



4 Week Period Reporting Pack 09/10

Project Title:

Edinburgh Tram Project

Reporting Period:

Period 03 2009/10

Transport Scotland Project Manager:

John Ramsay

Progress Meeting Date:

Report authorised by: **Steven Bell**

Signature:.....

Date:.....

For and on behalf of tie Limited

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1 Progress

1.1 Overall

Overall progress remains behind both the current three month look-ahead and 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.

There is a focus via the PMP to deal with the top priority issues affecting progress including the depot and key structures. This has successfully led to agreement on works commencing at the depot in Period 1 and will continue to ensure no further barriers emerge and some of the lost time is recovered.

The time impact (38 days) of the v26 / v31 design programmes at the time of Financial Close was agreed in Period 8 (2008/09) although the commercial consequence of this continues to be discussed.

As per Period 01 **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 the consortium has not been agreed with BSC. **tie** has commented on submissions received from the Consortium and detailed discussions have continued with both teams to resolve the causes and effects of delay.

The **tie** live programme currently predicts an Open for Revenue Service date of August 2012. This has slipped since last period and is mainly due to the delays caused by Utility Diversions at Haymarket and Newhaven and the lack of progress being achieved by the consortium across the route. The improved productivity rates experienced on Princes Street and at the depot have now been introduced to re-forecast the live programme but are tempered by the lack of progress elsewhere.

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.

The recalibration of the programme was one of the key priorities for the PMP in Period 1 with the first submission of a draft recalibrated programme from the consortium received by tie during week 4 of Period 02. Review of this programme is underway and detailed discussions have continued with both teams to resolve the causes and effects of delay. Following agreement further programme scenarios will be run to identify other opportunities.

1.2 Design

IFC Design

Prior Approvals are progressing as follows:

- IFCs – Phase 1a 76 issued out of 93;
- Prior Approvals are progressing well with 91% granted, three left to be submitted (including the RBS Gogarburn tramstop) and five left to be granted;
- Technical approvals also progress well with 89% granted, eight remaining to be submitted and 9 (3 from v31) left to be granted;
- Structures approvals are progressing well – one structure from v31 remains to be approved (Balgreen Road NR access bridge);
- Roads approvals - Two areas remain outstanding for Technical Approval in Phase 1a (1A3 & 1C2);
- Scottish Water have sent formal acceptances to BSC for all sections excepting 1A3, 1C2 & 1C1. BSC have responded to these acceptances; however a permit for construction for section 6 is still to be issued.
- 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	v45*	Submitted	Granted
Prior Approvals	49	54	51 (94%)	49 (91%)
Technical Approvals	71	80	72 (90%)	71 (89%)

*table is based on V45 figures as V46 was unavailable when the figures were generated for the period report.

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. We are 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. V46 includes a number on integration design activities and the impact of these will be analysed over the coming period.

1.3 Utility works (MUDFA)

Period 3 has seen MUDFA progress as follows:

Rev. 08 Figures	Period		Delta	Cumulative		Delta
	Plan	Actual		Plan	Actual	
MUDFA PERIOD 02 PROGRESS						
Section 1a Newhaven to Foot of the Walk	1.4%	0.8%	-0.6%	42.9%	41.6%	-1.2%
Section 1b Foot of the Walk to McDonald Road	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%
Section 1c McDonald Road to Princes Street West	4.7%	4.9%	0.2%	92.9%	80.8%	-12.0%
Section 1d Princes Street West to Haymarket	6.5%	4.9%	-1.6%	97.3%	92.9%	-4.5%
Combined Sections 1A-1B-1C-1D (On-Street) Newhaven Road to Haymarket	2.8%	2.4%	-0.4%	78.6%	74.3%	-4.3%
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%
FULL ROUTE PHASE 1A NEWHAVEN ROAD TO EDINBURGH AIRPORT	2.3%	2.0%	-0.3%	82.2%	78.6%	-3.6%

Section	Commentary
Section 1a Newhaven to Foot of the Walk	Awaiting IFC's to allow Lindsay Road Retaining Wall to proceed. Baltic Street Junction will not commence until after Queen Charlotte Street works and re-issue of re-design for utility diversions between Tower Street and Baltic Street junction. Temporary diversion works on Victoria Dock Bridge and Tower Bridge commenced in period. The works facilitate commencement of INFRACO bridge works.
Section 1b Foot of the Walk to McDonald Road	Final water tie-ins targeted late June. Telecoms re-cabling works forecast to commence early July. SGN service connections complete. Traffic Management approved for gas main abandonments works in July & August.

Section 1c McDonald Road to Princes Street West	Programme & Traffic Management strategy being finalised for completing utility diversions between McDonald Road & York Place. St Andrew Square utility diversion works completed in period to facilitate INFRACO Traffic Management switch for ongoing Princes Street works. The Mound – work continues on 30" MP Gas main bypass although Princes Street footprint released to Infraco.
Section 1d Princes Street West to Haymarket	Works continue on South Charlotte Street / Lothian Road water connections. Haymarket Junction programmed to complete by mid October 2009.
Section 2 Haymarket to Roseburn Junction	Haymarket Yards utility diversion works 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 Infraco Telecoms 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 - forecast completion end of June.
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.

1.4 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. All BSC sub-contractors continue to operate with Limited Letters of Intent whilst awaiting conclusion of the full sub-contracts.

Haymarket viaduct constructions has been on hold due to BSC's sub contractor issues with the A8 underpass delayed through requirement of temporary works redesign. However, work has continued on a number of worksites including:

- Princes Street with concrete excavations completed, drainage ducts installed and the commencement of installation of OHL bases;
- Carricknowe bridge works started this period
- Edinburgh Park Bridge – additional beams installed and diaphragms being carried out.
- Gogarburn Bridge; and
- Depot - spoil removal from the depot continued (95000 CM of 141000 CM total spoil removed).

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 03		Cumulative (Short-Term)		Contract Planned to P03
	Planned	Actual	Planned	Actual	
Prelims	2	2	46	46	46
Construction	3	2	34	33	497

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	
INFRACO PERIOD 03 PROGRESS (Contract Rev.01 Programme)						
Section 1a Newhaven to Foot of the Walk	3.9%	0.0%	-3.9%	19.2%	0.0%	-19.2%
Section 1b Foot of the Walk to McDonald Road	1.9%	0.0%	-1.9%	40.0%	1.5%	-38.6%
Section 1c McDonald Road to Princes Street West	0.9%	0.0%	-0.9%	9.8%	0.0%	-9.8%
Section 1d Princes Street West to Haymarket	2.8%	0.7%	-2.1%	49.0%	6.9%	-42.1%
Combined Sections 1A-1B-1C-1D (On-Street) Newhaven Road to Haymarket	2.6%	0.2%	-2.4%	26.7%	1.7%	-25.0%
Section 2 Haymarket to Roseburn Junction	2.2%	0.0%	-2.2%	70.6%	12.6%	-58.0%
Section 5a Roseburn Junction to Balgreen Road	5.4%	0.1%	-5.3%	61.9%	3.5%	-58.4%
Section 5b Balgreen Road to Edinburgh Park Central	1.3%	2.3%	1.0%	82.0%	9.4%	-72.6%
Section 5c Edinburgh Park Central to Gogarburn	4.6%	1.1%	-3.4%	53.1%	2.8%	-50.4%
Section 6 Gogar Depot	4.5%	3.3%	-1.1%	77.4%	5.2%	-72.2%
Section 7a Gogarburn to Edinburgh Airport	1.2%	1.7%	0.5%	45.8%	11.6%	-34.2%
Combined Sections 2A-5A-5B-5C-6A-7A (Off-Street) Haymarket to Edinburgh Airport	3.1%	1.7%	-1.5%	68.6%	7.1%	-61.5%
FULL ROUTE PHASE 1A NEWHAVEN ROAD TO EDINBURGH AIRPORT	2.9%	1.1%	-1.9%	52.1%	5.0%	-47.1%

Section	INFRACO 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.
Section 1b Foot of the Walk to McDonald Road	Roadworks due to commence post Leith embargo delayed to Sep-09 awaiting MUDFA completion.
Section 1c McDonald Road to Princes Street West	Roadworks due to commence post Leith embargo delayed to Sep-09 awaiting MUDFA completion. Section of Princes St east of the Mound junction to west side of South St David Street continued during period 3.
Section 1d Princes Street West to Haymarket	Princes Street works re-started 23Mar09 and continue between South Charlotte Street and the Mound. Tram Works in Haymarket are dependent on MUDFA completion that has slipped from end of July completion
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 23 rd 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.
Section 6 Gogar Depot	Depot handed over from MUDFA to INFRACO 9Feb09 Earthworks progressing ahead of revised programme and have addressed critical areas for Building footprint during period 03.
Section 7a Gogarburn to Edinburgh Airport	Virtually no progress during period 03 due to requirement for remedial works at S29 Gogarburn underbridge .

1.5 Tram construction (Tramco)

Good progress continues to be made with the progress of deliverables against the schedule. The production line has commenced during Q1 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 Period 01 update confirmed the following milestone dates:

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

The fabrication programme maintains approximately two months ahead of schedule.

1.6 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	10 of the 37 BSC Inspections and Test Plans have been revised by BSC incorporating tie comments. tie are awaiting formal issue from BSC. 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	Pre-operations Test shall immediately precede the

		Running phase of the programme using the initial 6/12 tph service timetable.	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 Test	Reliability Testing of key sub-systems in Passenger Service.	To be completed within twelve months of the Service Commencement Date.

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
	↑		PASSENGER SERVICE COMMENCEMENT
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
	↑		ENERGISATION OF COMPLETED PHASE OF THE ETN
6	Test Running & Driver Familiarisation	Performance Test 1 (T2)	The period post-ETN commissioning used to complete driver and control room staff training and gain confidence to enter Shadow Running Phase
	↑		ENERGISATION OF SECTION OF THE ETN
5	Commissioning	Post-Commissioning Test (T1)	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
	↑		ENERGISATION OF SECTION OF THE ETN
4	Set to Work Tests	System Integration Test	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
	↑		LIMITED ENERGISATION OF PART OF THE ETN
3	Installation / Construction	Site Tests	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

1.7 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 received an estimate and made an assessment of cost and programme. Following meetings with CEC and TS and receipt of a formal grant letter this will allow a complete instruction to be given to BSC. 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 Project	Promoter	Project Description	Potential Conflict	Tram contract		Project dates		Comments
				Start	Finish	Start	Finish	
Gogar Surface Station	Transport Scotland	New mainline station to the east of the Gogar depot.	Unknown as yet but expected to include: 1. Re-design impacts 2. Approvals and consents 3. Tram alignment issues 4. Traffic management clashes 5. Potential site access issues.	Aug-08	Jul-11	Oct-09	Mar-11	All works with the exception of track installation between Gyle Centre and Depot stop and E&M Installations will be complete by Sep 2010. tie and TS developing an integrated programme.
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.	Nov-10	Oct-11	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.
St. Andrew Square development	CEC	Demolition of existing buildings bordering South Side St. Andrew Square, South St David Street and Meuse Lane.	Infraco programme.	Jan-10	Mar-10	TBA	TBA	Traffic Management changeover completed 6 th /7 th June 09. Infraco activities will not commence until Jan 2010
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.	Sep-10	Feb-11	TBA	TBA	Design and approvals progressing to programme.
Princes Street Hotel	Deramore Property Group	Redevelopment of existing buildings at 121 - 123 Princes Street to 80,000 square feet 3 floor of retail and 100 bedroom hotel.	Direct clash with Infraco programmed works in Princes Street during the traffic diversions.	Mar-09	Nov-09	Early 2009	Jun-11	Currently in planning stage. CEC is managing the developer within the tram constraints. Contractors programme being sought.
Princes Street Hotel	asediqbal consulting	Site clearance and redevelopment at 125a Princes Street on all 3 floors to convert to an EasyHotel	Access through BSC worksite. Internal strip-down ongoing and access required for debris removal.	Feb-09	Nov-09	TBA	TBA	Requirement to access BSC worksite to allow removal of debris has been addressed and achieved.
National Portrait		Major building construction	Interface with both Utilities and Infraco works on	Now	Mar-10	Apr-09	Nov-11	Decant complete June 09

External Project	Promoter	Project Description	Potential Conflict	Tram contract		Project dates		Comments
				Start	Finish	Start	Finish	
Gallery		and refurbishment.	St Andrew Street / York Place.					No issues expected.
Haymarket Interchange	First Scotrail	Capacity Increase Project - Installation of new lifts and walkways from Haymarket Terrace	Utility diversions continue until late July 2009 Potential Interface with Infraco works at Haymarket junction commencing July 2009	Now	Apr-10	Dec-11	Dec-12	Possible interface between installation of lifts for this project and construction works for viaduct, tramstop and OHL. 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..
Waverley Steps	Transport Scotland	Refurbishment of existing Waverley Steps with inclusion of new escalators and elevators.	Reviewed with both TS and Waverley Steps project team. Potential TM conflict being managed.	Jan-10	Mar-10	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.
Pollution Prevention works	Network Rail / Scotrail	Re-location of existing diesel tanks at Haymarket Sprinter Depot.	Interface with S21A Roseburn Street viaduct and associated track.	Mar-10	Mar-11	Complete	Complete	Diesel tanks demolished & site cleared-up VE design on Roseburn viaduct has seen this structure re-programmed.
New Hotel in Haymarket	Tiger Developments	New build hotel.	Utility diversions and potential interface with Infraco works.	Jan-09	Apr-10	TBA	2012	Risk has diminished. Manageable conflict.
Waverley Station re-roofing	Transport Scotland	New roof and general upgrade to station interior.	May be Traffic Management issues.	Feb-09	Mar-10	Apr-10	Apr-14	Although the tram main construction works will be complete by end Mar-10 this area will be re-visited in Q4 2010 for OHL installation.
Haymarket Terrace	DTZ Surveyors	Common Repairs to buildings at 2-4-6-8-68 and 74 Haymarket Terrace.	Scaffolding and external repairs.	Now	Apr-10	May-09	ASAP	Scaffold erected and building repairs underway between Infraco TM phases.
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.	Now	Jul-11	TBA	Dec-10	No conflict.
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	May-11	TBA	TBA	No conflict.
Shrubhill House	Unite	Transformation of former council social work headquarters into 200 bed hotel	None identified. Dependent on timescales.	Now	May-11	TBA	TBA	Awaits planning consent.

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 has still to be arranged for Period 4 09/10.

1.8 Other

Temporary traffic regulation orders (TTROs)

- Weekly visual summary being produced of all tram traffic management throughout city.

Traffic regulation orders (TROs)

- A TRO programme is in place to ensure that the required TROs for the project are in place by May 2010. The informal consultation process for this has been completed and BSC have been instructed to incorporate minor design revisions into the final design. **tie** are currently awaiting a set of TRO drawings to enable the statutory consultation process to commence (anticipated Aug 1st 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 Relocation of the Diesel tanks has been completed; and
- A local agreement with First ScotRail has been reached to accommodate any potential overlap between completion of the pollution prevention activities and commencement of the Infraco works;
- 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, and **tie** is no longer involved. An Operating Agreement with NR is currently with **tie**/TEL and updated drafting to be returned to NR by 26/06/09;
- Forth Ports – expecting imminent execution of agreement, awaiting FP final drafting comments prior to closure.
- Haymarket carpark 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. A meeting is arranged with TS to address this in Period 3;
- Building fixings – deemed consent has been obtained from 306 owners as well as 66 consents with the owners' agreement. There are nine 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; and
- 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 are currently progressing.

Fast link modifications (Front Line)

- Surfacing of lay-by 95% complete and open to traffic. BT manhole is still to be installed a date for this work to be advised by BT.
- Final TRO is now 60% complete and should finish by 03/07/2009 (Note: Both Phases combined.)

Murrayfield Pitches (Souters)

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

Ancient Monuments (Land Engineering)

Robert Burns Monument

- MUDFA have confirmed that they no longer need the monument removed before they start work in the junction in late June 2009. Mudfa to provide Infraco with copies of their TM so that Infraco can utilise their TM to remove the monument.

BAA - Burnside Road (BAA)

- BRR Final Option 4B layout still requires formal BAA Stakeholder sign off. Initial comments are positive.
- BRR Detailed design to option 4B is ongoing. Design review held W/C 22 June 2009.
- BRR - Design – Award letters to be issued during W/C 22 June 2009.
- BRR Tenders: Tender documents due for return 25 June 2009
- Utilities works – Tenders being assessed. Contract awarded 19 June 2009. Start up meeting 22 June 2009

Hilton Car Park & Phase 1

- INFRACO – No works have commenced. RTWD Issued. Await BAA response during W/C 22 June 2009

Gogar Interchange

Design kick off meeting held between tie, Transport Scotland & Network Rail. A design workshop being arranged to include all parties.

BAA - Burnside road (BAA)

- Scheme Design for Option 4 is complete. An alternative Option 4B has been proposed to BAA with an informal approval, this needs to be ratified. Formal sign off of the alternative scheme Option 4B target end w/c 25th May. Detailed Design due to commence by 1st June (will take 6 weeks)
- Target site start date of 27th July

Archaeological works at Constitution Street (Frontline):

The archaeological works in Constitution Street continue this week. 150 skeletons removed to date. 50 meters of road has been reinstated.

2 Headline cost report

2.1 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 Actual	Costs To Go Forecast	Total AFC Forecast
	Actual	Budget	Variance	Actual	Budget	Variance	Forecast	Budget	Variance			
Total Project COWD	8.278	10.814	-2.537	23.462	21.023	2.439	150.084	150.072	0.013	254.481	272.618	527.099
Other Funding	0.854	0.893	-0.038	2.108	1.736	0.372	12.656	12.391	0.265	21.183	22.603	43.786
Demand on TS	7.423	9.921	-2.498	21.353	19.287	2.066	137.428	137.680	-0.253	233.298	250.015	483.313

- 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 currently in the process of agreeing an updated programme with the Infraco contractor.
- In addition to phase 1a (£150.1m) 2009/10 costs, the budget also includes potential additional costs of £3.2m which relate to the postponement of Phase 1b Infraco construction contract;
- 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 P3 & forecast P4-P13 FY09/10

£m	YTD P 3	Forecast P4- P13,09/10	Total FY09/10
Infrastructure and vehicles	16.0	106.4	122.5
Utilities diversions	3.2	0.5	3.7
Design	0.7	0.4	1.1
Land and compensation	0.6	1.0	1.6
Resources and insurance	2.9	10.0	12.9
Base costs	23.5	118.4	141.8
Risk allowance	0.0	8.3	8.3
Total Phase 1a	23.5	126.6	150.1

- COWD to Period 3 is £23.5m (Period 2 £15.2m) against budget £21.0m. The main drivers for the £2.5m variance are: the timing of Infraco and Tramco costs forecast in 2009/10 (2.0m); the timing of Non-Infraco construction works spend (£1.2m) ahead of plan; Offset by a fall in PM costs (-£0.6m). All of these are timing differences only and do not impact on the outturn for the year.
- Tramco production activity is now running ahead of plan; 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.

2.2 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	16.0	20.7	51.8	34.0	122.5
Utilities diversions	3.2	0.5	0.0	0.0	3.7
Design	0.7	0.4	0.0	0.0	1.1
Land and compensation	0.6	0.8	0.1	0.1	1.6
Resources and insurance	2.9	3.3	3.8	2.9	12.9
Base costs	23.5	25.7	55.7	36.9	141.8
Risk allowance	0.0	2.2	5.2	0.9	8.3
Total Phase 1a	23.5	27.9	60.9	37.8	150.1

- A full reforecast of the cost profile was produced which links 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 £141.8m (P2 - £141.4m) and risk £8.3m (P2 - £8.7m), giving a total phase 1a cost of £150.1m. There is no movement in outturn forecast in the period. This will be re-assessed on agreement of an updated programme with the Infraco contractor.
- The cost profile above shows a ramp-up in activity throughout 2009, with base costs increasing from £23.5m in Q1 to a peak of £60.9m in Q3. This reflects the anticipated shift in Infraco milestone activity from Q1 to Q3.

2.3 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	122.5	92.1	19.0	309.5
Utilities diversions	18.4	33.4	3.7	0.0	0.0	55.5
Design	21.4	4.7	1.1	0.0	0.0	27.3
Land and compensation	16.8	1.7	1.6	0.0	0.2	20.3
Resources and insurance	42.7	15.8	12.9	7.8	2.9	82.1
Base costs	130.0	101.0	141.8	99.8	22.0	494.6
Risk Allowance	0.0	0.0	8.3	19.0	5.2	32.5
Total Phase 1a	130.0	101.0	150.1	118.9	27.1	527.1
Phase 1b postponement	3.0	0.0	3.2	0.0	0.0	6.2
Total Phase 1a and Phase 1b	133.1	101.0	153.3	118.9	27.1	533.3

- The table above reflects the base costs and risks aligned to the re-baselined programme 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 Phase1a of the project remains at £512m. The phasing of the £527.1m plan remains in-line with period 2 and will be updated 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 may crystallise 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; and the Project Management Panel (PMP) is up and running and being used by tie and INFRACO senior management to flag key issues and ensure proactive engagement to resolve issues and progress Tram construction works.

3 Time schedule report

3.1 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 August 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
TRO process commences	14Dec07A	10-Dec-07A
MUDFA – commencement of utility diversions	02 Apr 07A	02 Apr 07A
Approval of FBC by TS – approval and funding for Infraco / Tramco	09 Jan 08	Dec 07A
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
Haymarket viaduct commences	08-May-08	01-Sep-08A
Edinburgh Park viaduct commences	06-Aug-08	01-Sep-08A
A8 underpass commences	08-Aug-08	28-Aug-08A
Carrick Knowe Bridge commences	21-Aug-08	19-Aug-08A
Demolition of Wanderers clubhouse	25-Aug-08	22-Sept-09
All demolition work complete excluding Wanderers clubhouse	22-Aug-08	08-Dec-09
Tram mock-up delivered	Oct 2008	Nov 2008A
First track installation commences – on street	03-Nov-08	Jun 2009A
Utilities works complete	Nov 2008	Nov 2009
Haymarket viaduct complete	08-Dec-08	25-Jan-10
Roseburn viaduct commences	20-Jan-09	28-Jun-10
Design assurance complete	20-Jan-09	Dec-09
All Issue for Construction (IFC) drawings delivered	21-Jan-09	Dec-09
Princes Street closed	03-Feb-09	22-Feb-09A
Roseburn viaduct complete	20-Apr-10	06-Jun-11
Carrick Knowe bridge complete	11-May-09	26-Jan-10
All consents and approvals granted	18-May-09	Nov-09
Edinburgh Park viaduct complete	24-May-09	28-Oct-09
A8 underpass complete	14-Jul-09	16-Sep-10
Princes Street re-opened	01-Aug-09	29-Nov-09
NR immunisation complete	Nov 2009	Nov 2009
TRO process complete	01-Dec-09	May-10
1 st OHL installed (Commence Section 2)	11-Dec-09	08-Sep-10
Commission Section 2 (Haymarket to Roseburn junction)	11-Jan-10	Nov-10
Commission Section 6 (depot)	25-Mar-10	Apr-11
1 st Tram delivered	09-Apr-10	09-Apr-10
Test track complete	23-Apr-10	Jun-11
1 st section (other than depot) complete ready for energisation	25-June-10	Nov-10
Commission Section 7 (Gogar to Edinburgh Airport)	25-June-10	Jun-11
Driver recruitment commences	July 2010	Oct 2010

Commission Section 5 (Roseburn junction to Gogar)	09-Nov-10	Jan-12
Driver training commences (depot only)	Dec-10	Jan-11
Driver training commences (excludes depot)	Nov 2010	Apr-12
System testing complete off street	09-Dec-10	Mar-12
Final tram delivered	17-Jan-11	17-Jan-11
Construction Line 1a complete	17-Jan-11	Feb-12
System testing complete on street	16-Feb-11	Mar-12
Commission Section 1 (Newhaven to Haymarket)	11-Mar-11	Feb-12
Letter of "no objection" from Independent Competent Person to commence tram running	17-Apr-11	Apr-12
Shadow running starts	18-Apr-11	Apr-12
Shadow running complete	July 2011	Aug-12
Letter of "no objection" from Independent Competent Person to commence revenue service	July 2011	Aug-12
Open for revenue service	July 2011	Aug-12

Guidance for Completion:

Legend for colouring of Actual / forecast date text

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

3.2 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.

3.3 12-week look-ahead

Milestones	Actual / current forecast date
1D Roadworks and trackworks Princes Street	23-Feb-09A*
Gogar depot building foundations	24-Jul-09
2A Completion of Verity House Access Road	26-May-09A
1C Complete Utility diversions St Andrew Sq Central & South St Andrew Street	29-May-09
1C Complete Utility diversions St Andrew Sq Central to North St Andrew St	29-May-09
1C Commence Utility diversions at Broughton St junction	01-Jun-09
Gogar Depot Access Road	16-Jul-09
5B Trackworks Balgreen Rd Saughton Road North	29-Jun-09
5A Demolition of Wanderers Clubhouse	22-Sep-09
1A Commence Victoria bridge temporary utility diversions	08-Jun-09
1A Commence Tower bridge temporary utility diversions	08-Jun-09
1B Complete Utility diversions Crown Place to Duke St junction	09-Jun-09
1B Complete Utility diversions Manderston St to Crown Place	09-Jun-09
1B Complete Utility diversions Stead's Place to Jane St	09-Jun-09
1B Complete BT Chamber Jane St to Manderston St	12-Jun-09
1C Commence track installation on Princes Street	15-Jun-09
1B Complete Utility diversions and SGN Service connections Springfield Street to Stead's Place	19-Jun-09
1B Complete Utility diversions Balfour St – Orchardfield St – Springfield St	19-Jun-09
5B Trackworks Saughton Rd to Bankhead	27-Jul-09
1B Complete Utility diversions and SGN Service connections Iona St – Balfour St – Pilrig Place	29-Jun-09
1B Complete Utility diversions and SGN Service connections Croall Place –	29-Jun-09

Pilrig Place	
1C Complete Utility diversions York Place West end to Elder St	07-Jul-09
1C Complete Utility diversions North St Andrew St to York Place West end	07-Jul-09
1C Complete SGN diversion & BT Installation works at Mound junction	10-Jul-09
1C Complete SGN Service connections St Andrew Sq Central & South St Andrew Street	13-Jul-09
1B Complete Utility diversions & SGN Service connections McDonald Rd – Croall Place	13-Jul-09
1D Commence SGN Service connections Grosvenor St to Palmerston Place	14-Jul-09
W3/W4 Russell Road retaining walls	11-Aug-09
1D Commence BT Installation works Lothian Rd junction	15-Jul-09
Depot Access Roads – Track & Stabling	16-Jul-09
1C Commence BT diversions Elder Street to Broughton St junction	17-Jul-09
1A Commence Utility Diversions Hawthorne Vale to Newhaven roundabout	20-Jul-09
1A Commence Utility diversions Lindsay Rd junction to Hawthornevale	20-Jul-09
1A Commence Utility diversions Anchor Fields to Lindsay Rd junction	20-Jul-09
1A Commence Utility diversions North Leith Sands to Anchor Fields	20-Jul-09
1A Commence Utility diversions Ocean Terminal frontage	20-Jul-09
1D Complete SW diversions South Charlotte Street	27-Jul-09
1C Complete Utility Diversions Annandale St to Gayfield Place North	27-Jul-09
1D Complete Utility diversions and SGN Service connections Grosvenor St junction to Clifton Terrace	27-Jul-09
1D Complete Utility diversions works Lothian Rd junction	27-Jul-09
5B Trackworks Bankhead to Edinburgh Park Stn	28-Jul-09
1D Complete Utility diversions Grosvenor St to Palmerston Place	31-Jul-09
S20 Russell Road bridge	11-Aug-09

*Works recommenced 23rd March 09.

4 Risk and opportunity

4.1 Review of risk register

The following reviews took place in the period:

Date	Format of review	Attendees	Comments
27/04/09	Programme Delay Review	Project Risk Manager Programme Manager SDS Project Manager	Review of delays in delivery of packages from SDS
11/05/09	Signalling, Communication and Control (SCC) Risk Review	Project Risk Manager SCC Project Risk Manager	Risks identified and treatment plans created
11/05/09	Section 7 Risk Review	Project Risk Manager Project Manager	All Risks and Treatment Plans Reviewed
18/05/09	Structures Risk Review	Project Risk Manager Project Manager	All Risks and Treatment Plans Reviewed
18/05/09	Change and Risk Review	Project Risk Manager Infraco QS Cost Control Manager	Review of current and proposed changes against risk allowance
18/05/09	Network Rail Risk Review	Project Risk Manager Project Manager	All Risks and Treatment Plans Reviewed
19/05/09	Princes Street Risk Review	Project Risk Manager Project Managers	All Risks and Treatment Plans Reviewed
19/05/09	Roads and Drainage Review	Project Risk Manager Project Manager	All Risks and Treatment Plans Reviewed
20/05/09	Depot Risk Review	Project Risk Manager Depot Project Manager	All 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.

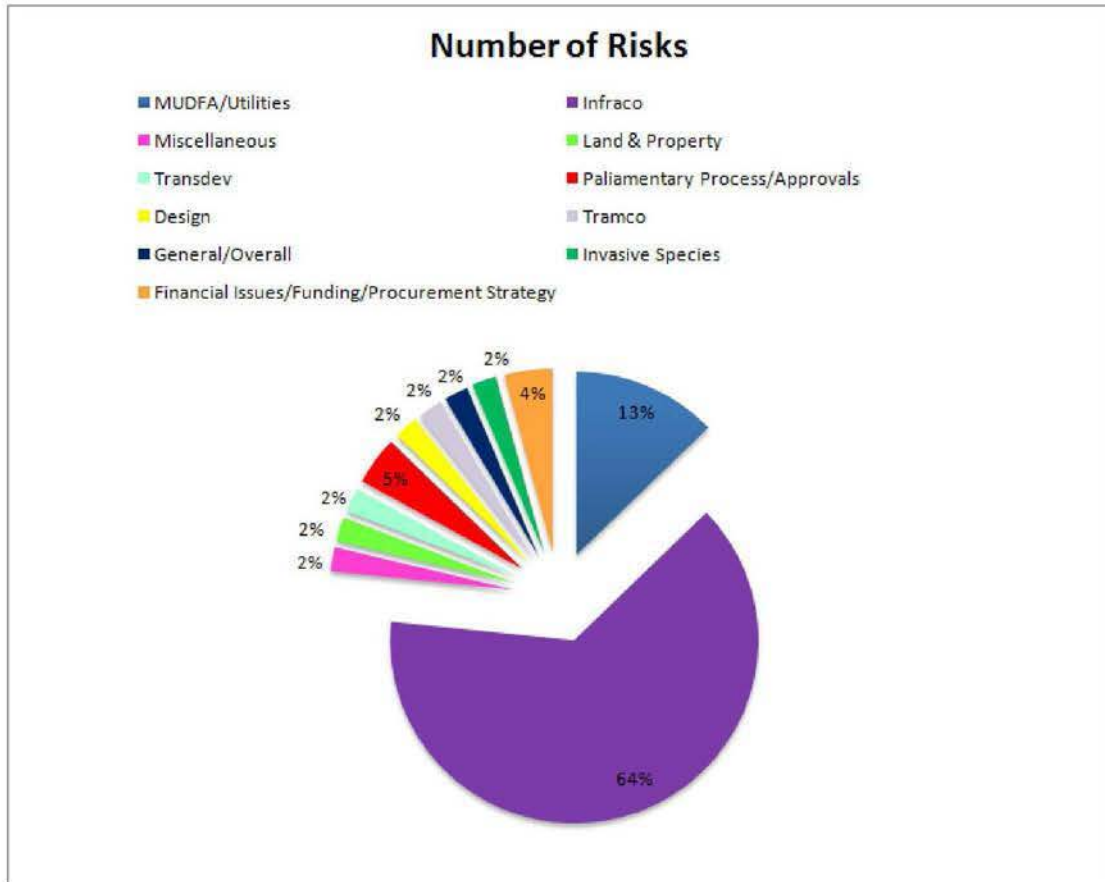
There are 48 risks in the risk register. The top five project risks are listed on the following pages.

Top 5 Risks - Period 02 2009/10

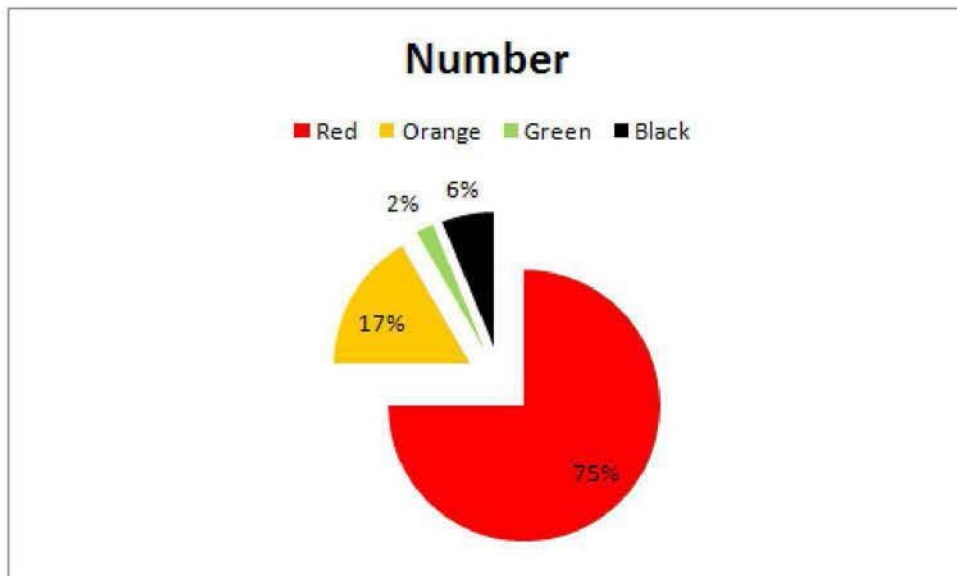
Risk Description											
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Black Flag	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
1077	Base Date Design Information to Issued For Constructions (BDDI-IFC). Lack of visibility of design changes between November 2007 and 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. (If one exists already then ensure process is complied with)	On Programme	On Programme	30-Jun-09	T Glazebrook
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.	n/a	On Programme	30-Jun-09	M Butchert
1091	Unsuitable Ground Condition	Excavation of soft, unsuitable material below Earthworks outline	Additional cost	F McFadden	High - 25.00		Extent of soft ground being investigated	n/a	On Programme	30-Jul-09	M Patterson

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 - 23.00	Programme management paid.	On Programme	On Programme	30-Dec-11	F McFadden
						Weekly tie/BSC commercial meetings	On Programme	On Programme	30-Dec-11	D Murray
						Liason between tie/BSC programme managers	On Programme	On Programme	30-Dec-11	T Hickman
1101	Unreasonable behaviour of BSC commercial management	Unrealistic estimates being submitted for potential changes	Programme delay while disputes regarding estimates are resolved	A Sim	High - 23.00	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	D Murray

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 items were added to the Infraco Concerns Register in the period.

Discipline	Risk description			
	Risk Number	Cause	Risk Event	Effect
General	97	Delay in completion of Mudfa or Et take longer than planned to complete cabling works	Delay to BT cabling works impacts on Infraco works	Delay to programme, extension of time claim. Additional costs.
SCC	98	TEL do not supply required information regarding Lothian Bus's tracking system (INEO) to enable BSC to design a system which will successfully interface with INEO	Failure of BSC's Passenger Information Display System (PID) to interface with INEO.	Delay to programme, extension of time claim. Additional costs.
SCC	99	Essential requirement omitted from ERs	Output from Design and Operational Reviews results in increased changes to Infraco contract	Additional cost
General	101	Contractor is building 'at risk' with agreed control measures	Agreed control measures are not being applied by contractor with regard to checks being made on the design	Delay to programme, dispute between tie and contractor
General	102		Behaviour of BSC commercial management resulting in unreasonable estimates being submitted	Programme delay while disputes over estimates are resolved

The following items in the Infraco Concerns Register were closed in the period:

Discipline	Risk description			
	Risk Number	Cause	Risk Event	Effect
Structures	42	Due to being behind programme bridge beams may have to be installed using other possession.	BSC may try to install the beams during RotR possessions	More time required to complete the work and greater chance of possession over-runs
NR	16	De-watering of Gogar Depot	Movement below track support zone	Costs to NR for track monitoring and any track defects arising
Drainage	38	Lack of information from SDS. Delay in application and/or delay in assessment of application by SW	Scottish Water do not approve connections in line with programme dates	Delay to programme
Depot	43	Construction delay on airport works due to operational constraints	Late completion of alternative BAA emergency access route (Crashgate 11)	Disruption to Tramworks depot excavation works

There was one risk added to the Project Risk Register.

Risk ID 1101 - Unrealistic estimates being submitted for potential changes due to the behaviour of BSC's commercial management. This will be managed by tie commercial management who will scrutinise and, where appropriate, challenge BSC estimates. Additional resources have also been procured to check estimates and reduce delay.

4.2 Risk action plan for next two 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.	30/06/2009	Yes	No	No	Period 4
A Hill	931	605	MUDFA trial holes to verify GPR surveys	30/07/2009	Yes	No	No	Period 5
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.	30/06/2009	Yes	No	No	Period 4
D Sharp	44	467	Weekly Meetings of Approvals Task Force	31/05/2009	Yes	No	No	Period 3
D Sharp	279	634	Weekly Meetings of Approvals Task Force	31/05/2009	Yes	No	No	Period 3
D Sharp	279	635	Monitoring and tracking through the 3rd party rep	31/05/2009	Yes	No	No	Period 3
D Sharp	271	559	Assure the quality and timing of submissions	31/05/2009	Yes	No	No	Period 3
D Sharp	271	637	Weekly Meetings of Approvals Task Force	31/05/2009	Yes	No	No	Period 3
F McFadden	336	662	SDS to review and identify high risk areas. Additional control measures to be added by tie.	31/07/2009	Yes	No	No	Period 5
G Barclay	1084	654	Assess TM implications to minimise enabling works and additional cost	30/06/2009	Yes	No	No	Period 4
G Barclay	1085	653	Examine VE opportunity to reduce costs with SUCs and SDS	30/06/2009	Yes	No	No	Period 4
G Barclay	1085	655	Where applicable pursue third party funding	30/07/2009	Yes	No	No	Period 5
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	30/06/2009	Yes	No	No	Period 4
J Casserly	1083	652	Negotiate to reduce potential liability when dealing with claim	31/07/2009	Yes	No	No	Period 5
M Blake	911	628	Liase with Scottish Power to agree and approve method of crossing tunnel	30/07/2009	Yes	No	No	Period 5
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	30/06/2009	Yes	No	No	Period 4
R Bell	1076	645	Tramworks PMs attendance at Traffic Management meetings. Weekly meetings between tie Tramworks and Utilities PMs. 4-weekly tie Tramworks/Utilities management meetings. Identification of programme clashes between Tramworks and Utilities works tracked.	31/07/2009	Yes	No	No	Period 5
R Bell	1079	648	Ongoing review of BSC resources and formal review at 4-weekly meeting. Objectives to be set for BSC at monthly meetings in order to monitor progress.	31/05/2009	Yes	No	No	Period 3
T Glazebrook	1077	646	Establish a process which will act as a control mechanism for design changes. (If one exists already then ensure process is complied with)	31/05/2009	Yes	No	No	Period 3

4.3 Cost Quantative Risk Analysis

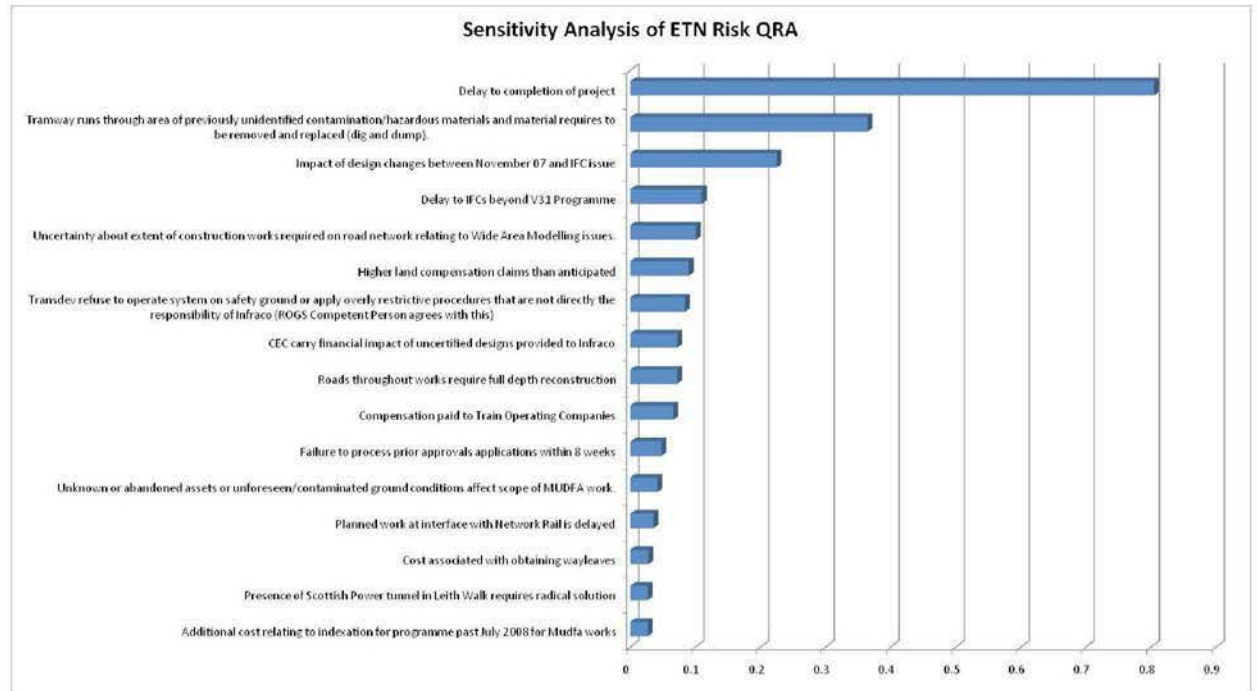
The Project Risk Allocation has reduced by £222,851 in the period. All draw-downs are shown in the table below. The current Project Risk Allocation (based on the approved budget) is £19,969,623.

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 26th 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 1.

CEC costs - delays to approvals	Alan Coyle	-200,000
Infracost risk 173 drawdown	Mike Paterson	-22,851
	Total	-222,851

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.

4.4 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.