the Customer Service team with 325 of Period 5's total 398 contacts being made in search of information on our works. Information requests are lodged on a variety of issues with the majority concerning road closures or area specific works. Main issues for Period 5 were regarding Hanover Street closure and the Constitution Street water tie-ins during week 1, while Haymarket and The Mound works features more during weeks 3 and 4. Other issues also included noise, traffic lights and job opportunities on the tram project. None of these were major trends, only isolated contacts.

Compared with higher totals for Period 4, this has resulted in figures for Period 5 being lower across the board in each topic. Complaints (29) still ranked second behind Information requests as the main reason for contacts, with COCP complaints (10) coming third. Noise Vibration from diggers was a recurring complaint during Period 5 with 8 separate contacts being made on the issue. COCP Complaints feature heavily in week 4 of Period 5 with 6 complaints being made. These were regarding contractors vans being parked outside premises and on double yellow lines around the city.

One major difference from Period 4 is the volume of Insurance Claims. Claims dropped this period for 10 claims in Period 4 to only 3 in Period 5. Conversely however, Business Support and employment enquiries rose from 4 to 6 a piece despite this period's overall figures having dropped.

### **7.3 Public Information Planning**

Customer notification letters for this period included weekly Leith Walk and Constitution Street updates, two Haymarket utility and three road resurfacing works in the West End and notification for work in Saughton.

Online communication has evolved considerably over the last period, particularly with our entry into "Web 2.0" or social media networking sites such as facebook and twitter. There has been a substantial increase in visits to the tram website with 15382 hits being recorded this period against last period's 9252. This is attributable to several factors, the most significant of which is the raised public profile of our online information offerings through our facebook and twitter sites. This has both led to a significant number of people accessing our site through both of these social media networks and an increase in awareness of the [www.edinburghtrams.com](http://www.edinburghtrams.com) site. Local Updates and the Route Map remain our most popular site sections, with a significant drop in activity on our media pages, attributable to a reduction in content posted there which we will seek to address. Podcast functionality has not yet been enabled on [www.edinburghtrams.com](http://www.edinburghtrams.com) due to other priorities within the team, but this should 'go-live' shortly.

1509 visited the subscription pages for our various newsfeeds on [www.edinburghtrams.com](http://www.edinburghtrams.com). This indicates that more than 10000 people are potentially receiving RSS updates every time new content is posted on our site. It is important that updates are made frequently and regularly to sustain the flow of information to these subscribers.

It is our intention to report regularly on the metrics for our social media sites from now on. 116 people now follow our updates on twitter, with 183 'fans' registered to our facebook page. A steady and sustained increase has been noticed on both networks since they went live. Twitter alerts on traffic information, utilities work and festival navigation have drawn several 'followers' to our page, while active content such as links to useful resources, to the Edinburgh Trams website and to news articles have generated an even more significant buzz online.

Facebook has allowed us to engage in controlled dialogue with members of the online community, discussing in particular popular tram 'myths' and using external references to reinforce positive and accurate information on the tram scheme. The majority of people interacting with us on facebook are men aged between 25 and 34. 59% of our facebook 'fans' are male and 39% female. The remaining 2% have not provided facebook with this demographic information.

Facebook monitors the 'quality' of interactions based on a ten point scale. The score goes up when people interact with content and when their colleagues or friends online follow information from our page that appears on theirs. While this varies on a daily basis, our post 'quality' varies between 6.9 and 7.7 out of a possible ten points for the last period, evidence that people are engaging actively with the information we post there and spreading the information virally to their networks of contacts. To make best use of facebook, we need to actively develop content people wish to interact with. At present, video is the most popular content on our site, though the discussion boards have also prompted some significant participation.

### **7.4 Logistics**

Since Period 4 the Logistics teams, Sky Blue and SW Global, have both been reduced by one member each. In spite of this drop in manpower, the number of inbound deliveries has stayed constant at an average of 330 a week along with assisting with around 70 outbound deliveries. The number of boxes, cages, pallets and hauliers dealt with during Period 5 also remained high. Only one compliant emerged during period 5 concerning noise. This was made by a resident near an early morning deliver point. Solutions have been found for this issue and are in the process of being implemented.

### **7.5 Partner and Stakeholder Communications**

The Tramformer programme launches in schools at the end of August and presentations will be given to Primary 6 classes to recruit two children from each school.

Regular meetings with trading associations along the route continue to take place. These meetings are being held with representatives from Constitution Street traders, Leith Business Assembly, Tram Operating Group and the West End Traders Association.

Continued liaison with local traders has brought about directional signage for The Stand comedy venue for the festival. Banners have been installed on rhino fencing to support businesses on Elder Street and are being designed for businesses on Frederick Street, Constitution Street and around Haymarket. Signage for the West End Village has been redesigned and is ready to be installed.

Additionally, we have also secured an agreement with Starbucks at Haymarket to use one of their external walls for general tram advertising. This space will firstly be used to promote a Festival message. The artwork for banner and pop up stands has been updated and will be displayed at upcoming presentations and conferences.

We have been working closely with the City of Edinburgh Council prior to this year's Hearts Memorial service, which will now take place at Hearts Football Club, and continue to do so by meeting with the Hearts Memorial stakeholders regarding plans for the 2010 service.

## **7.6 Freedom of Information Requests**

During this period we have received a total of three new requests under the Freedom of Information (Scotland) Act 2002 as well as two requests for reviews from previous responses. One application to the Scottish Information Commissioner's Office for appeal which is carried forward from the last reporting period is still pending. We have responded to 13 further FOI requests for information during this period as well as one request for a review.

## **7.7 Process Team Review**

Our account management team is now fully up and running with account managers assigned to each of the nine Customer Response Areas in the City and working closely with local communities, stakeholders and partners on various activities to address community concerns.

For example in Leith, we are cooperating with a broad range of partners across the City in addressing the needs of the area. Due to the nature of the extended utility works in this area, a more hands on approach has been adopted and will continue to apply until the tramworks are well underway

Working with the Economic development team at Edinburgh City Council, we are reviewing suitable premises for a business centre which will be based within Leith Walk, initially probably for the period of one year. The core funding for this is being met jointly by these two bodies. The business centre will act as a hub of advice for the area, providing regular and accurate information on the tram based activity; acting as a centre for business advice including for example marketing and website information; Business gateway Support; Neighbourhood Partnership as well as acting as a hub for local information.

There is also a coordinated plan of rebranding for the Walk. This is being carried out through the Leith Walk and West End business coordinator. This piece of work is looking at how we can extend the I love Leith banners to introduce new billboard size signage at the location of two of the four new hotels who are coming into the Walk (this will also depict the brand of the tram); consideration of where to indicate the Leith Walk tram stop signage and using some of the vacant shop windows to display visual graphics of the image of the tram.

There has also been a series of discussions with Constitution Street as well as with some of the traders in Leith Walk about the concept for an International Area potentially including an international Food Zone.

Consideration is also being given as to how to rebrand the old depot building towards the base of the Walk. One thought for this is to look at whether it might be possible to invite some sort of community mural on the wall of the building.

## **7.8 Festival**

A range of measures are being implemented over the festivals period to ensure they can proceed as smoothly as possible while tram construction continues. These measures included:

An alternative venue for the Festival Cavalcade

Revised arrangements for the Festival Fireworks

Improved pedestrian signage for routes across Princes Street and to venues

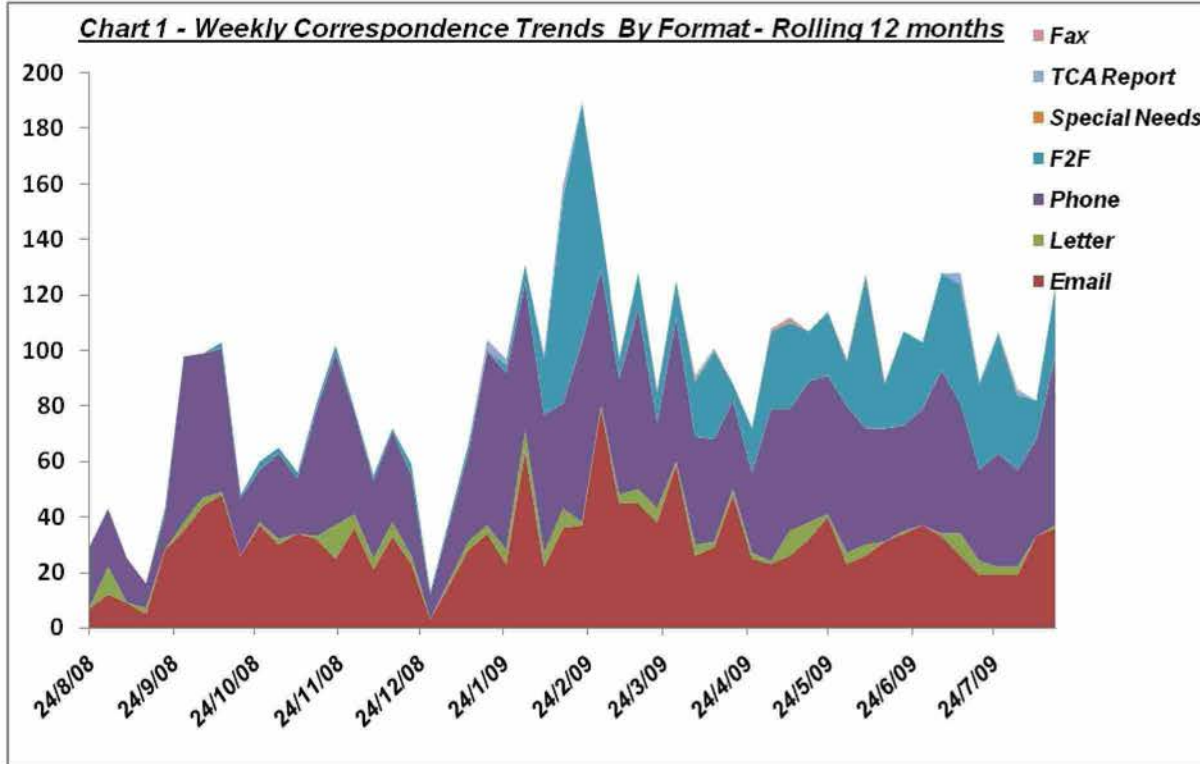
Improved tidiness of construction sites and refreshed city promotion and information

An additional publicity and city promotion campaign was undertaken by the Council along with tie Ltd, Festivals Edinburgh and Essential Edinburgh. Specific activities included the following measures;

- 140,000 copies of a special festival navigator pocket map was produced are being given out by a tram information team, Environmental Wards, Parking Attendant's and Essential Edinburgh staff throughout the city centre. The maps are also available at tourist information centres and many other key locations in the city.
- The fringe also adapted their map to include pedestrian crossings and key tram information.

- 
- A successful promotional campaign was also launched to promote use of the maps with positive messaging about the festivals and Edinburgh. This included:
  - A poster campaign welcoming visitors to Edinburgh can be seen at Edinburgh Airport, Waverley train station, Haymarket train station and Edinburgh Bus station
  - Adverts in the Edinburgh Festivals Daily Guide every day
  - Adverts on trains throughout central Scotland coming into Edinburgh.
  - A Bluetooth campaign has also been set up as a trial in conjunction with Festivals Edinburgh and DEMA. There are 12 Bluetooth boxes situated around Edinburgh. This carries the same positive messaging and users will receive an edited version of the map showing the pedestrian crossings in use on Princes Street.
  - 50 temporary directional signs were produced and installed around the city centre to ensure visitors would find venues, galleries and other attractions with ease.
  - A PR group was set involving the Council, **tie** ltd and all of the festivals to ensure a joined up approach to stories appearing in the media at this time. This has been very successful and the campaign received positive coverage in several newspapers including the Scotsman and the Evening News.
  - We are working with CEC Environmental Wardens and City Centre Posters (CCP) on festival advertising to improve the look of worksites and to eliminate fly-posting on the fencing during the festival. CCP have printed large advertising boards on behalf of venues and shows and have installed them safely along the fencing throughout Princes Street, CCP maintain all posters and fencing to ensure fly-posting does not incur. This is part of a trial with CCP which will in time be rolled out throughout the city.

**7.9 Customer Service Graphs and Figures**



**a) Monthly Customer Service Report 20/07/2009 - 14/08/2009**

Item	Volume Month	Volume (Cumulative from 21/11/08)	Performance (Month)	Performance (Cumulative)	Target Performance
Telephone response	297	2486	94	97	90% in 30 seconds
Telephone same day resolution	287	2404	96	97	Info only
Email acknowledgement	125	1293	100		100% acknowledged within 24 hours
Email response			100	99	90% resolution in 7 days
Email same day resolution	122	1170	98	90	Info only

Letter acknowledgement	5	84	100		100% acknowledged within 24 hours
Letter response			100	94	100% resolution in 7 days
Total Enquiry Volumes	427	3863			
Website update	57	732	100	100	Weekly

**b) Out of Standard/Work in Progress statement at month end 14 August 2009**

		Volume of WIP @ m/end	Oldest date	Oldest Issue	Handled By
M/e 14 August 2009	Email	1	11/08/09 (in standard)	Date for reinstatement of road	David Haxton and Tom Clark (CEC) Mandy Nelson (TIE)
	Letters	1	25/11/08 (Out of standard)	TRO Process	Alasdair Sim
	Calls	0	N/A	N/A	N/A

**c) Monthly Notifications Performance 20/07/09 to 14/08/2009 and Cumulative from 21 November 2008**

0 Major notifications

6 Minor notification – 4 for utility (all in standard) – 2 for tram works, (all in standard)

0 Emergency notifications

Notification Type		Worksite		Utilities	Tram works	Total	% in Standard
		Month	Notifications	0	0	0	
Major works	Month	In Standard	N/A	N/A	N/A	N/A	N/A
		Cumulative	Notifications	6	4	10	
	Cumulative	In Standard	0	1	1	10	
		Month	Notifications	4	2	6	
Minor Works	Month	In Standard	4	2	6	100	
		Cumulative	Notifications	43	25	68	
	Cumulative	In Standard	36	16	52	76	
		Month	Notifications	0	0	0	
Emergency	Month	In Standard	N/A	N/A	N/A	N/A	
		Cumulative	Notifications	14	0	14	
	Cumulative	In Standard	14	0	14	100	

# Appendix 'A' Detailed cost report

Headline Financial Information	Edinburgh Trams	FY 09/10	Period Nr:	5
				£m

**FY 09/10: Demand on TS** 137.692

**1: HEADLINE FINANCIAL COMMENTARY**

**PERIOD (PD) RESULTS:**  
Period is for Phase 1a only. See Section 3 of the TS report for further commentary.

**YEAR TO DATE (YTD) RESULTS:**  
YTD is for Phase 1a only. See Section 3 of the TS report for further commentary.

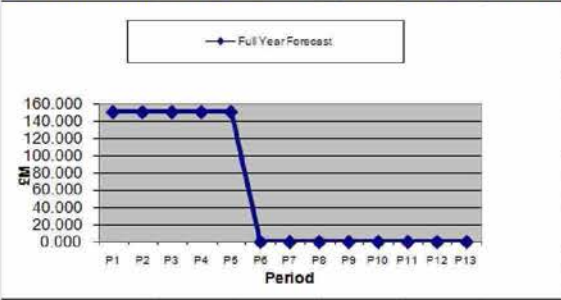
**FULL YEAR FORECAST (FYF):**  
FY 0910 is for Phase 1a only. See Section 3 of the TS report for further commentary.

**ANTICIPATED FINAL COST (AFC):**  
AFC is for Phase 1a only and includes an unapproved increase of £15M to the Project Risk allowance. This excludes £6.2M of potential Phase 1b costs and is consistent with the update sent on 26th March 2009. See Section 3 of the TS report for further commentary.

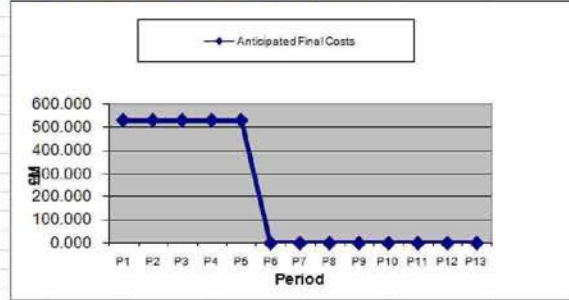
**2: SUMMARY**

	FY 09/10			FY 09/10			FY 09/10			COWD To Date Actual	Costs To Go Forecast	Total AFC Forecast
	COWD Period			COWD Year To Date			COWD Full Year Forecast					
	Actual	Budget	Variance	Actual	Budget	Variance	Forecast	Budget	Variance			
Total Project COWD	9.532	12.698	-3.166	40.319	40.877	-0.558	150.084	150.072	0.013	271.338	255.761	527.099
Other Funding	0.787	1.048	-0.261	3.329	3.375	-0.046	12.392	12.391	0.001	22.404	21.118	43.522
Demand on TS	8.745	11.649	-2.905	36.990	37.502	-0.512	137.692	137.680	0.012	248.934	234.643	483.577

GRAPH 1 - Period Trend of Full Year Forecast (FY 09/10) - Total Project Costs



GRAPH 2 - Period Trend of AFC - Total Project Costs



**3: RISK AND OPPORTUNITIES TO**

**FULL YEAR FORECAST:**  
See Section 3 of the TS report for further commentary.

**ANTICIPATED FINAL COST:**  
AFC is for Phase 1a only and includes an unapproved increase of £15M to the Project Risk allowance. This excludes £6.2M of potential Phase 1b costs and is consistent with the update sent on 26th March 2009. See Section 3 of the TS report for further commentary.

**4: ACCRUALS COMMENTARY**

**5: TOTAL PROJECT ELEMENT SPEND BREAKDOWN (Total Project Costs)**

PLANNED/EMERGING/FORECAST  
Allocated in accordance with standard WBS. Values relevant to business case or other agreed baseline data to be known as original estimate.

Relevant Baseline date: **FBC 20/12/2007**

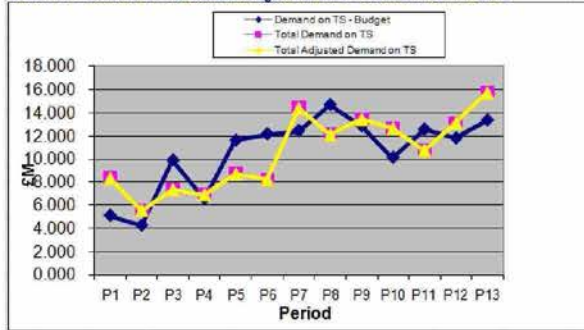
	Estimated Cost			Actual Cost/Forecast			Variance
	Total Project Costs			Total Project Costs			
	Original Estimate	Escalated Original Estimate	Escalated Latest Estimate	Cost Of Work Done (COWD)	Forecast to Completion	Anticipated Final Costs (AFC)	AFC v ELE
General Overall	28.233	28.233	29.585	25.114	4.471	29.585	0.000
Procurement Consultant	68.126	68.126	79.156	54.879	24.277	79.156	0.000
Design	23.683	23.683	29.813	27.238	2.575	29.813	0.000
Financial Issues/Funding/Procurement Strategy	2.258	2.258	2.630	2.424	0.206	2.630	0.000
Parliamentary Process/Approvals	0.329	0.329	0.319	0.319	0.000	0.319	0.000
Procurement Construction Works	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Construction Works	273.102	273.102	304.718	133.107	171.611	304.718	0.000
Testing & Commissioning	1.984	1.984	0.000	0.000	0.000	0.000	0.000
Handing Over & Services Operations	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NOP/Rail Projects Interface (Promoters View)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Interfacing Developments	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TRAMS, Vehicles (Edinburgh TRAMS Use Only)	51.370	51.370	58.470	28.258	30.212	58.470	0.000
Risk	48.974	48.974	22.409	0.000	22.409	22.409	0.000
Opportunity (Negative Value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OB/Contingency	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>498.060</b>	<b>498.060</b>	<b>527.099</b>	<b>271.338</b>	<b>255.761</b>	<b>527.099</b>	<b>0.000</b>



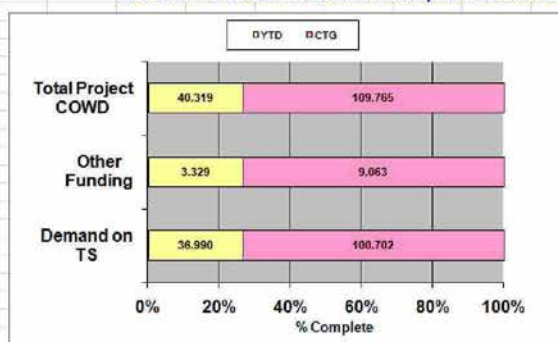
Detailed Financial Information		Edinburgh Trams										FY 09/10			Period Nr:	5
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	Total	
<b>6: Current Year 09/10 - Baseline Budget</b>																
1	Total Project COWD - Budget	5.576	4.633	10.814	7.157	12.698	13.280	13.581	16.036	14.032	11.068	13.714	12.897	14.585	150.072	
2	Other Funding - Budget	0.460	0.383	0.893	0.591	1.048	1.097	1.121	1.324	1.159	0.914	1.132	1.065	1.204	12.391	
3	Demand on TS - Budget	5.115	4.251	9.921	6.566	11.649	12.184	12.459	14.712	12.873	10.154	12.582	11.832	13.381	137.680	
<b>7: Current Year 09/10 - Actuals (Updated 4 weekly)</b>																
4	Total Project COWD + Revised Forecast	9.127	6.057	8.043	7.560	9.532	9.014	15.743	13.261	14.673	13.797	11.769	14.330	17.188	150.084	
7	Other Funding + Revised Forecast	0.754	0.500	0.664	0.624	0.787	0.744	1.300	1.094	1.212	1.139	0.972	1.183	1.419	12.392	
10	Total Demand on TS	8.373	5.557	7.379	6.936	8.745	8.270	14.443	12.157	13.462	12.658	10.797	13.147	15.768	137.692	
<b>8: Variance tracker</b>																
12	Variance Line 1 to Line 4 - Project Actual vs Budget	3.551	1.424	-2.771	0.404	-3.166	-4.266	2.163	-2.765	0.642	2.728	-1.946	1.433	2.602	0.013	
13	Variance Line 2 to Line 7 - Oth Funding Actual vs Budget	0.293	0.118	-0.229	0.033	-0.261	-0.352	0.179	-0.230	0.053	0.225	-0.161	0.118	0.215	0.001	
14	Variance Line 3 to Line 10 - Demand on TS vs Budget	3.258	1.307	-2.542	0.370	-2.905	-3.914	1.984	-2.555	0.589	2.503	-1.785	1.314	2.367	0.012	
<b>9: Next Year 10/11 - Forecast (Updated 4 weekly)</b>																
18	Total Project COWD	45.707	35.140	25.478	25.595	131.920	<b>Financial Commentary - FY 10/11 Onwards</b> All costs are for Phase 1a only and includes an unapproved increase of £15M to the Project Risk allowance. This excludes £6.2M of potential Phase 1b costs and is consistent with the update sent on 26th March 2009. See section 3 of the TS report for further commentary.									
21	Other Funding	3.774	2.901	2.104	2.113	10.892										
24	Total Demand on TS	41.933	32.238	23.374	23.482	121.027										

10: All Years (Escalated) (Updated 4 weekly)		FY 03/04	FY 04/05	FY 05/06	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FUTURE	TOTAL
26	Total Project COWD	0.000	3.093	10.664	30.431	85.852	100.979	150.084	131.920	14.072	0.004	0.000			527.099
29	Other Funding	0.000	0.000	1.000	0.019	10.287	7.769	12.392	10.892	1.162	0.000	0.000			43.522
32	Total Demand on TS	0.000	3.093	9.664	30.412	75.565	93.210	137.692	121.027	12.910	0.004	0.000	0.000	0.000	483.577

GRAPH 3 - Demand on TS: Actual/Budget Run Rate - Current Year FY 09/10



GRAPH 4 - Year to Date/ Costs to Go - % Complete - Current Year FY 09/10



11: Other Funding		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	Total
<b>Budget (Current Year 09/10)</b>															
	RAB Funding (If Applicable)														0.000
	Other Funding Stream	0.460	0.383	0.893	0.591	1.048	1.097	1.121	1.324	1.159	0.914	1.132	1.065	1.204	12.391
	Other Funding Stream														0.000
	Other Funding Stream														0.000
	Other Funding Stream														0.000
	<b>Total Budget Other Funding</b>	0.460	0.383	0.893	0.591	1.048	1.097	1.121	1.324	1.159	0.914	1.132	1.065	1.204	12.391
<b>Actual (Current Year 09/10)</b>															
	RAB Funding (If Applicable)														0.000
	Other Funding Stream	0.754	0.500	0.664	0.624	0.787	0.744	1.300	1.094	1.212	1.139	0.972	1.183	1.419	12.392
	Other Funding Stream														0.000
	Other Funding Stream														0.000
	Other Funding Stream														0.000
	<b>Total Actual Other Funding</b>	0.754	0.500	0.664	0.624	0.787	0.744	1.300	1.094	1.212	1.139	0.972	1.183	1.419	12.392

12: Promoter Full Year Forecast Run Rate (Total Project Costs)		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
Period Trend of Full Year Forecast (Current Year 09/10)														
	Full Year Forecast	150.084	150.084	150.084	150.084	150.084								

13: Promoter AFC Run Rate (Total Project Costs)		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
Period Trend of AFC														
	Anticipated Final Cost	527.099	527.099	527.099	527.099	527.099								

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## **Appendix 'B' Change control register**

**(Register and other information as volunteered or requested from delivery organisation / promoter – There are none to report on at this point)**

## **Appendix 'C' Programme information**

**To be sent separately to TS by CD:**

- **Milestone Schedule Summary (progress against baseline)**
- **Full Detailed Time Schedule (progress against baseline)**
- **Critical Path**
- **12 Week Look Ahead Extract from Schedule**

## Appendix 'D' Primary risk register

## ETN Primary Risk Register - Period 5 2009/10

ETN Primary Risk Register - Period 5 2009/10										
Risk Description										
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
343	General delay to programme with various causes e.g. failure to obtain approvals on time; parliamentary processes, contractor issues.	Delay to completion of project	Increased out-turn cost due to delay plus revenue loss	S Bell	High - 25.00	DRP on programme management (EOT1)	N/A	On programme	30-Jul-09	S Bell
						Liason between tie/BSC programme managers	On Programme	On Programme	30-Dec-11	T Hickman
						Programme Management Panel process	On Programme	On Programme	30-Dec-11	F McFadden
						Weekly tie/BSC commercial meetings	On Programme	On Programme	30-Dec-11	M Paterson
1077	Base Date Design Information to Issued For Constructions (BDDI-IFC). Lack of visibility of design changes between November 2007 and May 2008	Tramworks price based on a design which may have been altered. Unclear who authorised design change.	Additional cost and programme delay	R Bell	High - 25.00	Establish a process which will act as a control mechanism for design changes.	Complete	Complete	30-Jun-09	T Glazebrook
						Intensive Mediation Marathon 29/6/09 to 6/7/09 to try and resolve issues.	Complete	Complete	30-Jun-09	S Bell
						Mediation resulted in no overall agreement on BDDI - IFC although it gave useful background information. Strategy paper to be presented to TPB on 29 July to seek approval for way forward including utilising necessary contract mechanisms (DRP, audit etc)	Complete	Complete	14-Aug-09	S Bell
						Resolution Strategy approved - 1st DRP to go 10th August. Audit requests to BSC for information going w/c 3.8.09	Complete	Complete	10-Aug-09	S Bell

## ETN Primary Risk Register - Period 5 2009/10

ETN Primary Risk Register - Period 5 2009/10										
Risk Description										
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
1090	Initial costs for Burnside Road works higher than anticipated	Cost of works at Burnside Road exceed that allowed in project budget.	Additional Cost	F McFadden	High - 25.00	Costs being reviewed and tender documents sent out April 09.	Complete	Complete	30-Jun-09	F McFadden
						Tender docs issued based on scheme design information. Pre-tender estimate produced and final design ongoing. Delivery of tenders final outcome can be predicted.	Complete	Complete	30-Jul-09	F McFadden
1091		Excavation of soft, unsuitable material below Earthworks outline	Additional cost	F McFadden	High - 25.00	Donaldsons to carry out surveys	Complete	Complete	30-Jul-09	C Neil
						Extent of soft ground being investigated. External specialist advice deployed.	On Programme	On Programme	31-Dec-09	M Paterson
1101	Unreasonable behaviour of BSC commercial management	Unrealistic estimates being submitted for potential changes	Programme delay while disputes regarding estimates are resolved	F McFadden	High - 25.00	Additional resource from T&T	Complete	Complete	30-Jul-09	M Paterson
						Agreed with BSC for independent evaluation to get benchmark	Complete	Complete	30-Jul-09	M Paterson
						All estimates to be scrutinised by tie commercial team and, where appropriate, challenge made to BSC. Additional resource (T&T) being used to check estimates to reduce delay.	On Programme	On Programme	30-Dec-10	M Paterson
1094		Roads throughout works require full depth reconstruction	Programme impact plus additional costs. £1.5m cap applies to only 4 areas. Total exposure estimated at £3m	F McFadden	High - 24.00	Carry out surveys to confirm extent of roads requiring full depth reconstruction	Complete	Complete	30-Jun-09	C Neil
						Suite of options from surveys to be reviewed and agreement reached	On Programme	On Programme	31-Oct-09	M Paterson

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## Register - Period 5 2009/10

ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Treatment Strategy	Previous	Cu	I	Acti
44	SDS contractor does not deliver the required prior and technical approval consents in line with SDS V31	Delay to IFC drawings beyond V31 Programme	Delay to programme with additional resource costs and delay to infraco. Impact upon risk balance.	D Sharp	High - 23.00	Evaluation of prior approval programme Hold fortnightly Roads Design Group Informal consultation prior to statutory consultation Integrate CEC into tie organisation/accomodation (office move) Weekly Meetings of Approvals Task Force	Complete Complete Complete Complete	Complete Complete Complete Complete	31-Oct-08 31-Dec-07 31-Mar-09 4-Jun-07	D Sharp T Glazebrook T Glazebrook T Glazebrook
279		Third party consents including Network Rail consent are denied or delayed	Delay to programme; Risk transfer response by bidders is to return risk to tie; Increased out-turn cost if transferred and also as a result of any delay due to inflation.	D Sharp	High - 23.00	Additional EMC modelling to give better info to NR CEC Planning - mock application by SDS Draft depot and station change proposals to NR Identify fallback options Monitoring and tracking through the 3rd party rep Monitoring of BBS - 12 week look ahead Obtain critical consents prior to financial close Weekly meetings of Approvals Task Force	Complete Complete Complete Complete Complete On Programme	Complete Complete Complete Complete Complete On Programme	31-Dec-07 31-Dec-07 31-Jan-08 31-Aug-07 30-Jun-09 14-Jul-11 31-Jul-08 30-Oct-09	C Kerr T Glazebrook A Sim T Glazebrook D Sharp R Bell T Glazebrook D Sharp



## Register - Period 5 2009/10

ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Treatment Strategy	Previous	Cu	t	Acti
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).	Amendments to design scope from current baseline and functional specification.	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 Sharp	High - 22.00	Close working relationship with CEC and stakeholders  Weekly critical issues meeting	On Programme  Complete	On Programme  Complete	31-Jan-11  31-Jul-08	L Murphy  T Glazebrook
928	Major single safety incident (including a dangerous occurrence) during construction	Safety incident during construction	Delay (potentially critical) due to HSE investigation and rework. PR risk to tie and stakeholders.	F McFadden	High - 21.00	All Site Staff to get CSCS or equivalent  Develop and Implement Incident Management Processes HSQE Audits, site inspections and Management Safety Tours to be carried out Safety Induction to be carried out for all site staff  Site Supervisors to be appointed by tie  The tie "Safety" bus is being used to deliver safety talks & culture surveys to the contractors workforce.	On Programme  Complete On Programme On Programme  Complete  On Programme	On Programme  Complete On Programme On Programme  Complete  On Programme	30-Jan-11  27-Apr-07 31-Dec-10 31-Dec-10  28-Feb-07  31-Dec-09	C McLauchlan  T Condie B Cummins B Cummins  S Clark  B Cummins
931	Utilities assets uncovered during construction that were not previously accounted for; unidentified abandoned utilities assets; known redundant utilities; unknown live utilities; unknown redundant utilities.	Unknown or abandoned assets impacts scope of Infraco work	Re-design and delay as investigation takes place and solution implemented; Increase in Capex cost as a result of additional works.	C Neil	High - 20.00	GPR surveys in areas where there are likely to be services  Infraco trial holes where applicable.  MUDFA trial holes to verify GPR surveys  Obstructions and voids survey, establish ownership reduced delay on discovery.	Complete  On Programme  Complete  On Programme	Complete  On Programme  Complete  On Programme	1-Apr-07  31-Jan-10 30-Jul-09  31-Dec-09	T Glazebrook  P Dobbin A Hill  C Neil

## Register - Period 5 2009/10

ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Treatment Strategy	Previous	Cu	t	Acti
977	Legal challenge. Extension of statutory consultation process. Large number of objections. TRO process is subject to a public hearing process.	Delay in achievement of TRO(s) due to a large number of public objections and/or a legal challenge to using a TTRO to construct Infraco.	Requirement to start construction using TTROs	D Fraser	High - 20.00	TRO strategy approved by board, discussion to be held with CEC head of transport to reduce risk of legal challenge.  Use of TTROs to undertake construction of permanent works in advance of permanent TROs being approved.	On Programme	On Programme	31-Oct-09	S Clark
1084	Coonstraints applied to work areas post-contract to satisfy stakeholders	Additional Traffic Management and enabling works are required to meet stakeholder constraints applied post-contract	Additional cost and potential delay to programme	G Barclay	High - 20.00	Assess TM implications to minimise enabling works and additional cost. Areas concerned are Haymarket, York Place to Picardy and Baltic Street Junction.	On Programme	On Programme	31-Aug-09	G Barclay