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Edinburgh Tram Project
Full Progress Report No. 10
24th June to 21st July 2012
FINAL

CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT
July 12



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Rev	Originator	Approved	Date
0	Elaine Pratt	Julian Weatherley	27 July 2012
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1 Executive Summary

This report covers progress made during the period from 24th of June to 21st of July 2012. It incorporates progress reported within Infraco and CAF Progress Reports No. 5-3 to 23rd of June 2012.

There were 25 incidents recorded during the period three of which were identified as Serious / Significant. One of these related to a mini excavator turning over in Princes Street is RIDDOR reportable

Infraco have produced a risk assessment in relation to soil removed from Baird Drive. This is being independently reviewed by EnviroCentre prior to issue to SEPA.

Eleven weeks of the 22 week time bank have been confirmed as being eroded as a result of disruption due to utilities works in Shandwick Place and the Waverley end of Princes Street. Turner & Townsend assess that a further weeks erosion (twelve weeks in total) has occurred up to 24th July however this has yet to be substantiated.

All sectional completion dates are forecast for completion ahead of programme with overall completion (Section D) now forecast for 1st May 2014. At CEC's request, Turner & Townsend have identified the potential for improvements in the overall project duration resulting from further changes to Employer's Requirements and the provision of additional resources.

Infraco are now in possession of the majority of the On Street areas and the extent to which their works are being impacted by utility conflicts is reducing.

The residual carriageway of a 300m long section of Shandwick Place is being excavated by McNicholas in order to address concerns over the long term durability of the road and to resolve Scottish Water legacy works. These works will take between three to five weeks to complete and may impact on the Infraco programme.

Agreement has been reached to de-scope the York Place enabling works (tram box, drainage and ducting construction) from BBS and to procure through a separate contract directly through Crummock. McNicholas will interface with Crummock to address utility conflicts. Appropriate commercial adjustments have been agreed and implemented and the works commenced on programme on 16 July.

The planning of the resolution of Type 2 utility conflicts is progressing and agreement on methodology has been agreed in principle by all parties.

Reports have been exchanged between Turner & Townsend and Scottish Water in relation to the Grosvenor Street sewer collapse.

Turner & Townsend have issued a tender report for the legacy works north of York Place. This is expected to be rectified by the end of July.

Tender returns for the Edinburgh Gateway works are anticipated on 24 July 2012.

A number of Off Street works items have progressed this period including; track work through the Gogar Burn landfill area, Gyle Tram Stop/Gyle Broadway, the Edinburgh Park corridor, ducting and drainage to the Gogar landfill, Bankhead drainage works, South Gyle Access Bridge

Abutments, Balgreen Road Bridge Abutments, Water of Leith Bridge Abutments, Roseburn Street structures, Russell Road retaining wall, Russell Road Bridge, OLE Pole installation at Edinburgh Park and the Guided Busway.

The airport retaining wall has been completed.

Soil mixing is nearing completion through the Murrayfield Corridor.

CEC have advised Turner & Townsend on the way forward for the Eastfield Avenue Crossing. This solution will now be instructed to Infraco.

Nineteen trams have now been delivered to the depot with seventeen trams having completed Routine Testing.

The cost report for this period takes account of the change in delivery approach for the York Place Works, the resulting de-scoping from Infraco and the transfer of works to Crummock and McNicholas. Provisional adjustments have also been made following agreement for McNicholas to take responsibility for the resolution of Type 2 utility conflicts and the corresponding de-scope from Infraco.

A commercial meeting was held with CEC, BBS, Turner & Townsend, on the 11th of July to resolve some outstanding matters. The requirement for an 8m tram stop for RBS, Edinburgh Gateway design costs and approach to Scotrail's requirements was agreed. Positions were proposed by each party on a number of other items, including the application of prelims overheads and profit on omitted works, off street utility diversions, the delayed start date following the Settlement Agreement and the valuation of drawdown against the 22 week "time bank." It has been agreed that the Independent Certifier will make an assessment on each of these points.

A review of the risk forecast was held with CEC on the 23rd of July and adjustments made to the probability and cost impact. It is proposed that further work is done on the utility conflicts, legacy works and claims for loss of productivity. The risk forecast will be updated in each period progress report.

2 Health, Safety & Environment

During the last period Turner & Townsend have been working to implement a number of initiatives regarding health and safety on the project. These have comprised:

- Aligning the monitoring of works to provide the information required for the Project H&S leading indicators.
- Undertaking targeted monitoring to review the barriers that are being utilised within the City centre following an incident which injured a member of the public.

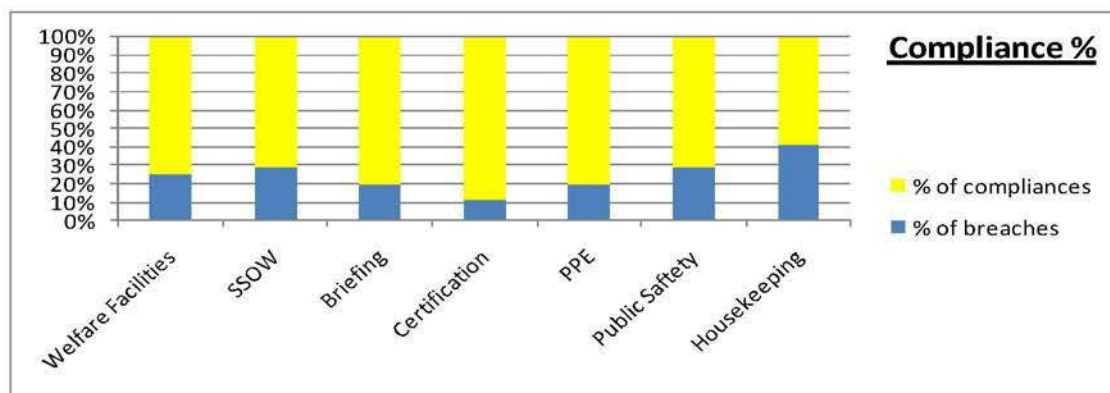
2.1 Management of Health & Safety

Joint monitoring between Turner & Townsend and the Principal Contractors has continued to progress well during this period. Programmes for joint monitoring are being extended to cover the works being undertaken by Crummock in York Place.

Leading indicators have been developed by Turner & Townsend as an output from the 'Think before you act' forum to focus on the Principal Contractors' management arrangements. These comprise:

- Provision of welfare facilities.
- Provision and implementation of a safe system of work (risk assessments, method statements.)
- Briefing of risk assessments, method statements.
- Personnel certification (CSCS, CSPS cards).
- Use of PPE.
- Public safety around the work site.
- Housekeeping within the work site.

The results of the monitoring of the leading indicators are extracted from the joint monitoring reports and displayed in tabular form below. **The results are used to support targeted initiatives throughout the following periods to improve the standards in these areas.**



Bilfinger Berger – Siemens held their monthly Occupational Health & Safety Meeting on 5th July which was attended by Turner & Townsend. Agenda items for the meeting included:

- Occupational health:
 - A review of hearing protection, with a presentation regarding customised moulding of ear pieces to filter out unwanted noise frequencies.
 - It was reported the Occupational Nurse for the project was providing advice to the Health and Safety Executive regarding the implementation of occupational health on the project.
- Workforce consultation – It was reported that the recent workforce consultation meeting had been a beneficial event.
- Positive Interventions – A review of the implementation of the Positive Intervention scheme that had recently been introduced by Bilfinger Berger was presented. It was considered that the scheme was providing useful information regarding issues and interventions that had been made.
- Eye Protection – The requirement to have the appropriate specification of eye protection for the work being undertaken was highlighted.
- Presentations to local Primary Schools – A report was provided regarding the visits to Roseburn Street and Balgreen primary schools that had been undertaken by Bilfinger Berger–Siemens and Turner & Townsend.
- Hand injuries – It was reported that there had been a number of hand injuries during the last period. The need for appropriate hand protection and planning whilst undertaking work activities was stressed.
- Silence is Consent DVD – The DVD covered the issues regarding near misses and their reporting. The need to report near misses was highlighted.
- CoCP results – A review of the results of the CoCP inspections that had been undertaken in P3 was presented by Turner & Townsend.
- RIDDOR – The details of the reporting requirements of the revised RIDDOR Regulations were highlighted. This was relevant due to Bilfinger Berger – Siemens described the process by which the positive intervention booklets would be implemented.

McNicholas have continued with their programme of training in the use of CAT and Genny equipment with a further 24 operatives trained.

Turner & Townsend participated in the Bilfinger Berger–Siemens visit to Roseburn Street Primary School the purpose of which was to raise awareness of the dangers of construction sites. The visit utilised the Network Rail 365 bus for a presentation, and also included a dumper and mini excavator being sited in the playground.

2.2 Incident reporting

During the last period there were 25 incidents on the Edinburgh Tram Project. Two of the incidents were identified as serious / significant. These comprised:

- One incident which resulted in injury to a member of public due to a section of RB2000 barrier being blown over. The investigation identified that the barrier had not been filled with water in line with the manufacturer's technical literature.
- One incident which resulted in hydraulic fluid and silt being washed into a tent that was part of the establishment for the Madonna concert at Murrayfield stadium. The incident was raised as serious / significant due to the possible impact on the hospitality arrangements. It was later confirmed that the tent was being used as a storage facility for drinks. The spillage was cleaned up and details of the materials used provided.

A further serious / significant incident occurred on 23rd July outwith the reporting period and as such does not feature in the statistics, but due to its severity is detailed below:

- On the 23rd July a mini excavator that was being operated by McNicholas overturned whilst tracking through a Crummock worksite on Princes Street. The mini excavator was being used as a piece of lifting equipment to transport a manhole cover slab. The overturning incident is reportable to the Health and Safety Executive as a Dangerous Occurrence under the RIDDOR Regulations. Turner & Townsend are working with McNicholas through the incident investigation process. Initial comments have been raised to McNicholas and assurances sought on appropriate immediate and follow up actions.
- Four incidents have occurred during the period, which have impacted involved damage to Scottish Water assets. Meetings have been held between Scottish Water, Bilfinger Berger, McNicholas, CEC and Turner & Townsend to review the incidents and agree the preventative measures.
- Reports have been exchanged between Turner & Townsend and Scottish Water in relation to the Grosvenor Street Sewer collapse. The responsibility for the collapse of the sewer is still not been agreed.

Incident Table:

Incidents reported within this period:

Date	Location	Detail	Contractor	Classification
29/06/2012	St Andrew Square	A MOP of the public was hit on the shoulder by a section of RB2000 fencing when it blew over. They hurt their shoulder but did not attend hospital	Crummock	Member of the public
04/07/2012	Haymarket depot	While breaking the piles it is alleged chippings from the operation came into contact with cars parked in adjacent Scotrail car park.	Expanded	Member of the public
26/06/2012	Murrayfield underpass	Damage to Scottish Water combined sewer – pipe crown of sewer penetrated at pipe joint.	Grahams	Service damage
27/06/2012	St Andrew Square	Damage to the top of Virgin Media ducts – no damage to services identified	Crummock	Service damage

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Date	Location	Detail	Contractor	Classification
27/06/2012	Murrayfield	Sewer identified as containing a build up of grout resulting in back up of sewerage in sewer system.	Grahams	Service damage
04/07/2012	St Andrew Square	Damage to 250mm concrete section to manhole 6101. 500mm ring damaged & cracked by 8 tonne excavator for track improvement slab.	Crummock	Service damage
05/07/2012	Grosvenor Street	Damage to a 180mm dia plastic gas main with a machine bucket. Minor leak of gas.	McNicholas	Service damage
10/07/2012	Bankhead Drive	During excavation work to install drainage a significant water leak was found on a 450mm DI water main at a VJ coupling close to a 45 degree bend.	Crummock	Service damage
06/07/2012	Coates Crescent	Contractor touched lamp post outside 19 Coates Crescent and received a slight shock (John Carroll). Contractor has no injuries	McNicholas	Service damage
13/07/2012	Bankhead Drive	Damage caused to existing manholes MH6203, MH8301, MH0302, and MH1302.	Crummock	Service damage
12/07/2012	Bankhead Drive	Changes to MH7301 and MH2301 have been undertaken without Scottish Water approved TQ and ATC for the works.	Crummock	Service damage
13/07/2012	Coates Crescent	Scottish Water apparatus damaged or buried by tram works.	Lagan Construction	Service damage
22/07/2012	Coates Crescent	McNicholas were excavating a section of foamed concrete in Coates Crescent when they damaged a 25mm gas supply to a hostel.	McNicholas	Service damage
28/06/2012	Princes Street	Minor spillage of diesel when changeover took place of diesel generators.	Siemens	Environmental
04/07/2012	Picardy Place	Trial hole flooding and leaking water into pub basement. No damage to building / equipment.	McNicholas	Environmental
04/07/2012	Haymarket Yards	Sewage visible on ground surface when works were being undertaken.	Grahams	Environmental
18/07/2012	Murrayfield	Hydraulic leak on piling rig resulted in some hydraulic fluid entering a tent at Murrayfield for the Madonna concert.	Grahams	Environmental
02/07/2012	Roseburn St / Murrayfield tram stop	Silver Citroën Saxo (W522 UAL) struck class 1 traffic barriers, occupants (2 x male, 3 x female) exited car and ran away.	Grahams	Road traffic accident
09/07/2012	Murrayfield	Keller operative sustained injury to little finger. Operative visited hospital for treatment & returned to work next day.	Grahams	Minor injury
17/07/2012	St Andrew Square	Concrete truck mixer driver received cut to finger.	Crummock	Minor injury
18/07/2012	Gogar land fill	A concrete sleeper was being moved when it fell on to an operative's foot. He attended hospital and then returned to work.	BAM	Minor injury
12/07/2012	Haymarket Yards	Morgan Sindall employee received electric shock from water heater in shared welfare facilities. Person returned to work.	Grahams	Unsafe condition

Date	Location	Detail	Contractor	Classification
28/06/2012	Bankhead Drive	Site operative accessed manhole which was classified as a confined space without the use of the equipment he had been issued for the SSOW.	Crummock	Near miss
20/07/2012	Coates Crescent	Report from Scottish Water that a sheet pile came loose from a height whilst being moved and almost collided with a operative.	McNicholas	Near miss
26/06/2012	Princes St	A window in Topshop has been broken as a result of a RB2000 top panel being thrown through it.	Crummock	Other

Significant Incidents

2.3 Safety Initiatives

Following the incident with the RB2000 barrier blowing over in St Andrew Square Turner & Townsend undertook a targeted monitoring exercise of the RB2000 barriers installed on the project to review the level of compliance. The results are included within the Deliver the Tram Safely Report which is included within the Health & Safety Dashboard (See Appendix 2).

The following safety initiatives will be targeted in the next period:

- Management of lifting operations.
- Vehicle movements in and around work sites.

2.4 CDM Regulations

Reigart completed the demolition works on the 25th July to the toilet block at Cathedral Lane. The site is now fenced off.

The CDM process has been implemented for the enabling works at York Place which are being undertaken by Crummock. This has included:

- Review of an updated competency assessment for Crummock to undertake the role of Principal Contractor.
- Issue of pre-construction information.
- F10 Notification of the project to the Health and Safety Executive.
- Review of the Crummock construction phase plan and welfare arrangements.
- Arranging meetings between Crummock as Principal Contractor and McNicholas as Contractor to agree the interface and communication / co-operation between the organisations.

The construction works commenced on the 16th July and joint reviews have been undertaken with Crummock to assess initial site set up and H&S arrangements.

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The involvement in the CDM process for the works to reinstate the monuments has been raised with Shane Mackenzie from City of Edinburgh Council. He has confirmed that the CDM process and appointment of duty holders is being undertaken by City of Edinburgh Council.

2.5 Environmental

Four environmental incidents were reported during the period. One incident has been recorded as significant relating to a hydraulic oil spill by Grahams adjacent to Murrayfield Stadium. The spill arose from a hydraulic leak on a piling rig. Hydraulic fluid entered a tent that had been erected for the Madonna concert.

An environmental inspection was carried out with BBS on 12th July; Section 5 Edinburgh Park. No major issues were identified.

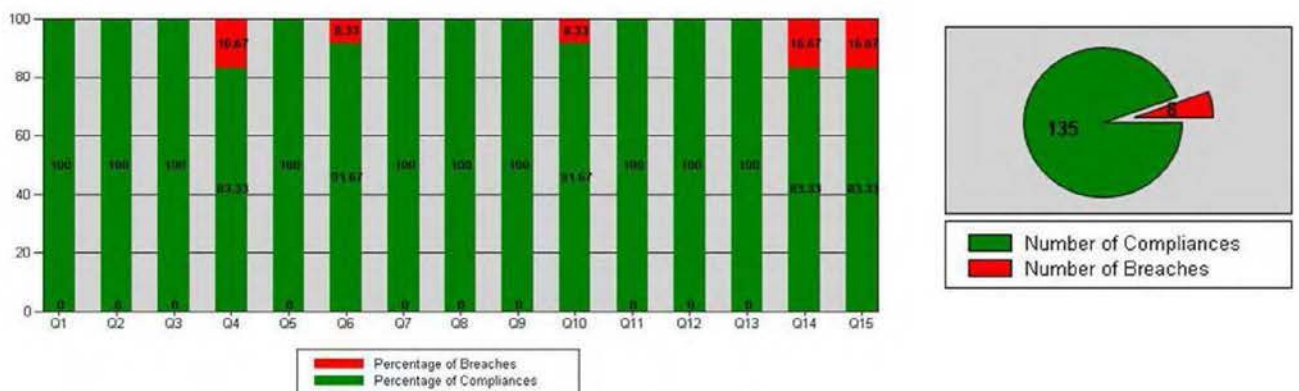
A sewerage leak has been identified at the Grahams site in Haymarket Yards. Grahams have identified the source of the source of the leak. SDS and Scottish Water are now in the process of agreeing the connection to a local sewerage out fall as a permanent solution. The sewerage is currently being tankered off site.

An Environmental Site Walk was carried out with the new Edinburgh Airport Environmental Manager (Julie McKinney) on the 3rd July 2012. This walk round was to advise the new manager of the current status of the tram works at the Gogar Burn and was attended by T&T, BBS and the ecological clerk of Works. No issues were identified.

The reinstatement of the Ocean Terminal Monument commenced on the 19th July 2012. This work was instructed by Shane McKenzie of CEC. The reinstatement of the Conan Doyle monument is anticipated to commence on the 30th July 2012.

2.6 CoCP

CoCP compliance was recorded at 94% during the Period. The results of the CoCP monitoring have been passed to CEC Communication Team to be uploaded to the project web site. Details of these are included below.



▪ Q1. Hours of Work	▪ Q9. Emergency Access
▪ Q2. Notification	▪ Q10. Parking
▪ Q3. Notices	▪ Q11. Litter and general housekeeping
▪ Q4. Fencing and Hoarding	▪ Q12. Dust
▪ Q5. Noise	▪ Q13. Smoking
▪ Q6. Waste Management	▪ Q14. Members of the Public
▪ Q7. Waste Water and Run-Off	▪ Q15. PPE and Behaviours
▪ Q8. Water	▪

3 Programme

3.1 Progress this Period

Good progress is currently being made across the majority of the length of the route. Of note has been the commencement of works at both the Edinburgh Gateway and York Place.

The current known delays attributable to utility clashes at Shandwick Place, St Andrews St and South St Andrews St / Waverley Junction have largely been resolved. Shandwick Place was handed back to Infraco during the week beginning 11th of June; Haymarket (with the exception of the collapsed sewer remedial works) week beginning the 18th of June; and St Andrews Square week beginning the 18th June.

With the agreement of Infraco, T&T/McN have commenced Scottish Water legacy and Type 2 works in Shandwick Place in parallel with Infraco work in this area. The aim of this concurrent working is to minimise future Infraco delays.

The advance works at Cathedral Lane have been completed. The sheet piling works in the Murrayfield Corridor have been completed and the focus is now on the Ground Improvement activities.

The forecast completion for Section B has been recovered and is now forecasted for the 5th of March 2013. This has been achieved through improved detail for Section B Testing and Commissioning along with good progress in period.

As a result of the Cost Engineering initiatives implemented in early 2012, both the Section C & D dates are being forecast to be achieved ahead of the contractual dates. This improvement is further enhanced by the implementation of the York Place Radical Programme. Currently, the Section C & D dates are being forecast as 31st of January 2014 and the 1st of May 2014 respectively.

3.2 22 Week "Time Bank"

Based on Infraco's programme update contained within their period 5-2 progress report, and subsequent agreement in the 'Planners Forum', 11 weeks of the 22 week cost engineering programme saving has been eroded as a result of utilities works and the re-design of the On Street drainage.

With the majority of utility conflicts now resolved, good progress is being seen in all On Street areas. It is expected that erosion of the 22 weeks is beginning to bottom out resulting in a peak in the drawdown in the Infraco 5-3 progress report.

With respect to the Rev5C programme, the erosion of the 22 weeks is primarily driven by the delays at Shandwick Place, St Andrew Street and Princes Street attributable to drainage works and utility conflicts.

Delays have also been evident at South St Andrews/Waverley Junction and these also contribute to the erosion of the 22 weeks. There is the potential that this area could become critical for the erosion of the 22 weeks going forward.

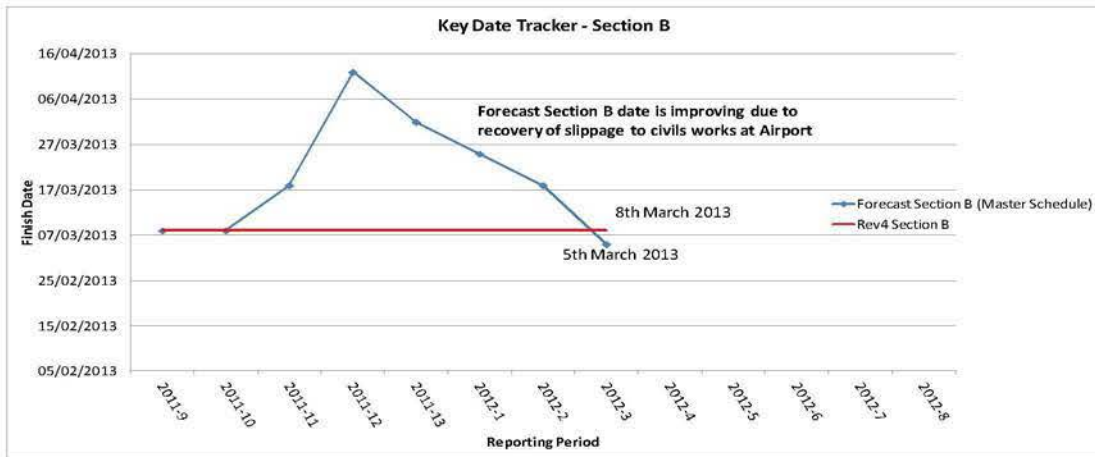
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Although delays have been evident with respect to the Infracore works, McNicholas have made significant progress with the drainage and track bed works. This progress is being taken into account in discussions with Infracore on the overall progress position.

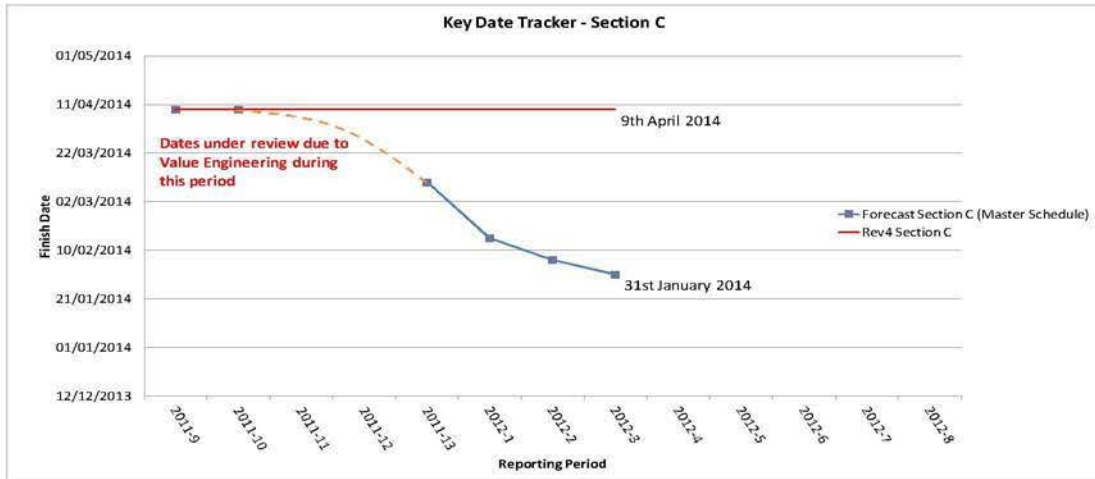
3.3 Key Dates Tracker

The charts below track the forecast dates (from the Master Schedule) for the Sectional Completion milestones against the contractual dates and their movement throughout the project lifecycle to date.

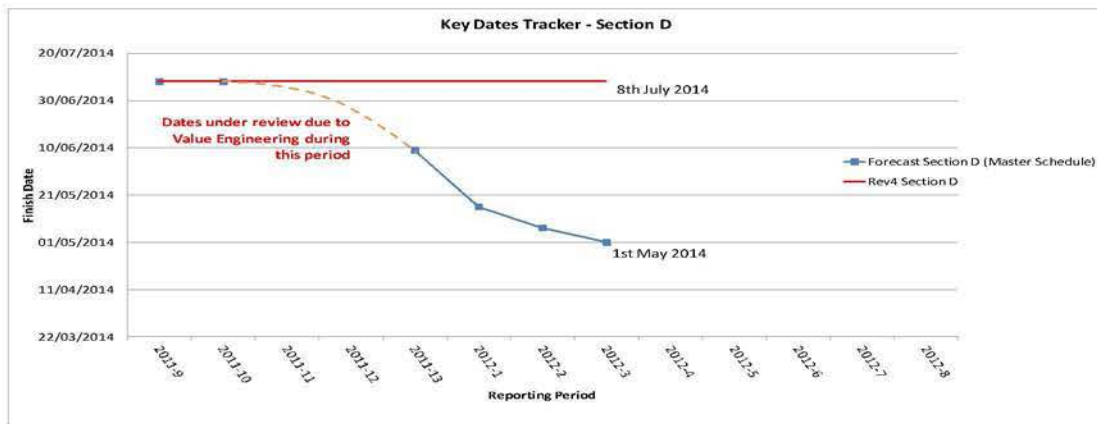
Section B; Test Track Complete



Section C; All Construction Complete (including T1 & T2 testing)



Section D; Open for Revenue



3.4 Programme Structure

3.4.1 York Place 'Radical Programme'

Option 2 of the York Place Radical Programme has been implemented and works have commenced. This comprises:

- Planning activities are ongoing and are progressing to schedule.
- TM was put in place Sat 14th July and is operating well with no accidents to date.
- An early review of Scottish Water assets will be carried out to identify any potential issues.
- The Master Schedule has been amended to reflect the current position.

3.4.2 Critical Path (Master Schedule)

It is to be noted that the current forecast completion dates for Section B, C and D are in advance of the contractual dates, with an overall saving of over 2 months to the schedule. The Critical Path referred to below, relates to the 'Longest Path' through the programme which would adversely affect the currently forecast end date if delayed.

Following the inclusion of the York Place 'Radical Programme' within the Master Programme, there are now four critical paths being tracked as shown on the high level programme below:

- 1 **Off Street:** Section 5C (Edinburgh Gateway) / Section 5A Testing & Commissioning
- 2 **On Street:** Section 1D (Shandwick Place) / Section 1D E&M Installations
- 3 **Off Street:** Section 5A (Roseburn Junction to Balgreen Road)
- 4 **On Street:** Section 1C (York Place utilities) / (York Place mainworks)

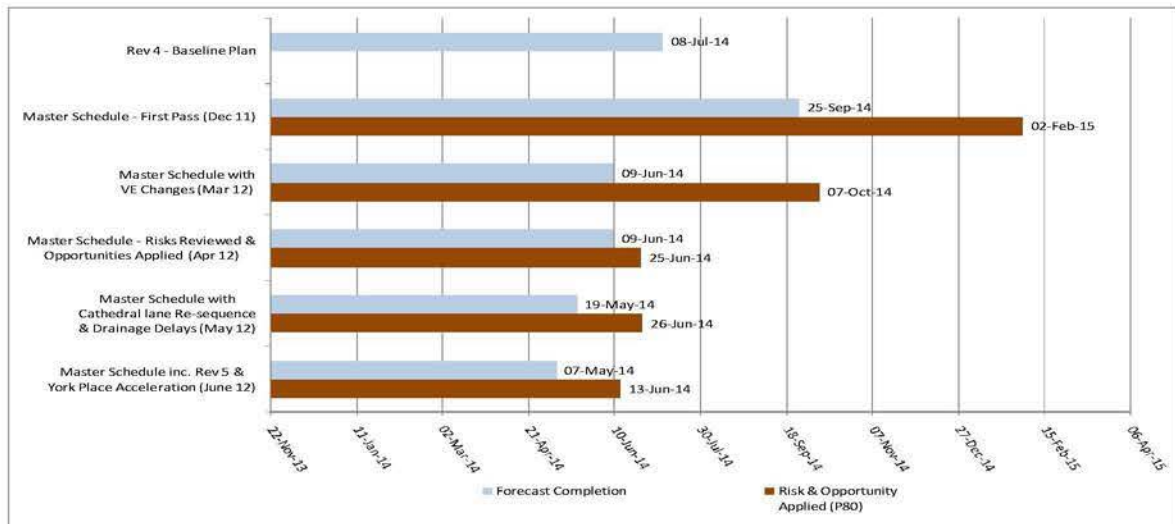
Turner & Townsend presented the opportunity for an On Street and Off Street programme improvement within a presentation to CEC on 25 July 2012. Further development of this thinking will take place prior to agreeing the next iteration of the construction programme in September 2012.

4 Risk

4.1 QSRA Tracker

The QSRA remains unchanged for this period. The next update is forecast for September 2012.

The chart below shows the forecast dates (before risks are included) and the 'impacted' dates at each iteration:



4.2 Project Risk update

Turner & Townsend undertook a review of the project risk register with CEC on 23 July 2012, as a result of which, a number of amendments were identified. These will be incorporated within the overall assessment of risk within the next reporting period.

5 Commercial

5.1 Cost Summary

Amount (£K)	Contract Sum	Approved Change	Revised Contract Sum
Totals	479,660	8,882	488,542
Change in Progress			10,430
Anticipated Change			7,057
Contributions			-8,365
Forecast Change / Contributions			9,122
Forecast Total			497,664
Risks (draft QCRA discussed with CEC, updates needed on key risks before formal issue)			5,000
Opportunities (refer opportunities section below)			5,000
Risks & Opportunities			5,000
Revised Forecast			502,664
Budget			500,154

5.2 Movement from previous period

The overall forecast has reduced by £422k in the period. The principal movements are identified below.

The Infraco contract forecast has reduced by £683k from the previous forecast. Significant changes include:

- Enabling work at York Place has been de-scoped from the Infraco contract resulting in an agreed **reduction** of £1,015k
- The forecast for works to provide communication links to Annandale Street has **increased** by £79k, owing to both Off and On Street scope developments. The scope and costs are being finalised
- The on street works estimate has **increased** by £214k, resulting from pricing assumption variations encountered during the period, principally relating to utilities.

The enabling works in York Place to be carried out by Crummock in a new direct contract with CEC are £1,315k. This represents the de-scope amount from the Infraco Contract which was based upon a "utility free" environment and an estimate for changes in construction method to address the actual constraints presented by utilities and removal of foam concrete.

The Utility forecast has reduced by £595k in the period. Significant changes from the previous period's report include:

- A **reduction** of £800k in the forecast as a result of works in York Place being transferred from McNicholas to Crummock.
- To mitigate impact of Type 2 conflicts it has been agreed that McNicholas will complete bases and ducts. Additional changes, including introduction of traffic sign bases and street lighting bases along with revisions to emerging costs in the utility forecast resulting in an **increase** to the forecast of £205k (Note: Scope, programme and need for night time working to be finalised).
- A **reduction** to the Leith Walk legacy works of £430k based on the assessment of received tenders for the manhole and water remedial works.

5.3 Commentary on summary table

- Approved change has increased by £4,526k to £8,882k. This has been caused by the additional utility enabling works (budget drawdown of £4,489k). Other items include £74k of off street changes and £-34k for the most recent on street works estimate. A detailed summary is provided in the Approved Changes section of the report below.
- A meeting was held with the CEC project team on the 23rd of July to review the QCRA/QSRA. The probability and impact of risks were discussed and amended where required. Updates are required on the risks associated with Type 2 utilities (traffic signal poles and traffic signs etc), Scottish Water legacy items and additional scope not defined or costed (this risk covers ongoing Pricing Assumptions Variations on the on-street work and estimating tolerance for items excluded from the Contract Price such as floating track slab, cathedral lane substation and York Place terminal point, but an estimate allowance is included in the cost report).
- The drawdown to period end 23rd June 2012 shows a reduction of 11 weeks on the original Infraco 22 week cost engineering programme (Rev4c). The Master Programme has been updated using the May period progressed version of the Rev 5 programme and our assessment of the On-Street Works. The Master Programme will be used to assess programme risk and opportunities.
- Commercial meetings have been held with BBS on a number of matters, refer below, and progress has been made. The key outstanding items include confirmation of Rev3A to Rev 4 costs for the delayed start, allocation of costs/saving for the 22 week saving in the Rev 4 to Rev C programme, and claims for disruption in St Andrew Square (note: Schedule 45 does not provide for disruption claims, it envisages re-imburement through Pricing Assumption Variations). The Independent Certifier is to confirm opinions on each of the matters. Note: no provision have been made in the forecast for BBS receiving a change order for their portion of the programme saving, £6.46M, in addition to their contract prelims.

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5.4 Infraco (including Utility drawdown's and scope changes)

5.4.1 Approved Changes (Movement in the Period)

The changes approved this period at the CEC/Turner & Townsend weekly change meetings are provided below.

Approved Change	Amount (£K)
Previous approved change	4,356
tNC 524: Airport to Gyle - NIL Design Finalisation (also includes Construction)	-41
tNC 586: St Andrew Square - tie in detail	15
tNC 601: Clarification on length of shelter to RBS tram stop (8m)	27
tNC 621: Amend the dates of the HV meter installation at substations	12
tNC 624: Compressed Air Supply to Depot Gantry Road and workshop	6
tNC 640: Unimog Insurance	-1
tNC 652: Maintenance of The Depot Workshop Equipment	49
tNC 574: Haymarket Station - Delete viaduct cladding	4 *
ICCO008 – On Street Changes to 26/5/12	-34
Utility drawdown 003	4,489
	8,882

* Variance to previously approved change

5.4.2 Changes in Progress

Changes in Progress include items which cannot be mitigated and the change is agreed in principle. Changes in this section of the cost report during the period are:

	Previous Forecast (£k)	Period Adjustment (£k)	Current Forecast (£k)
tNC 541: Princes Street - City Chamber - Annandale Street Communication Links. Usage of CEC available BT-Lines to avoid provision of direct FO link from Princes Street to City Chambers	111	79	190
tNC 543: Haymarket H1 - Utilities affecting the construction of OHLE foundations	250	6	256
tNC 547: Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	4	8	12

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	Previous Forecast (£k)	Period Adjustment (£k)	Current Forecast (£k)
tNC 549: Princes Street - Amend the design of the St. Johns Church OLE bases	17	37	54
tNC 554: St Andrew Square & Shandwick Place - Traffic Management Requirements	220	16	236
tNC 596: Section 1D - Costs associated with amended drainage design	116	2	118
tNC 598: Section 1D - Incorporate geotextile liner into Clifton Terrace void in accordance with requirements from Archaeologist	4	-2	2
tNC 600: Shandwick place - OLE bases affecting utilities (Piling)	307	4	311
tNC 606: York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	46	11	57
tNC 629: Utilities affecting Track Excavation at Shandwick Place (S1)	9	69	78
tNC 630: Utilities affecting Track Excavation at Shandwick Place (S2)	19	37	56
tNC 635: Amend on street drainage scope		9	9
tNC 638: Remove pedestrian guardrail outside St John's Church		5	5
tNC 647: Design work to support VE on carriageway reconstruction & kerb realignment	10	40	50
tNC 659: Road signage at Junction of Manor Place / Melville Street		2	2
tNC 660: Princes Street Traffic Management		10	10
tNC 661: Blank off signage to Depot		10	10
tNC 662: Eastfield Avenue Topographical Survey		3	3
tNC 663: Heras fencing at depot		7	7
tNC 664: Gogar Castle Access Road - Additional High Friction Surfacing		6	6
tNC 666: Pedestrian gate next to the vehicle access gate at the ScotRail Depot.		2	2
tNC 667: Call off service to respond to Network Rail TQs and interface issues		5	5
tNC 669: SGN Remedial Works - backfill at New Ingliston		12	12

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	Previous Forecast (£k)	Period Adjustment (£k)	Current Forecast (£k)
Land			
tNC 670: SDS Response to Road Safety Audit for Princes St		10	10
tNC 671: ScotRail car park security fence		10	10
tNC 672: Depot - Provide a wet vac to mechanically remove water ingress		1	1
tNC 673: Cancel order for OLE poles required for Secondary Phase 1a		-42	-42
		357	

5.4.3 Anticipated Changes

The movements in the period are provided below:

Anticipated Change to 26 th June reporting date		£12,180K
Infraco Works		
Dublin Street steps – increase to include works to adjacent properties		£20k
De-scope on street traffic sign and street lighting bases from Infraco contract	Works to be carried out by McNicholas	£-50k
York Place Enabling (Crummock)		
Inefficiencies associated with working round utilities	Previously contained in McNicholas budget	£300k
Utility Diversions		
Budget drawdown	Forecast transferred into approved change	£-4,489k
York Place enabling transfer	York Place excavation transferred to McNicholas	£-800k
Forecast Adjustment	Miscellaneous changes including addition of traffic sign and street lighting bases	£176k
Revision in the forecast for Leith Walk legacy works	forecast amended based on received tenders for the manhole and water remedial works	£-430k

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Anticipated Change to 26 th June reporting date		£12,180K
Tramco		
Tram Integration Manager	Costs to be offset by contribution from Transport Scotland	£150k
		£7,487k

5.4.4 Contributions Register

Contributions from 3rd party, stakeholder or other CEC budgets are being developed in order that the amounts can be finalised. The current position is as follows.

Works	£K	Status / Action
Edinburgh Gateway – legacy design and project management	940	TS have been provided with details and agreement of expenditure is agreed each period
New Ingliston – ducts & crossings	540	Agreed with NIL
Cathedral Lane Sub-station	470	Costs submitted to Henderson Global (HG) amounting to £470k for design and the amended construction scope resulting from HG's requirements. £400k is included in the cost report to provide tolerance should the full amount not be recoverable from HG. Note that the final scope / costs are subject to site constraints.
RBS Tramstop	560	Agreed with RBS
St Andrew Sq Public Realm design	133	Contribution confirmed from separate CEC budget
CEC miscellaneous (George St)	318	Contribution received from separate CEC budget
Haymarket Station redevelopment	36	NR have agreed to undertake removal of staircase and parapet, NR to fund costs of sub-station plinth amendments and re-routing of Scottish Power cable.
Setts in On-Street Works	890	Forecast cost associated with setts in St Andrew Square. Final rates and costs to be agreed with Infracore.
Edinburgh Gateway	4,140	A final construction estimate on the agreed scope is currently being prepared by BBS. Costs will be funded by Transport Scotland.
Grosvenor Street Sewer – Insurance claim	188	Ongoing with Insurers
Tram Integration Manager	150	Contribution to be received from Transport Scotland
Total	8,365	

5.4.5 Risk and Contingency Analysis

At the Tram briefing meeting, 17th May 2012, the draft cost risk forecast and schedule risk forecast was presented in the sum of £5,000k. The risk estimate does not provide for the possibility of contributions not being received. The items at risk include Cathedral Lane substation, Haymarket Station, Network Rail amounts and the Grosvenor Street collapse.

A meeting was held with the CEC project team on the 23rd of July to review the QCRA/QSRA. The probability and impact of risks were discussed and amended where required. Updates are required on the following.

- ED071 – quantity, scope, method of execution and programme for the type 2 conflicts is required to replace the cost estimate in the cost forecast and to confirm the potential risks. The detailed planning will take some time, however a cost impact assessment will be made to identify the cost risk.
- ED019 - additional scope not defined or costed (this risk covers ongoing Pricing Assumptions Variations on the on-street work and estimating tolerance for items excluded from the Contract Price such as floating track slab, cathedral lane substation and York Place terminal point, but an estimate allowance is included in the cost report).
- ED109 - Scottish Water, review the legacy works Haymarket to York Place and any Scottish Water scope increases Off Street resulting from approvals. Also rationalise with risk ED123 SW scope increases.
- ED120 - Claims for loss of productivity. The current cost impact is £280K which is likely to be too low, given indications from BBS. The probability is determined by the contractual stance since Schedule 45 does not make provision for disruption claims and the contractor willingly undertook work on a phased basis. The impact is a function of resources mobilised and non recovery of costs from contract milestones and the On Street Works Estimate.
- ED115 Leith Walk Utility works - the current assessment provides £160K which was against a baseline estimate of £2,700k. The tenders have been returned and a new baseline of £2,270k and therefore the risk impact / opportunity requires re-assessment. Key items include: works to valves, spatial constraints affecting the rebuilding of manholes and the length of gas/water separation.

At a strategic project level, the key sensitivities are:

- Emerging Infracore scope items where there is ambiguity in the IFC drawings – examples include the ScotRail access gate where the IFC drawings show a simple arrangement and Infracore now claim that ScotRail have made additional security requirements and pedestrian access arrangements. This type of example and others such as the duct conflict with the existing Network Rail fence post foundations at Haymarket Yards indicate that a number of ambiguous design scope issues will continue to emerge.
- Schedule opportunities – critical path and end date assuming York Place is brought forward and therefore critical path moves to Shandwick Place which is currently being affected by the drainage re-design.

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- Commercial principles for securing schedule savings – the cost engineering instructions provided a framework for sharing savings on a 50/50 basis with CEC. Infraco have presented a view that they have re-sequenced their works and therefore should be reimbursed their share of the saving in addition to contract prelims / OHP. This equates to £6,460k. The counter argument is that the cost report includes all their contract prelims and provided the project is finished on time then no further cost should be authorised. The additional £6,460k is not included in the cost report.
- Failure to secure contributions - these include Henderson Global Cathedral Lane Sub-station, Network Rail Haymarket and ScotRail, compensation from Scottish Water or Insurers for the Grosvenor Street Sewer Collapse

5.4.6 Opportunities and Baseline Project Instructions

All items in the opportunities and baseline project instructions have been issued. These are tracked through the cost report and change control process.

5.4.7 On Street – Schedule 45 Pricing Assumption Variations and Commercial Issues

On Street Works Estimate Certified to Date:

Description	ICC Certificates to Date (£k)	Action
Disruption and other costs associated with utilities	799	Ongoing monitoring of costs and mitigation of risks
Temporary accommodation for utilities contractor	2	Complete
Road re-construction protocol (opportunity to reduce depth)	0	Opportunities to be valued once scope established
Scottish Water diversion Princes St	253	Complete
Christmas embargo – temporary infill Princes St	204	Complete
Traffic Management costs for amended programme constraints	178	Ongoing review and mitigation of costs being carried out
Revised drainage design	129	Ongoing agreement on value of amended scope
Geotextile liner to Clifton Terrace void	2	Complete
Princes Street additional works	49	Agreement of final total costs currently being undertaken
Total ICC Value to date	£1,617k	

The following additional Commercial Issues are currently under consideration:

Issue	Status	Action
Mark-ups on omissions and negative changes. BBS are proposing a reduced mark-up on such items from what is stated in the contract		Turner & Townsend require instruction from the independent certifier on the mark-ups to be applied to omissions and negative changes as we consider what is being proposed by BBS to be a departure from the contract.

Issue	Status	Action
ScotRail requested works		Investigation into potential contribution from ScotRail for works which are additional to the Employer's Requirements
Gogar Castle Road		Requirement to be challenged to remove potential additional cost
Off Street Utilities; BBS claim certain utilities (principally SGN diversion in NIL land) are excluded from their price.		Turner & Townsend require instruction from the independent certifier as acceptance would be a departure from the settlement agreement
Rev 3a to 4 Prolongation costs; BBS have not justified the costs incurred to T&T's satisfaction		CEC to confirm if they require T&T to pursue further to establish if costs have been incurred.
Rev 4 to Rev4c Cost Engineering; BBS maintain that their portion of the VE saving (£6.5M) should not be eroded by the time bank drawdown		Turner & Townsend have forwarded a paper to CEC providing a commentary and demonstrating the effect of this issue. Further guidance is sought from the IC on the intention of this VE item.
Claims for disruption; BBS have stated that there is a cost for disruption in section 1C		Schedule part 45 makes no provision for claims for delay and disruption beyond what is included in the period end estimate (i.e. any claim should form part of period end estimate)

Note that items with a red status are not allowed for within the current cost forecast.

5.5 Utilities

5.5.1 Budget

The approved budget of £12,262 has increased by £4,489 in the period. This is a drawdown from a previously established forecast and does not, in itself, affect the overall forecast.

5.5.2 Contract

The contractor has offered a saving from the 11.48% management fee to 9.3% on the basis that as the contract is NEC Option E, cost reimbursable, the costs are audited and concluded on a quarterly basis.

These changes have been incorporated into our forecast.

5.5.3 Approved Changes

There have been no approved changes in scope in the period.

5.5.4 Changes in Progress

The contract form is NEC Option E – Cost Reimbursable. The contract is being administered by an NEC change management system which tracks orders/changes for specific items of work. This enables control over commitments and managing expenditure.

5.5.5 Anticipated Change

The cost estimate was originally developed on the basis of a cost per conflict type. Given a greater understanding of the nature of the diversions required, a programme with resources to suit the scope and programme sequence is updated and monitored on a regular basis. This resource plan has been used to form the basis of the estimate. This estimate is under continual review, comparing actual progress against planned and actual resources against planned. The sequence of work is as follows.

Priority	Original strategy	Revised strategy
Priority 1: works in advance of Infraco	Overhead Line Bases Road Level Conflicts Tram Ducting Chambers Tram Ducting Track Construction	Overhead Line Bases Road Level Conflicts Tram Ducting Chambers Tram Ducting Track Construction Drainage – transfer of some drainage networks in Haymarket, Shandwick Place and St Andrew Square from Infraco Drainage excavation, proving and identification of new routes owing to utility conflicts Drainage gully's IMU drains Track box and Tram duct excavation in Haymarket, Shandwick Place and St Andrew Square from Infraco Duct excavation Cathedral Lane Some kerb realignment
Priority 2: works in parallel with Infraco through call off or isolated work areas	Traffic Signal Pole Street Lighting Column Road Sign Base Kerb Re-alignment Drainage Drainage Gulley	Traffic Signal Pole Street Lighting Column Road Sign Base Remaining kerb re-alignment

The key issues being addressed in the estimate include:

- The majority of the Type 1 conflicts have been resolved, a review of this is being undertaken to determine if there is any residual work. Also the scope and methodology for diverting the Type 2 conflicts is being examined. This will involve a transfer of the excavations, foundation bases and ducting from Infraco to McNicholas.
- Scottish Water has submitted a proposal for management and supervision costs for On-Street, Off-Street and Legacy Works for the project until 2014. These costs are being challenged; however they are in excess of the forecast allowance which is based upon a December 2013 completion. A meeting was held 19 July 2012 and the forecast dates for each section were to be re-confirmed to allow the supervision cost forecast to be revised.

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5.5.6 Legacy "snags" / defect correction Scottish Water assets Haymarket to York Place

The scope of work is being developed through evaluation of the "snagging" lists and engagement with Scottish Water.

The current estimated cost is £1,218k and the scope is being developed and agreed with Scottish Water.

Grade 3, 4 and 5 sewer repairs – Scottish Water claim that tie committed to doing these works however in our view they would fall within the requested works provisions of the 3rd party agreement and therefore be funded by Scottish Water. These are not included in the cost report at this stage.

The sewer collapse in Haymarket is to be recovered through the insurance provisions or contribution from Scottish Water.

5.5.7 Legacy "snags" / defect correction Scottish Water assets York Place to Newhaven

A tender recommendation and reconciliation between the estimate and the tender has been provided to CEC. CEC have advised that the Council are reviewing the integration of public realm, road repairs and the legacy works. The programme will be re-scheduled to accommodate the outcome of this review.

Management of the implementation phase has been discussed with CEC and final instructions will be confirmed imminently.

The current overall forecast has been adjusted to £2,270k which represents the undefined work at £1,250k as the previous estimate and the recommended tender figure plus an uplift for scope growth resulting from spatial constraints around manholes and discovery of additional valve and gas/water main separation works.

5.5.8 Legacy works constructed under MUDFA

The legacy works constructed under MUDFA are being programmed around the Infraco works. A summary is provided below:

- Princes Street is generally complete with some residual items yet to complete.
- St Andrew Sq and Shandwick Place residual items being completed around the Infraco Works
- York Place items are being programmed with Crummock enabling works.

A review of the scope and completion programme is being undertaken.

5.6 Tram Vehicles

The budget for Tram Vehicles is £62.4m which is lower than the contract sum at £63.6m.

There are no changes to the forecast during the period. The forecast has been increased by £150k which is the agreed annual payment for the Tram Integration Manager. This is offset by a contribution for this resource is being sought from Transport Scotland.

5.7 Payments and Cash flow

A summary of the certified amounts are provided below.

	Certified £K	Planned £K	Comment
Infraco	306,996	311,028	Planned – based upon Rev 3A programme
Utilities	7,300	7,020	McNicholas plus SUC costs
Trams	58,097	59,002	Payments generally in accordance with milestone schedule. Incomplete milestones are not included in certified amounts.

6 On Street - Enabling Works & Utility Legacy Works

6.1 General

It was reported previously that significant areas of the On Street section are now in the possession of Infraco and the main tram works are progressing well, this remains the case. It was also reported that there will continue to be instances where discrete areas will need to be taken back to deal with minor conflicts, outstanding Scottish Water legacy issues and what are termed "type 2" conflicts.

In discussions with Infraco and in finalising value engineering proposals for carriageway reconstruction Turner & Townsend has agreed to finalise some quite significant Scottish Water legacy issues and type 2 conflicts in Shandwick Place in parallel with excavating the remainder of the area to allow for reconstruction of the carriageway.

In most areas of the On Street section Turner & Townsend, in conjunction with CEC and Infraco, has agreed to retain significant sections of existing carriageway and kerb lines in response to the value engineering initiative carried out earlier this year. Rather than excavating and reinstating to full depth a solution has been found in most areas that involves removing and replacing a relatively shallow depth of flexible pavement. A solution has also been found in St Andrew Square between West Register Street and Clyde Lane that involves retaining the existing kerbs and footways.

In Shandwick Place (between Lothian Road to just west of Stafford Street) however this approach to retaining the existing carriageway has proved more difficult as the road reconstruction through this area, carried out under the MUDFA contracts, is of poor quality. There are significant voids under the roadway exposed by McNicholas when excavating for the track box through the area. Coupled with this there is a significant Scottish Water snag on the south side of Shandwick Place that needs resolution as well as some other more minor Scottish water snags.

In response to this Turner & Townsend has agreed with Infraco that, from 19th July 2012, the northern section of the site can be shared to facilitate excavation of the poor quality material and resolution of some of the more minor snags. This will be carried out in parallel with the Infraco works until early August. Once Infraco has completed its track works on the inbound section of Shandwick Place Turner & Townsend will need to take possession of the site to complete the south side excavation works and carry out the Scottish Water snag which involves separating a water pipe from two BT ducts sitting directly above it.

Once Turner & Townsend has carried out these works, which will take 3 to 4 weeks from the site being handed over, Infraco has been instructed to construct the sub base of the carriageway through this area using foamed concrete. This will remove the need for further utility diversions being required and will provide a homogeneous foundation for the new road adjacent to the track slab. This approach has been approved by CEC and will provide a more robust long term solution through an area which would otherwise be difficult to access for road reconstruction once trams are in service.

6.2 York Place

York Place enabling works commenced on 16th July as planned and is being carried out in two phases. As previously reported Phase 1 entails partially closing York Place while leaving two

operational bus lanes, one in each direction, with access and egress into Elder Street. During Phase 1 the bus station on Elder Street will remain open. In Phase 2 York Place is closed from Broughton Street to North St Andrew Street and the bus station is relocated. It is still envisaged that Phase 2 will commence at the end of September 2012 when Infraco is able to provide a traffic lane at the junction of South St Andrew Street and Princes Street. All enabling works in York Place are scheduled to be completed by the end of the 2012.

In consultation with CEC it was agreed that the scope of enabling works through York Place would increase based on lessons learned from other sections of the works to include the utility conflicts, "track box" excavation, drainage and all tram ducting. This proposal was put to Infraco and in response a strategy was discussed involving Infraco's sub-contractor Crummock. This was pursued and a separate contract has been negotiated between Crummock and CEC based largely on the approach being used with McNicholas using the NEC form of contract Option E. McNicholas has been retained to carry out the utility diversions in York Place under its existing contract working alongside Crummock under the management of Turner & Townsend.

A key driver in facilitating early works in York Place was the completion of some ducting and demolition enabling works at Cathedral Lane/Elder Street and a 12 way BT diversion at Broughton Street. All these works were completed on target before 16th July 2012.

6.3 Legacy Works

As reported previously there remain some key water issues that have the potential to cause significant difficulty for the project. These include apparatus currently located within the tram Dynamic Kinematic Envelope and the tram DKE+2m that cannot be diverted and apparatus without the necessary separation distance from other utilities as a consequence of congested areas.

Progress has been made on those issues in Shandwick Place discussed above and discussions are ongoing with Scottish Water on how to best deal with the remainder of the issues. As is the case in Shandwick Place the residual legacy issues not dealt with during the utility conflict diversions will need to be done in consultation with Infraco and at such a time as to minimise any delays.

Regarding the legacy works north of York Place, the tenders were received on 8th June and the evaluation is complete. Following an evolving strategy from CEC, Turner & Townsend have been asked to manage the delivery of these works and resources are now being sought. Turner & Townsend has furnished CEC with the tender report which is expected to be ratified prior to the end of July 2012.

The reinforced concrete works at Tower Place Bridge and the remedial works at Lindsay Road are now largely complete although the completion of parapets and lighting columns to Tower Place Bridge remain outstanding. A completion date for these works is awaited from CEC's Project Manager at the time of writing although current feedback would suggest CEC's target of partial completion by Mid August is unlikely to be achieved.

6.4 Grosvenor Street Sewer Collapse

Following the sewer collapse in Grosvenor Street the tram drainage was redesigned to take account of the collapse and the necessary repairs and drainage works are now complete. In consultation with Scottish Water, Turner & Townsend has been investigating the cause of the

collapse. McNicholas have provided a report on the sewer collapse that concludes the collapse was not attributable to the current tram works. This has been forwarded to Scottish Water and a response has been received challenging the McNicholas findings. A meeting is being arranged with Scottish Water to discuss how to best progress the matter and an update will be provided at the next tram briefing meeting.

6.5 Type 2 Conflicts

Following discussions with Infraco and CEC, a proactive approach to the resolution of Type 2 utility conflicts (those outside the DKE+2m, including road sign bases, traffic signal bases and associated ducting) has been agreed. A McNicholas advance works team will be established who will prove, divert utilities (where required) and construct below ground civils works for all type 2 conflicts. Once complete, Infraco will undertake the above ground construction elements.

Turner & Townsend are currently planning the execution of these works with Infraco such that any impact on Infraco's planned works programme is minimised.

6.6 Look Ahead

Focus will be on completing the small remainder of tram ducting conflicts to ensure Infraco can continue to work. The York Place enabling works will continue and the excavation and legacy resolution works in Shandwick Place will be completed. Turner & Townsend will also continue to react to utility discoveries by Infraco and will continue to work with Infraco in planning any further Scottish Water remedial works. The detailed planning and execution of "type 2" works will also continue in the period.



York Place

7 On Street - Main Works

7.1 Progress in Period

All On Street areas from Haymarket to Lothian Road and from Princes Street to North St Andrew Street are currently in the possession of Infraco with some minor exceptions agreed where residual works are being carried out by McNicholas. Infraco has continued with track slab construction in all areas and is making good progress. In Shandwick Place the track has been laid on the inbound line from Lothian Road to west of Stafford Street and concreting works are underway in the area. Similarly in St Andrew Street South rails have been laid on the critical outbound line and concreting works are underway.

Despite works in St Andrew Square progressing well Infraco is continuing to report that the completion date for St Andrew Street is likely to slip to November at the earliest. As stated previously this is a significant issue as the project critical path remains through this area in the event that the value engineering proposals through York Place cannot be delivered. Turner & Townsend is working with Infraco and CEC to assist in recovering any time lost through this area.

Now that the value engineering proposals through York Place are being realised, the critical path for the On Street section has transferred to Shandwick Place. Delays through Shandwick Place as a consequence of utility conflicts, drainage re-design and tram ducting conflicts have been quite significant and by mid July Turner & Townsend estimate that 12 weeks of the 22 week "time bank" had been eroded. In response to this Turner & Townsend will continue to work with Infraco and CEC to assist in recovering any lost time through this area. It is again worth noting that the efficiencies realised by combining traffic management phases has not been taken account of in any assessment of future time bank depletion and this is the area of focus for potential recovery of time.

Princes Street works were completed on 29th June and the street handed back to the city. A residual snagging list has been agreed with Infraco and Turner & Townsend is working with Infraco to close out as many snags as possible by the end of July. Any snags not resolved before the end of July will be carried out through the Festival period.

Following planning approval for the Dublin Street Steps the only issue now left to resolve is reaching agreement with the building owner on the east corner of the street. Progress has been made in this regard and Infraco's engineers are now in direct contact with the owner to finalise technical requirements.

7.1 Look Ahead

7.1.1 Haymarket to North St Andrew Street (excluding Princes Street)

Infraco Works from Haymarket to Lothian Road and through St Andrew Square will continue in the period with the completion of tram ducting, construction of the track improvement layer, construction of track and construction of any outstanding OLE basis. In Shandwick Place at the Crescents there remains a section of track box to be cut and proved and in consultation with Infraco it has been agreed that Turner & Townsend will carry out this work using McNicholas.

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Haymarket



Shandwick Place



Princes Street



St Andrew Square



Princes Street East

8 Off Street Works

8.1 Progress in Period

8.1.1 Edinburgh Gateway

Sewer trial pits have been conducted locating the sewer deeper than had previously been envisaged. This has negated the need for a track bridging slab over the sewer. Excess overhead line masts from the York Place to Newhaven section are to be used within the Edinburgh Gateway area resulting in a cost saving.

Network Rail are progressing the design of the permanent sewer diversion with Scottish Water. Infracore have identified an area of land that can be made available to Network Rail to progress the permanent sewer diversion and enabling works for their station development.

Network Rail have raised concerns over the King Post Wall construction and the difficulty they may have installing a permanent solution with the King Post Wall solution in place. Transport Scotland has made Network Rail aware of the critical nature of the works at Edinburgh Gateway and that there was no time available within the tram programme to revisit the solution.

8.1.2 ScotRail Depot

Infracore made a presentation to ScotRail and Network Rail staff with regards to the next phase of works. These works take part possession of the ScotRail depot at Russell Road. This was well received with the majority of issues raised relating to the operation in the permanent state. In order to alleviate these concerns the operator has met with ScotRail to develop the permanent protocol agreement.

Piling works are being undertaken adjacent to the ScotRail depot shunt line. These piling works are causing the shunt line to move slightly. Network Rail identified this line as critical to the operations of the network however acknowledged that the line is not compliant to standards and in a very poor condition. This line is monitored three times a day and is regularly inspected by track engineers; they are stating that it is still fit for operations. There shall be a problem in getting this track back to the baseline line state as it would be effectively placing it back to what was a previously poor condition therefore there will probably be an element of betterment in working on this piece of track. This shall be recorded within the tracker produced by Turner & Townsend.

8.1.3 Network Rail Haymarket Interface

Structural elements of the Network Rail Haymarket development are clashing with two sections of the tram drainage. Network Rail had initially indicated that they would be looking to the Edinburgh Tram project to pay for the relocation of the tram drainage. From the interface meeting on the 19th July 2012 Network Rail have now indicated that they will pay for this relocation. Siemens have written to Turner & Townsend indicating that they are looking for monies due to the long term impact of the Haymarket station development on their substation. Turner & Townsend shall reply to this looking for the justification to the items identified.

8.1.4 Other items of progress:

- Retaining wall at the airport is complete.

- Utilities clash at the airport has been resolved.
- OHLE masts erected from Ingliston Park and Ride to Gogarburn.
- Track installed from Eastfield Avenue to Gogarburn Bridge.



Track work at new Ingliston



Track work at Gogar landfill Site

- Gogarburn tram stop being progressed.
- Edinburgh Gateway excavation for the drainage attenuation tanks has commenced.
- Edinburgh Gateway boundary defined between BBS works and Network Rail for the purposes of the permanent sewer diversion and enabling works for the Network Rail station.
- Tenders sent out for the King Post Wall solution at Edinburgh Gateway.
- Gyle Broadway crossing continuing with tracks installed on the Gyle side.
- Lochside Avenue junction road resurfacing complete.
- Edinburgh Park track laying and installation of OHLE poles.
- Bankhead drainage continuing.
- Work continuing on the Water of Leith bridge east abutment prior to the bridge beams being landed. The bridge beam installation shall commence 28th July 2012.
- Embankment between the Water of Leith and the Murrayfield Underpass progressing well.
- Ground improvements at Murrayfield continue with S21C piles complete, however progress is slow due to problems with the plant and the sewer strike.
- Russell Road deck poured.
- Haymarket Viaduct cladding commenced on the north side.

8.2 Key Issues

8.2.1 Murrayfield Sewer Strike

Infraco have hit a Scottish Water sewer in two locations in the Murrayfield area. The first strike occurred while installing protection measures for the sewer. The subcontractor was breaking out and removing overburden to the sewer, when the crown of the pipe was removed with the overburden.



In trying to resolve the breakage Infraco discovered that the sewer was blocked. After unsuccessful attempts at jetting, a camera survey was conducted which found grout from the ground improvement to be blocking the sewer for a length of approximately 8metres.

A Technical Query (TQ) is required to be signed off by Scottish Water prior to any remedial works commencing. Scottish Water requested, and have been provided with, incident reports prior to the TQ being signed off. They have also taken this opportunity to re-visit their approval

of the permanent design of the sewer relative to the tram, their approval having previously being given.

Scottish Water have asked for the following information prior to the Technical Query and therefore the remedial works being progressed;

- Review of the approval process,
- Verification of As Built information; and
- Incident Reports.

This matter is to be escalated with a view to agreeing a pragmatic solution to the repair of the sewer without re-visiting the approved tram design.



8.2.2 Airport

The utilities that were discovered at the airport have now been removed however obtainment of the airport's assistance this took a significant amount of time prior to the airport assisting. Infraco altered their construction methodology to minimise the impact of this delay.

Edinburgh Airport Ltd is looking for the Eastfield Avenue alignment to be addressed prior to assisting with the Low Voltage supply and the placement of infrastructure outwith the alignment. This could potentially lead to commercial issues between Infraco and the Client should works be delayed by the Airport. Infraco have identified that this requires to be addressed by the end of August 2012.

8.2.3 Verity House

The CEC agreement with the owners of Verity House requires a 2 metre maintenance strip to be available to them that is clear of the adjacent access road. At the time of constructing the

current road Infraco were unable to fit the road and the maintenance strip into the space available and tie instructed Infraco to construct as close to compliant IFC drawing as possible. The reason insufficient land was available was due to Network Rail having placed their fence in the incorrect position while constructing the adjacent Platform 0.

Network Rail have indicated that in principal they would undertake the works at Verity House road as part of the station development works however a commercial agreement has yet to be achieved with CEC.

8.2.4 Other Off Street issues

- Sewer pipework has been removed by Infraco at Haymarket Yards; this is thought to be a private sewer and requires an alternative route. Infraco have indicated that as this is neither marked as a Scottish Water or a CEC sewer they feel it is not a utility issue. Infraco have agreed to continue with the works to resolve the issue.
- Scottish Water water main struck at Bankhead with poor MUDFA reinstatement works being cited by Infraco as part of the reason for the strike. Incident reports are being reviewed with Scottish Water.
- Radio tests at the depot have interfered with National Aviation Traffic (NATs) signals therefore further tests shall be required.

8.3 Look Ahead

The following works will be progressed during the coming period:

- Cable pulling Ingliston Park and Ride to Gogar Burn.
- Airport platform works shall commence.
- Airport concourse design to be finalised.
- Gogarburn landfill track installation.
- Edinburgh Gateway king post wall tenders shall be returned.
- Remedial works on Edinburgh Park and Carrick Knowe Bridge.
- South Gyle access bridge beam installation (5th August).
- Water of Leith bridge beam installation (29th July).
- Balgreen Road bridge beam installation (29th July).
- Resolution of the Murrayfield and Haymarket Yards sewer strike.
- Ground improvements at Murrayfield completing.
- Continuation of the cladding on Haymarket

9 Trams

9.1 Progress in Period

The delivery and testing of trams is now progressing well ahead of schedule, with nineteen trams having been delivered to Gogar Depot and 17 having completed Routine Testing on the Mini Test Track (MTT). CAF stepped up the delivery and test schedules through July 2012 to compensate for there being no delivery or testing of trams in August, with the delivery of four trams and the completion of Routine Testing on three.

The CAF Period Report for July identified an incident involving the shunting of a tram in the depot, whereby the operator was unable to stop the tram using the normal braking system. This highlighted concerns regarding the procedures for the reporting of incidents occurring in the depot, as Turner & Townsend had not been formally informed of this incident.

Turner & Townsend and CAF have discussed this issue and agreed to hold a weekly review to update on technical and operational issues involving trams, as identified during testing and initial operation of trams at Gogar. This is in addition to the monthly Tram Liaison meeting attended by CAF, ETL and Turner & Townsend.

Turner & Townsend have now completed the review of the BBS Test and Commissioning Plan (Airport to York Place) and the Section B Completion Programme. The requirements for Section B Completion will now be discussed at monthly System Integration meetings attended by BBS, CAF, ETL and Turner & Townsend.

Following the decision not to implement the Bustracker system on trams at this time, Turner & Townsend produced a briefing paper explaining the options available to allow bus timetable information to be provided at tramstops, in line with contract requirements. Following further discussions with CEC, Turner & Townsend have issued change notices to CAF to make safe the tram wiring and to BBS to allow the adaptation of the mybustracker / RailCom Manager interface, to meet these contractual requirements.

Turner & Townsend have scheduled a meeting with all stakeholders on 25th July 2012, to confirm the procurement and installation / testing processes to be followed for the provision of Ticket Vending Machines (TVMs) and to ensure all stakeholders are aware of their requirements, roles and responsibilities in these processes.

9.2 Key Issues

Turner & Townsend have developed a Failure Reporting and Corrective Action System (FRACAS) procedure, to ensure that all issues identified during the test and initial operation of the trams are robustly managed through to completion. This is being progressed as part of the monthly Tram Liaison Meeting attended by CAF, ETL and Turner & Townsend.

Turner & Townsend have also written an Engineering Change Control procedure to tie in with the formal design change processes and to ensure compliance with the ROGS responsible person's requirements in relation to technical change at Gogar Depot. This procedure will be issued following final review by CAF and ETL in the coming period.

There was one new tram technical issue identified during the current period:

- Auxiliary Converter defects caused by water ingress; CAF have identified that water ingress into the Auxiliary Converter has resulted in the failure of two units. CAF have identified the cause of the problem and are awaiting the replacement of equipment covers which will resolve the issue.

There are three issues outstanding from previous periods, which are still being managed by Turner & Townsend:

- Passenger Information / Announcements (PISPASPA) and CCTV system test failures; The Tram Inspector and CAF have raised concerns with the reliability of this equipment post testing. CAF have raised these issues with the equipment supplier and are awaiting information on the cause and a rectification plan.
- The detachment of a roof panel on tram 252; with immediate action having been taken to reduce the risk of future occurrence, Turner & Townsend are still awaiting a report from CAF to determine if further remedial work is required.

There was one technical issue closed in the last period:

- The incorrect placement of pedals in the cabs of all trams; Turner & Townsend have now received clarification on specific issues raised by the investigation report, as detailed in letter reference INF CORR 8271/WD. This issue is now closed

Turner & Townsend have completed a full review of the Tram Inspector Services, as defined in the Tram Supply Agreement and the Employer's Requirements. There is also an element of work to be completed by the Tram Inspector relating to the completion of testing on the Mini Test Track, which was not included in the original budget. Discussions have started with Mott MacDonald to agree the scope of the Tram Inspector Services and with CEC to determine budget requirements.

9.3 Look Ahead

The following items will be progressed during the coming period(s):

- 1 Tram Commissioning Plan;
 - Twentieth tram (#265) due to be delivered on the 26th July 2012
 - There is no delivery or testing scheduled in August
 - Final tram scheduled for delivery on 12th December 2012
 - Interim Routine Testing scheduled to be completed on all trams by 29th January 2013
- 2 Turner & Townsend will complete the development of a Failure Reporting and Corrective Action System (FRACAS) procedure, to ensure that all issues identified during the test and initial operation of the trams are robustly managed through to completion.
- 3 Turner & Townsend have written an Engineering Change Control procedure to tie in with the formal design change processes and to ensure compliance with the ROGS responsible person's requirements in relation to technical change at Gogar Depot. This procedure will be issued following final review by CAF and ETL in the coming period.
- 4 The requirements and schedule for the completion of Section B will be discussed at monthly System Integration meetings due to commence on 7th August 2012 and attended by BBS, CAF, ETL and Turner & Townsend.

10 Assurance

10.1 Progress in Period

Evidence File – Currently no information can be uploaded to the evidence file as the site has not been transferred over to the new SharePoint. Following an initial issue during transfer where existing licenses were lost, IT have now arranged the transfer to be completed by the end of July.

Safety Verification (SV) audit TSA/12/01 report for Maintenance of Depot Workshop Equipment and Track was discussed with the ICP. The report and findings will now be updated for agreement at the audit wash up meeting.

SVS Audit TSA/12/03 Scheduled for 13th June 2012 – Section 1C - Slips, Trips, Falls (2 Wheel Vehicles) was cancelled by CEC. This resulted in the ICP raising and Advice of possible Non-Conformance (ANC-02).

SDS provided information to enable Network Rail (NWR) to provide a non-objection to the proposed location for the Radio Mast near to the Edinburgh Gateway stop. SDS followed up their request for non-objection from NWR, stating that they are compliant with NWR standards in the planned location. However we are still awaiting confirmation from NWR that the statement of compliance is with the appropriate standard.

10.2 Quality

An audit was undertaken of the Bilfinger Berger Quality Plan the audit identified that there was evidence of the various systems being implemented. The various systems will be audited in more detail in subsequent audits.

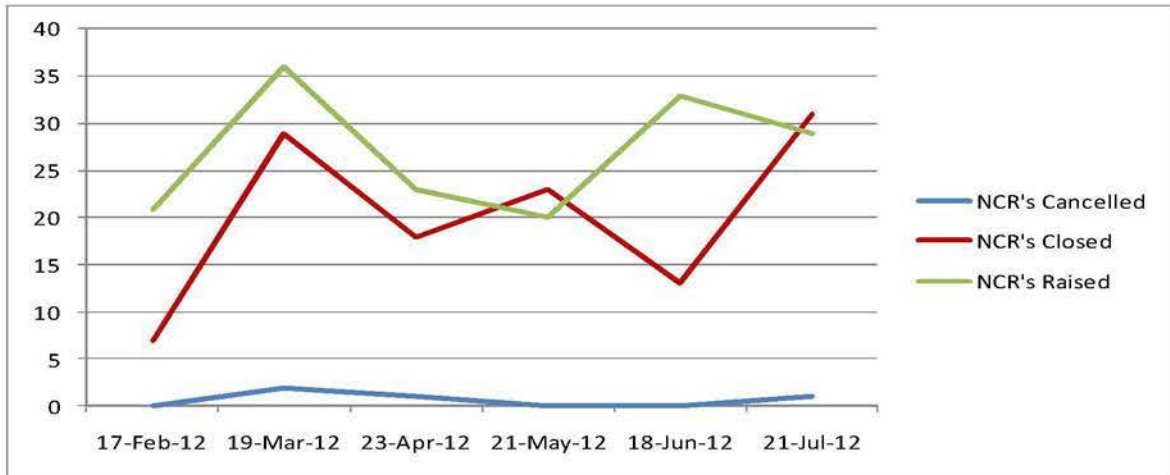
The monitoring of the NCRs raised on the project continues to be reviewed. Details of the NCRs are included below:

- The number of NCRs raised to date is 569. 31 NCRs were raised during the period and 29 NCRs were closed out during the period.
- 31 no open NCRs are greater than 6 months old. Details may be found within Section 6 of Deliver a Safe Tram (See Appendix 2)

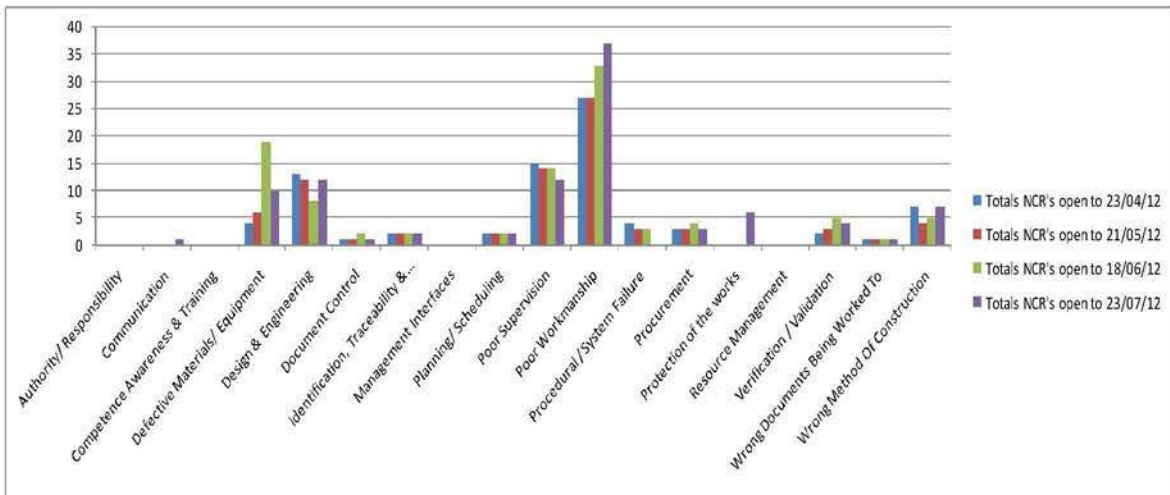
The Road Safety Audit Stage 3 has been undertaken for final close out of the workmanship issues for the concrete works in Princes Street.

FINAL

Summary of non conformances



Classification of open non conformances

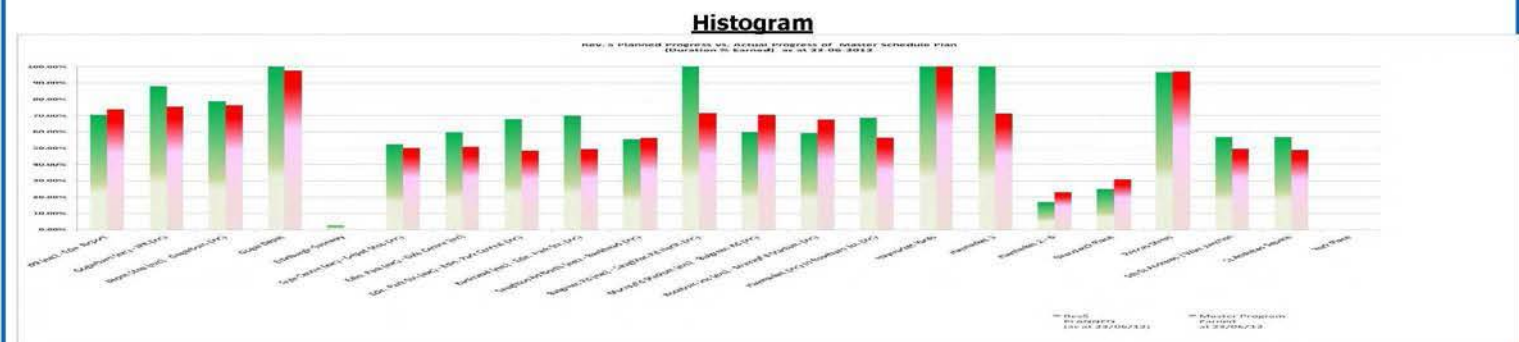
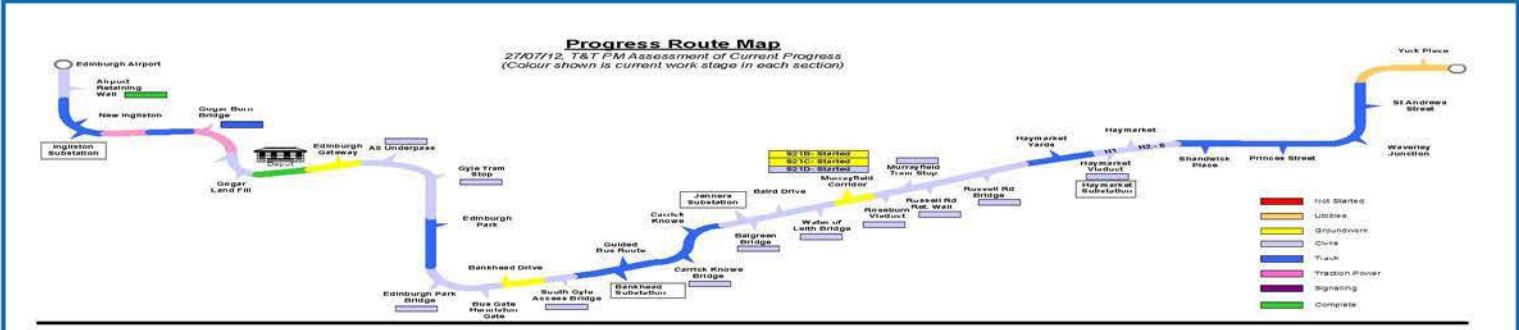


Appendix 1 – Dashboards

Produced by	Julian Weatherley & Elaine Pratt	SECTION	SUMMARY DASHBOARD REPORT CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Employer	City of Edinburgh Council Waverley Court, Edinburgh, EH8 8BG	
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address		
Status	FINAL	Issue Date	31-07-2012	REPORTING PERIOD	24 th June 2012 to 21 st July 2012	Project:	Edinburgh Tram Network

- ### Executive Summary
- There were 25 incidents recorded during the period three of which were identified as Serious / Significant. One of these related to a mini excavator turning over in Princes Street is RIDDOR reportable.
 - Infracore have produced a risk assessment in relation to soil removed from Baird Drive. This is being independently reviewed by EnviroCentre prior to issue to SEPA.
 - Eleven weeks of the 22 week time bank have been confirmed as being eroded. Turner & Townsend assess that a further week's erosion (twelve weeks in total) has occurred up to 24 July.
 - All sectional completion dates are forecast for completion ahead of programme with overall completion (Section D) now forecast for 1 May 2014.
 - Infracore are now in possession of the majority of the On Street areas and the extent to which their works are being impacted by utility conflicts is reducing.
 - The residual carriageway of a 300m long section of Shandwick Place is being excavated by McNicholas in order to address concerns over the long term durability of the road and to resolve Scottish Water legacy works.
 - Agreement has been reached to de-scope the York Place enabling works (tram box, drainage and ducting construction) from BBS and to procure through a separate contract directly through Crummock.
 - The planning of the resolution of Type 2 utility conflicts is progressing and agreement on methodology has been achieved in principle with all parties.
 - Reports have been exchanged between Turner & Townsend and Scottish Water in relation to the Grosvenor Street sewer collapse.
 - Turner & Townsend have issued a tender report for the legacy works north of York Place. This is expected to be rectified by the end of July 2012.
 - Tender returns for the Edinburgh Gateway works were received on 24 July 2012. A decision by Transport Scotland on the way forward is anticipated by 16 August 2012
 - The airport retaining wall has been completed and soil mixing is nearing completion through the Murrayfield Corridor.
 - CEC have advised Turner & Townsend on the way forward for the Eastfield Avenue Crossing. This solution will now be instructed to Infracore.
 - Nineteen trams have now been delivered to the depot with seventeen trams having completed Routine Testing.
 - The cost report for this period takes account of the change in delivery approach for the York Place Works, the resulting de-scoping from Infracore and the transfer of works to Crummock and McNicholas.
 - A commercial meeting was held with CEC, BBS, Turner & Townsend, on 11 July 2012 to resolve some outstanding matters. A number of items were agreed. Positions were proposed by each party on a number of other items on which the Independent Certifier will make an assessment.
 - A review of the risk forecast was held with CEC on 23 July 2012 and adjustments made to the probability and cost impact.

- ### CEC Actions / Decisions
- Haymarket wayleave** – Close out of the wayleave with Scottish Power and Network Rail.
 - Bus Tracker Systems** – CEC have confirmed that the Bus Tracker system will not be fitted to trams at this time.
 - TVM Procurement** – Confirmation required of procurement solution for TVMs
 - Scottish Water** - buildover agreements require to be progressed.
 - Verity House** - commercial position to be decided and agreed with Network Rail.
 - Reply from planning on the temporary status of Edinburgh Gateway outstanding.
 - Finalisation of Road Carriageway design and construction.
 - Scottish Water** - requires legal agreement for derogations to specification in Princes Street.
 - Edinburgh Gateway** – Decision on way forward, following receipt of Tender returns.
 - Evidence File** – Migration of project information to new SharePoint to be completed.



Produced by	Julian Weatherley & Elaine Pratt	SECTION	SUMMARY DASHBOARD REPORT CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Employer	City of Edinburgh Council Waverley Court, Edinburgh, EH8 8BG	
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address		
Status	FINAL	Issue Date	31-07-2012	REPORTING PERIOD	24 th June 2012 to 21 st July 2012	Project:	Edinburgh Tram Network

KEY MILESTONES							
Section	Description	A Rev 5 Schedule Date	B Forecast/Actual Date	B - A = C Var. (d's)	Completed	Crit. Path	Comments
Section Completions							
ALL	Section B; Test Track complete	08-Mar-13	05-Mar-13	-3		Y	Critical Path now originates from 7A Tamping, which is planned to commence 22/10/12.
ALL	Section C; All construction complete	09-Apr-14	31-Jan-14	-68		Y	Potential for improvement to York Place construction timescales. Which switches the Critical Path to the Gatewayworks (Off-Street)
ALL	Section D; open for revenue	08-Jul-14	01-May-14	-68		Y	Potential for improvement to York Place construction timescales. Which switches the Critical Path to the Gatewayworks (Off-Street)
On Street							
Haymarket							
On-Street	Haymarket 1 Complete	04-Apr-12	09-Oct-12	188		N	Delay due to Scottish Water manhole and drainage connection issues. Does not affect overall project completion date.
On-Street	Haymarket Phase 2 Utilities Work Complete	N/A	25-Jun-12	N/A	✓	N	Main utility diversion works complete and area handed back to BBS as scheduled. Minor off line utilities still to be resolved, works to be carried out with access co-ordinated with BBS to negate further disruptions.
On-Street	Haymarket Civils Works for all Phases Complete	25-Jul-13	13-May-13	-73		N	Conflict resolution complete on 25/6/12.
Shandwick Place							
On-Street	Shandwick Place Phase 1 - Civils Works Complete	01-Aug-12	04-Sep-12	34		N	Minimal progress in period, site handed back to Infracore week beginning 11/06/12.
On-Street	Shandwick Place Tram Stop Complete	17-May-13	22-May-13	5		N	Delay due to links to delayed Shandwick Place Works.
St Andrews Square & St Andrews St North							
On-Street	St Andrews Square Civils Complete (Phase 1 - Inbound)	22-May-12	28-Aug-12	98		N	Improvement in date over the period due to good progress as a result of BBs in full possession of site.
On-Street	All St Andrews Square Civils Complete	15-Oct-12	15-Nov-12	31		N	Improvement in date over the period due to good progress as a result of BBs in full possession of site.
South St Andrews St / Waverley Junction							
On-Street	South St Andrews/Waverley Junction St. Civils Complete (Phase 2 - Outbound)	10-Jul-12	31-Aug-12	52		Y	Ongoing utilities conflict in area meant restricted progress and further delay in the period.
On-Street	All South St Andrews/Waverley Junction St. Civils Complete	25-Oct-12	13-Nov-12	19		Y	Ongoing utilities conflict in area meant restricted progress and further delay in the period.
York Place							
On-Street	Complete Demolition of Cathedral Lane Toilet Block	N/A	03-Jul-12	N/A	✓	Y	Complete
On-Street	Complete Critical Ducting at Cathedral Lane	N/A	07-Jul-12	N/A	✓	Y	Complete
On-Street	Start York Place Utility Moves	N/A	16-Jul-12	N/A	✓	Y	Complete
On-Street	York Place Utility Moves Complete	N/A	11-Dec-12	N/A		Y	Early completion due to advanced utilities works on 16th Jul.
On-Street	Start York Place Civil Works	18-Sep-12	07-Jan-13	111		Y	Revised date is in line with Option 2 initiative.
Princes Street							
On-Street	Princes St re-opened to South St David St.	05-Jul-12	30-Jun-12	-5	✓	N	Complete
On-Street	Princes St Tram Stop Complete	04-Oct-12	18-Oct-12	14		N	Detailed Handover programme for Princes St agreed with BBS does not include the completion of Tram Stop.
Off Street							
Off-Street	Forecast completion of AIR-HAY route	23-Sep-13	22-Oct-13	29		Y	
Off-Street	Murrayfield ground improvements Complete	23-May-12	02-Aug-12	71		N	Works commenced 14 June, progress of improvements has seen a slip of 8d at S21A-505 due to plant problems
Off-Street	Haymarket Yards Complete	27-Feb-12	25-May-12	88	✓	N	Handed over 28Jun
Off-Street	South Gyle Beam Installation Complete	05-Nov-12	19-Aug-12	-78		N	Road Closure has been booked for 5 Aug to place bridge beams.
Off-Street	Water of Leith Bridge Complete	31-Aug-12	21-Nov-12	82		N	Bridge beams are planned for 28th, 29th June
Off-Street	W4, 19-29; Russell Rd. Retain Complete	29-Oct-12	23-Jan-13	86		N	Progressing with all units 19-29
Off-Street	S21A Roseburn St. Complete	19-Oct-12	20-Nov-12	32		N	The alternate critical float path for Off-Street (with 35d float).
Off-Street	S22A Balgreen Road Bridge Complete	18-Sep-12	11-Dec-12	84		N	Out of sequence Pile Cap construction on E Abut underway, has facilitated 4wk recovery (has 88d float).
Off-Street	Bankhead Tram Stop Complete	21-Jun-13	11-Jun-13	-10		N	This tramstop's completion has steadily moved earlier, remains the last tramstop to be completed for Off-Street
Off-Street	Gyle Tram Stop Complete	23-Apr-13	02-May-13	9		N	
Off-Street	Gateway IFC Dwg's Issued	18-Jun-12	24-Jul-12	36		Y	IFCs for drainage and walls now submitted. No change to forecast start date of Gateway main works.
Off-Street	Rail Systems Gyle - Depot	27-Nov-12	07-Dec-12	10		N	
Off-Street	Gateway King Post Retaining Structure complete	03-Oct-12	08-Nov-12	36		N	Although Gateway is critical, Rev5 shows this activity to be off the critical path (shows 183d float).
Off-Street	Gateway Post Eathworks Drainage Complete	14-Nov-12	21-Dec-12	37		Y	Rev5 shows all drainage works for the Gateway to run consecutively and therefore drives all the works through this section
Off-Street	Rail Systems at Gateway Complete	03-Jul-13	09-Aug-13	37		Y	Due to revised logic of works along the Murrayfield corridor this section has now become the Off-street critical path

Produced by	Julian Weatherley & Elaine Pratt	SECTION	SUMMARY DASHBOARD REPORT CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT			Employer	City of Edinburgh Council Waverley Court, Edinburgh, EH8 8BG
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park			Address	
Status	FINAL	Issue Date	31-07-2012	REPORTING PERIOD	24 th June 2012 to 21 st July 2012	Project:	Edinburgh Tram Network

KEY MILESTONES

Depot & Test facilities							
Depot & Test Facilities	Rein'd Earth Embank't Gogar Landfill Complete	16-Mar-12	28-May-12	73	✓	N	Complete
Depot & Test Facilities	W14B&C Retaining Walls at Airport Complete	09-Aug-12	27-Jun-12	-43	✓	N	Final concrete pour completed
Depot & Test Facilities	Gogar Burn Tram Stop Complete	17-Oct-12	09-Nov-12	23		N	
Depot & Test Facilities	Tamping Ballast Section 7A Complete	26-Sep-12	26-Oct-12	30		Y	BBS brought forwards the baseline date in Rev5 from previous Rev4
Depot & Test Facilities	Rail Systems 7A Complete	17-Sep-12	09-Nov-12	53		N	Duration of points machine works revised based upon detailed Section B plan for Installation Testing and Commissioning
Depot & Test Facilities	Overhead Catenary Systems 7A Complete (pre SP2.0 testing)	26-Nov-12	05-Nov-12	-21		Y	OHLE works, now driven by Tamping 7A and revised logic from commissioning plan
Depot & Test Facilities	AIR-Depot Test Track available (post IR1.0)	14-Dec-12	07-Dec-12	-7		Y	Now driven by Tamping 7A, OHLE and revised logic from commissioning plan
Depot & Test Facilities	AIR Tram Stop Complete	21-Dec-12	03-Dec-12	-18		N	Revised logic of works based upon detailed Section B plan for Installation Testing and Commissioning

Produced by	Martyn Ayres, Hazel Kennedy & Elaine Pratt	SECTION	HEALTH & SAFETY		Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	31-07-2012	REPORTING PERIOD	24 th June to 21 st July 2012	Project:
						Edinburgh Tram Network

PROGRESS

SUMMARY

During the last period Turner & Townsend have been working to implement a number of key initiatives regarding health and safety on the project. These have comprised:

- Aligning the monitoring process to provide the information that is required for the leading indicators that have been identified.
- Undertaking targeted monitoring to review the barriers that are being utilised within the City centre following an incident which injured a member of the public.

CoCP

- CoCP & Key**
- CoCP compliance for period 3 was recorded at 94%.
 - 8 issues required action. These comprised:
- Member of public (3no).
 - PPE, behaviours (2no)
 - Parking
 - Waste management
 - Fencing hoarding
- | | |
|------------------------------|--------------------------------------|
| Q1: Hours of Work | Q9: Emergency Access |
| Q2: Notification | Q10: Parking |
| Q3: Notices | Q11: Litter and general housekeeping |
| Q4: Fencing and hoarding | Q12: Dust |
| Q5: Noise | Q13: Smoking |
| Q6: Waste Management | Q14: Members of the Public |
| Q7: Waste Water and Hum. Off | Q15: PPE and Behaviours |
| Q8: Water | |



CDM Regulations

- Reigart completed the demolition works on the 25th July to the toilet block at Cathedral Lane. The site is now fenced off.
- The CDM process has been implemented for the enabling works at York Place which are to be undertaken by Crummock. The construction works commenced on the 16th July and joint monitoring with Crummock to review the initial site set up and arrangements was undertaken on the 19th July.
- The involvement in the CDM process for the works to reinstate the monuments has been raised with Shane Mackenzie from City of Edinburgh Council who is managing the works. He has confirmed that the CDM process and appointment of duty holders is being undertaken by City of Edinburgh Council.

Initiatives

- Deliver the Tram Safely**
- Following the incident with the RB2000 barrier blowing over in St Andrew Square Turner & Townsend undertook a targeted monitoring exercise of the RB2000 barriers installed on the project to review the level of compliance. The results are included within the Deliver the Tram Safety Report which is included within the Health & Safety Dashboard.
 - The following safety initiatives have been identified to be initiated in the next period:
 - Management of lifting operations.
 - Vehicle movements in and around work sites.

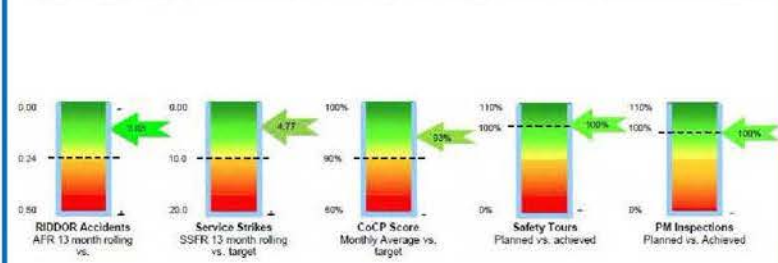
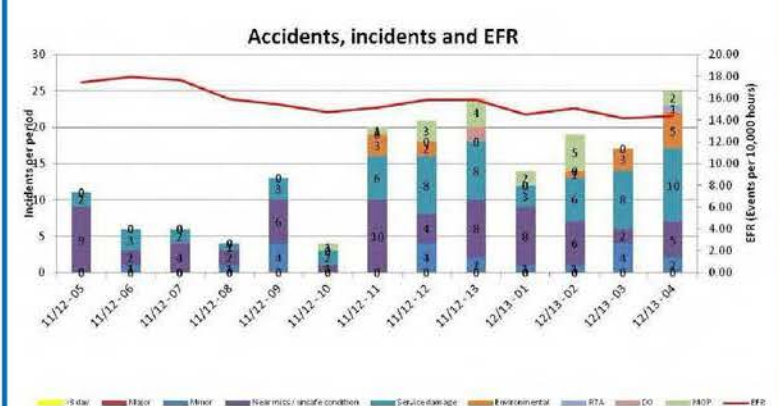
HEALTH & SAFETY

Incidents

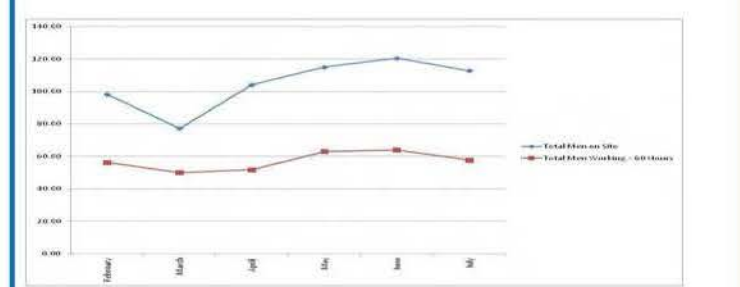
- There were 25 incidents reported during the period since the last dashboard. A summary is provided below; full details can be obtained on page 7 of the Progress Report.
- The rolling 13 Period AFR remains at 0.08, better than the benchmark KPI of 0.23 for the project.

Classification	Number	Major	Serious / significant	Minor	RIDDOR Reportable
Member of public	2	0	1	1	0
Service damage	9	0	0	9	0
Environmental	4	0	1	3	0
Major	0	0	0	0	0
Injury > 7day	0	0	0	0	0
Injury < 7 day	2	0	0	2	0
Dangerous occurrence	0	0	0	0	0
Road traffic accident	1	0	0	1	0
Near miss / unsafe condition	7	0	0	7	0
TOTAL	25	0	2	23	0

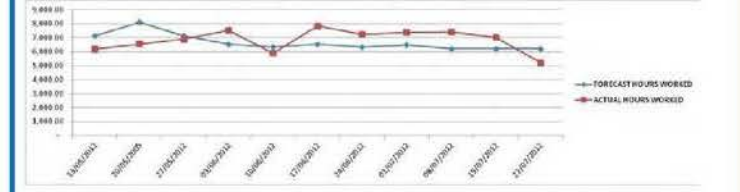
TREND



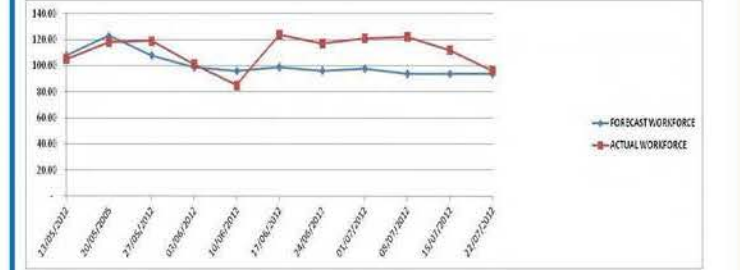
McNicholas Labour exceeding 60hrs per week



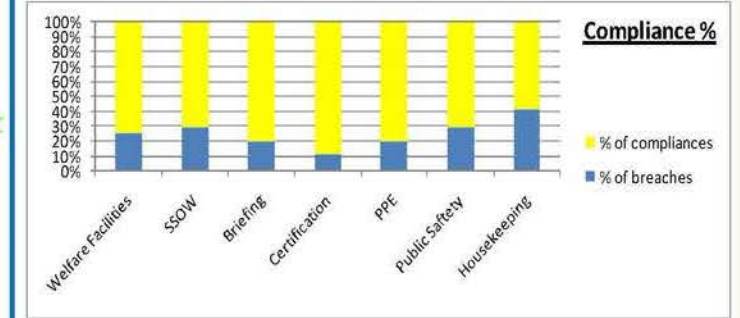
McNicholas Forecasted Hours Worked V Actual Hours Worked



McNicholas Forecast Workforce Vs Actual Workforce



Monitoring of Leading Indicators



CEC01932286_0045

Produced by	Martyn Ayres & Elaine Pratt	SECTION	ENVIRONMENTAL, QUALITY, ASSURANCE CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	31-07-2012	REPORTING PERIOD	24 th June 2012 to 21 st July 2012	Project: Edinburgh Tram Network

PROGRESS

SUMMARY

- Environmental**- Five Environmental Incidents were reported during the period. One incident has been recorded as significant relating to a hydraulic oil spill by Grahams adjacent to Murrayfield Stadium.
- Assurance** – Evidence File – Will be transferred from 'old' SharePoint to 'new' SharePoint on 25th July 2012.
- Requirements Management – Verification and Validation Agreed Status now 100% complete. Requirements requiring concessions are now being progressed.
- Safety Verification Scheme Audits – Safety Verification audit TSA/12/02 report to be updated during the next period. All other SV audits on hold pending satisfactory response to Advice of Non Conformance 002.

ENVIRONMENT

Environmental

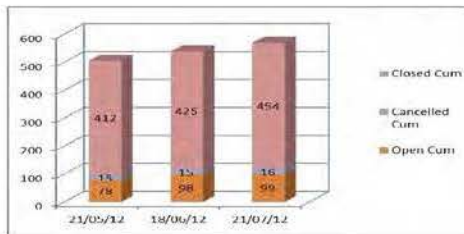
- Five Environmental Incidents were reported during the period. One incident has been recorded as significant relating to a hydraulic oil spill by Grahams adjacent to Murrayfield Stadium. The spill arose from a hydraulic leak on piling rig. Hydraulic fluid entering a tent that had been erected for the Madonna concert.
- Environmental inspection carried out with BBS 12th July 2012; Section 5 Edinburgh Park. No major issues were identified.
- A sewerage leak has been identified at the Grahams site in Haymarket Yards. Grahams have identified the source of the leak. SDS and Scottish Water are now agreeing the design to connect the section of pipe found to an outfall. The sewerage is currently being tankered off site.
- An Environmental Site Walk round was carried out with the new Edinburgh Airport Environmental Manager – Julie McKinney on the 3rd July. This walk round was to advise the new manager of the current status of the tram works regarding the Gogar Burn and was attended by T&T, BBS and the Ecological clerk of Works. No issues were identified.
- The reinstatement of the Ocean Terminal Monument commenced on the 19th July 2012. This work was instructed by Shane McKenzie of CEC. The reinstatement of the Conan Doyle monument is due to commence on the 30th July 2012.

QUALITY

NCRs by Period

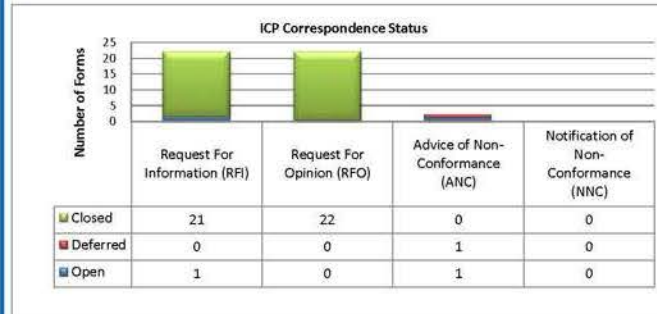
Total No of NCRs raised is 569.

31 NCRs were raised during the period and 29 NCRs were closed out during the period. 31 no open NCRs are greater than 6 months old.



INDEPENDENT CERTIFIED PERSON

- The last Independent Certified Person (ICP) Liaison meeting was held 11th July 2012.
- The next Project Safety Certification Committee (PSCC) meeting will be on 1st August 2012.
- Advice of Non Conformance (ANC) 002 – Due to cancellation of Safety Verification Scheme (SVS) audit SVS Audit TSA/12/03 and Infracore refusal to support the current audit format, the ICP requires clarification as to how the 'Duty Holder' will deliver safety verification to enable operation of the tram network. The detailed requirements are being agreed with BBS.



REQUIREMENT MANAGEMENT

Progress

- Verification and Validation Agreed Status now at 100% complete. Requirements requiring concession being progressed.
- Since the last report a review of the concessions submitted has been carried out. Figures have been amended to reflect this.
- The total number of concessions is now 54, with one concession having been removed and eleven concessions now deemed to be closed.

Total Number of Concessions	Concessions Agreed
54	11

% Verification & Validation Agreed Status	% Verification & Validation Approved Status
100%	2%

DEPOT SNAGS

3 Snags remain open, key snags to be closed are;

- Tram wash door -Barr are to fix but we are having trouble getting Barr to respond to the issues.
- Wheel lathe water ingress - Investigations ongoing. The rail welds and joints have been checked, but these are not responsible. We are pursuing the approach of stopping the water getting into the system rather than tanking the pit. As this is the case it was agreed at the Ready for Operation meeting on 14/6/12 it will stay as a snag and not be changed to a defect. This will necessitate the snag list possibly not being closed by end June.
- Stabling yard points - SVS issue which has a history regarding construction/maintenance tolerance's and wheel rail interface. The ICP is involved with this issue. We are awaiting a response from BBS.

CONSENTS

Combined Consents required

	Total Required	Total On Hold	Total Outstanding	Total Closed
Third party	19	4	13	2
Technical Informatives	6	1	3	2
Planning Consents	38	15	6	17
Other Approvals	12	0	5	7
Legal Agreements	15	0	10	5

Update on Key Consents, with full list in the appendix.

- Network Rail Asset Protection Agreement - delayed due to Network Rail
- Earthing and Bonding technical informative – delayed due to late submission from BBS

SOFT ANALYSIS

SUCCESSSES

- All stakeholders are cooperating well at the depot.
- New assurance system implemented for Tram delivery
- Introduction of additional staff and working patterns
- GIS information provided by Scottish Water.

OPPORTUNITIES

- Increased monitoring of onsite activities. Project Management resources are will become part of integral assurance process.
- Safety seminars to be arranged for project managers.
- Review of supervisor competencies
- Agree detailed assurance programme for review.

FAILURES

- None.

THREATS

- Statuary bodies co-operation.
- Late issue of documentation by BBS.
- Potential gaps between contracted maintenance responsibilities
- Visibility of BBS design and assurance documentation.

Produced by	Mike Mackenzie , Peter Smith & Elaine Pratt	Function	COMMERCIAL			Employer	City of Edinburgh Council
Approved by	Gary Easton	Issued By:	Turner & Townsend Project Management Limited 9 Lochside Avenue. Edinburgh Park			Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue date	31-07-2012	Reporting Period	24 th June to 21 st July 2012	Project	Edinburgh Tram Network

SUMMARY				VALUE ENGINEERING			CHANGE																																																																																																				
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RISK - Significant Movement in Period (Jun/Jul 12):																																																																																																											
Risk ID	Risk Description	Old Level	Movement	New Level	Comments																																																																																																						
ED111	Additional utilities may require lowering to facilitate road reconstruction of paved areas	GREEN	CLOSED	CLOSED	No longer believed to be an issue, work progressed.																																																																																																						
R041	Approval of plans for Edinburgh Gateway	AMBER	CLOSED	CLOSED	Now included in Rev 5 plan																																																																																																						
R068	Infraco cannot construct the IFC drainage design.	RED	CLOSED	CLOSED	Drainage design completed																																																																																																						
R028	Reduced system envelope of TRW system (less than 1,200 mm) - on street	RED	↓	AMBER	Reduced as bridging track form is designed and tested and most areas requiring BTF are identified																																																																																																						
R052	Delay to completion of project due to Network Rail cancellation of Possessions or BB/S overrun or inefficient use of possessions	AMBER	↓	GREEN	Minimal possessions remaining, less likely to need additional over what is identified.																																																																																																						
ED123	Scottish Water Scope increases	NEW	NEW	RED	Over and above legacy claims, Scottish Water may ask for additional scope on street																																																																																																						
Additional Comments:																																																																																																											
QCRA review with client team carried out 23.7.12																																																																																																											
Risks are reviewed on an ongoing monthly basis to ensure up to date analysis for Risk Assessments.																																																																																																											
Risks still to be reviewed with BB/S so changes subject to BBS approval																																																																																																											
Commercial Issue																																																																																																											
Issue	Status	Action																																																																																																									
Mark-ups on omissions and negative changes. BBS are proposing a reduced mark-up on such items from what is stated in the contract		Turner & Townsend require instruction from the independent certifier on the mark-ups to be applied to omissions and negative changes as we consider what is being proposed by BBS to be a departure from the contract.																																																																																																									
ScotRail requested works		Investigation into potential contribution from ScotRail for works which are additional to the Employer's Requirements																																																																																																									
Gogar Castle Road		Requirement to be challenged to remove potential additional cost																																																																																																									
Off Street Utilities; BBS claim certain utilities (principally SGN diversion in NIL land) are excluded from their price.		Turner & Townsend require instruction from the independent certifier as acceptance would be a departure from the settlement agreement																																																																																																									
Rev 3a to 4 Prolongation costs; BBS have not justified the costs incurred to T&T's satisfaction		CEC to confirm if they require T&T to pursue further to establish if costs have been incurred.																																																																																																									
Rev 4 to Rev4c Cost Engineering; BBS maintain that their portion of the VE saving (£6.5M) should not be eroded by the time bank drawdown		Turner & Townsend have forwarded a paper to CEC providing a commentary and demonstrating the effect of this issue. Further guidance is sought from the IC on the intention of this VE item.																																																																																																									
Claims for disruption; BBS have stated that there is a cost for disruption in section 1C		Schedule part 45 makes no provision for claims for delay and disruption beyond what is included in the period end estimate (i.e. any claim should form part of period end estimate)																																																																																																									

Produced by	Andy Scott & Elaine Pratt	SECTION	
Approved by	Julian Weatherley	Issue By:	
Status	FINAL	Issue Date	31-07-2012

REPORTING PERIOD	24 th June 2012 to 21 st July 2012
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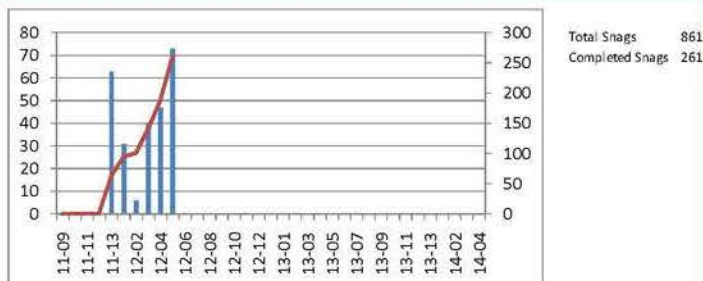
PERIOD
PROGRESS

- All available sites are in the possession of Infracore for installation of trackwork.
- Infracore underway with track installation in Shandwick Place and Princes Street/South St Andrews St.
- York Place Phase 1 works commenced to programme on 16th July 2012. Good progress being made.
- Legacy Works tenders being evaluated with target commencement date of end August 2012.
- Shandwick Place North between Princes Street and Stafford Street taken back from BBS to allow completion of SW legacy works and finalisation of road carriageway construction preparation. This is currently not impacting on BBS programme.
- Programme slippage due to utility conflicts in St Andrew Square and between Lothian Road & Haymarket has impacted the 22 week time bank. Turner & Townsend are working with Infracore to recover time in the critical areas.
- Princes Street handed back by Infracore with remaining civil works being completed out of hours.
- Planning approval granted for Dublin Street Steps – Owner consent being developed through specific legal agreement.

LOOK AHEAD

- Commence road carriageway construction and Type 2 conflicts in Princes Street/South St Andrew Street.
- Infracore to commence excavation works in crescents to commence trackworks.
- Princes Street plug on target for completion by 16th September 2012 to allow access to full closure of York place.
- Turner & Townsend will continue to react to utility discoveries by Infracore.
- Legacy works north of York Place to commence following CEC approval of tender report and recommendation.
- Continue to work with Infracore to recover time lost due to utility conflicts – replenish the time bank.
- Crummock to commence drainage and ducting works in York Place.

Legacy Conflict – Progress



Section	Unallocated	BBS	BBS/Other	St Andrew Square	Scottish Water	Other	Total
1A	160	0	0	0	0	0	160
1B	227	0	0	2	0	0	229
1C	0	59	0	164	4	2	229
1D	0	5	0	143	1	0	150
2A	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5A	5	4	0	0	0	0	9
5B	1	0	0	0	0	0	1
5C	1	4	0	0	0	0	5
6	1	26	0	0	0	0	27
7A	19	0	0	0	0	0	19
AU	1	0	0	1	0	0	2
Total	400	111	0	207	0	0	804

PHOTOGRAPHS



Haymarket



Haymarket Junction



Shandwick Place



Princes Street East



St Andrew Square



Princes Street East



West End Princes Street



Princes Street - Open to Traffic

KEY ISSUES

- Scottish Water relationship generally, and Princes Street issues requiring derogation.
- York Place acceleration.
- Type 2 conflicts and SW Legacy issues – Possible delays.
- Legacy works North of York Place.
- Time Bank Recovery.

CEC ACTIONS / DECISIONS

- Finalisation of Road Carriageway design and construction.
- SW requires legal agreement for derogations to specification in Princes Street.

SOFT ANALYSIS

SUCCESSES

- Working relationships with BBS remains good, particularly on site
- Speedy reaction to conflict issues

OPPORTUNITIES

- Optimize revised traffic phasing and work with Infracore to replenish time bank
- Return buses to Shandwick Place before 31st March 2013
- Clear York place before end 2012 to allow Infracore trackslab works to commence – target 11 December 2012

FAILURES

- Carriageway vertical alignment in south St Andrew St
- SDS OLE design
- MUDFA design, as built, contract administration & supervision

THREATS

- Type 2 Conflicts
- Legacy works at Leith Walk
- Legacy works within tram worksites
- Scottish Water relationship and derogations required to specification along route.
- Unknown utilities
- Owner consent at Dublin Street Steps
- Infracore delay to Rev 5 due to utilities

Produced by	Shirley Mushet & Elaine Pratt	SECTION	OFF STREET DASHBOARD REPORT	Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT	Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park	Project:	Edinburgh Tram Network
		31-07-2012	REPORTING PERIOD	24 th June to 21 st July 2012	

PROGRESS IN PERIOD

PROGRESS IN PERIOD

1. Retaining wall at the Airport is complete.
2. OHLE masts erected from Ingliston Park and Ride to Gogarburn.
3. Track installed from Eastfield Avenue to Gogarburn bridge.
4. Gogarburn tram stop being progressed.
5. Edinburgh Gateway excavation for the drainage attenuation tanks has commenced.
6. Edinburgh Gateway boundary defined between BBS works and Network Rail for the purposes of the permanent sewer diversion and enabling works for the Network Rail station.
7. Tenders sent out for the King Post Wall solution at Edinburgh Gateway.
8. Gyle Broadway crossing continuing with tracks installed on the Gyle side.
9. Lochside Avenue junction resurfaced.
10. Edinburgh Park track laying and installation of OHLE poles.
11. Bankhead drainage continuing.
12. Work continuing on the Water of Leith bridge east abutment prior to the bridge beams being landed. The bridge beam installation shall commence 28th July.
13. Embankment between the Water of Leith and the Murrayfield Underpass progressing well.
14. Ground improvements at Murrayfield continue with S21C piles complete, however progress is slow due to problems with the plant and the sewer strike.
15. Presentation to ScotRail for the next phase of works was successfully received with works commencing Monday 23rd July.
16. Russell Road deck poured.
17. Haymarket Viaduct cladding commenced on the north side.

LOOK AHEAD

The following items will be progressing during the coming period:

1. Cable pulling Ingliston Park and Ride to Gogar Burn.
2. Airport platform works shall commence.
3. Airport concourse design to be finalised.
4. Gogarburn landfill track installation.
5. Edinburgh Gateway king post wall tenders shall be returned.
6. Water of Leith bridge beam installation.
7. Balgreen Road bridge beam installation.
8. Resolution of the Murrayfield and Haymarket Yards sewer strike.
9. Ground improvements at Murrayfield completing.
10. Continuation of the cladding on Haymarket.

PHOTOS

Haymarket Viaduct Cladding



GogarBurn Landfill Embankment Hydroseeding



KEY ISSUES

1. Culture within the Scottish Water team; lack of willingness to help and looking for additional issues.
2. Murrayfield sewer struck twice by BBS, issue further complicated by accusation from BBS that the as built were inaccurate. This has caused Scottish Water to delay the response to the resolution of the issue.
3. Sewer pipework removed by BBS at Haymarket Yards, this is thought to be a private sewer and requires an alternative route.
4. Edinburgh Gateway Network Rail have raised concerns over the construction of the permanent solution with the King Post Wall in place.
5. As built requests from Scottish Water not consistent with the contract requirements.
6. Verity House commercial position requires to be discussed with Network Rail.
7. Scottish Water water main struck at Bankhead with poor MUDFA reinstatement works being sited by BBS as part of the reason for the strike.
8. Radio tests at the depot have interfered with NATs signals therefore further tests shall be required.

CEC ACTIONS / DECISIONS

1. Close out of the wayleave with Scottish Power and Network Rail at Haymarket.
2. Scottish Water buildover agreements require to be progressed.
3. Verity House commercial position to be decided and agreed with Network Rail.
4. Reply from planning on the temporary status of Edinburgh Gateway outstanding.
5. Network Rail Asset Protection Agreement requires to be finalised
6. Network Rail Bridge agreements require to be progressed.

SOFT ANALYSIS

SUCCESSSES

1. Utilisation of stored on street poles for Edinburgh Gateway
2. ScotRail agreed to access for the next phase of works without too many concerns.
3. Agreement by Network Rail that the costs for the movement of tram infrastructure should be picked up by NR.
4. Edinburgh Gateway Technical Query signed off by Scottish Water negating the need for a bridge over slab.

FAILURES

OPPORTUNITIES

1. Early diversion of the Edinburgh Gateway sewer.
2. Purchase of the temporary mast maybe negated by using the current aerial within the depot.
3. Leaving the sheet piles in at Murrayfield could have programme benefits and alleviate concerns of further movement to the Network Rail infrastructure.

THREATS

1. Edinburgh Gateway potentially on the critical path for the project with York Place works being undertaken earlier.
2. Network Rail concerns over the King Post Wall at Edinburgh Gateway.

Produced by	Willie Delaney, Martyn Ayres & Elaine Pratt	SECTION	TRAMS CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	31-07-2012	REPORTING PERIOD	24 th June 2012 to 21 st July 2012	Project:
						Edinburgh Tram Network

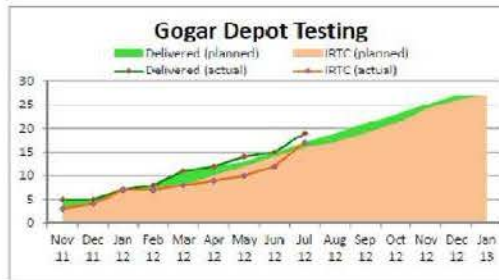
PROGRESS IN PERIOD	PHOTOGRAPHS / KPIs	KEY ISSUES
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PROGRESS IN PERIOD

- Test and Commissioning on the Mini Test Track (MTT) is now progressing well ahead of schedule:
 - Nineteen trams have now been delivered to Gogar Depot.
 - Seventeen have completed Interim Routine Testing on the MTT
- Turner & Townsend and CAF have agreed to hold a weekly discussion to update on technical and operational issues involving trams, as identified during testing and initial operation of trams at Gogar. This is in addition to the monthly Tram Liaison meeting attended by CAF, ETL and Turner & Townsend.
- Turner & Townsend have now completed the review of the BBS Test and Commissioning Plan and Section B Completion Programme. The requirements for Section B Completion will now be discussed at monthly System Integration meetings attended by BBS, CAF, ETL and Turner & Townsend, scheduled to start on 7th August 2012.
- Following the decision not to implement the Bustracker system on trams at this time, Turner & Townsend issued a briefing paper explaining the options available to allow bus timetable information to be provided at tramstops, in line with contract requirements. Turner & Townsend have now issued a change notice to BBS to adapt the mybustracker / RailCom Manager interface, to meet these contractual requirements.
- Turner & Townsend have scheduled a meeting with all stakeholders on 25th July 2012, to confirm the procurement and installation / testing processes to be followed for the provision of Ticket Vending Machines (TVMs) and to ensure all stakeholders are aware of requirements, roles and responsibilities.



Tram arrival at Gogar Depot



Trams scheduled for delivery / testing next period	Date
Tram 20 (#265) scheduled for delivery to Gogar	26/07/2012
Tram 21 (#1bc) scheduled for delivery to Gogar	w/e 14/09/2012
Tram 22 (#1bc) scheduled for delivery to Gogar	w/e 14/09/2012

KEY ISSUES

- The following tram technical issues are currently being investigated and have been progressed through the Tram Progress meeting as follows:
 - Auxiliary Converter defects caused by water ingress;
 - CAF have identified that water ingress into the Auxiliary Converter has resulted in the failure of two units. CAF have identified the cause of the problem and are awaiting the replacement of equipment covers which will resolve the issue.
 - Passenger Information / Announcements (PIS/PASPA) and CCTV system test failures;
 - The Tram Inspector and CAF have raised concerns with the reliability of this equipment post testing. CAF have raised these issues with the equipment supplier and are awaiting information on the cause and a rectification plan.
 - The incorrect placement of pedals in the cabs of all trams;
 - CAF have now provided Turner & Townsend with clarification on specific items raised by the investigation report into this issue. This issue is now closed.
 - The detachment of a roof panel on tram 252;
 - Having immediately implemented actions to reduce the risk of future occurrence, CAF will produce a technical report in September. This report will determine whether further remedial work is required.
- Turner & Townsend have completed a full review of the Tram Inspector Services, as defined in the Tram Supply Agreement and the Employer's Requirements. There is also an element of work to be completed by the Tram Inspector relating to the completion of testing on the Mini Test Track, which was not included in the original budget. Discussions have started with Mott MacDonald to agree the scope of the Tram Inspector Services and with CEC to determine budget requirements.

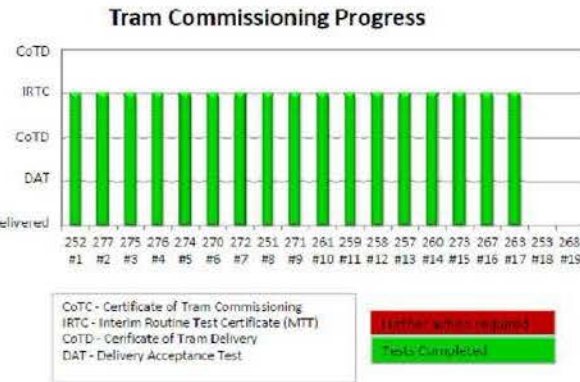
OPERATIONAL ISSUES

- Ticket Vending Machines (TVMs) - CEC / Lothian Buses are yet to confirm the Preferred Bidder status for TVMs. A meeting has been arranged for 25th July 2012, to confirm requirements and processes to be followed during procurement and installation of TVMs.
- Turner & Townsend are awaiting further information on an incident which occurred on 5th July 2012 involving the shunting of a tram in the depot, as described in the CAF Period Report. This incident is being investigated by Lothian Buses and a report is to be issued imminently.

LOOK AHEAD

The following items will be progressed during the coming period(s):

- Tram Commissioning Plan;
 - Twentieth tram (#265) due to be delivered on the 26th July 2012
 - There is no delivery or testing scheduled in August
 - Final tram scheduled for delivery on 12th December 2012
 - Interim Routine Testing scheduled to be completed on all trams by 29th January 2013
- Turner & Townsend are managing the development of a Failure Reporting and Corrective Action System (FRACAS) procedure, to ensure that all issues identified during the test and initial operation of the trams are robustly managed through to completion. This is being progressed as part of the monthly Tram Liaison Meeting attended by CAF, ETL and Turner & Townsend.
- Turner & Townsend have written an Engineering Change Control procedure to tie in with the formal design change processes and to ensure compliance with the ROGS responsible person's requirements in relation to technical change at Gogar Depot. This procedure will be issued following final review by CAF and ETL in the coming period.
- The requirements and schedule for the completion of Section B will be discussed at monthly System Integration meetings due to commence on 7th August 2012 and attended by BBS, CAF, ETL and Turner & Townsend.



CEC ACTIONS / DECISIONS

- Decision required on Preferred Bidder status for Ticket Vending Machines

SOFT ANALYSIS

<p>SUCCESSSES</p> <ol style="list-style-type: none"> Tram delivery and testing now ahead of schedule, with four trams delivered and three having completed routine testing in July. Change Notices have now been issued to CAF and BBS, following the decision not to fit Bustracker to trams at this time. It is expected that attendance by BBS, CAF, ETL and Turner & Townsend at a monthly Section B Completion meeting scheduled to start on 7th August 2012 should further strengthen the relationship between CAF and BBS (primarily Siemens). 	<p>OPPORTUNITIES</p> <ol style="list-style-type: none"> Start system testing and commissioning on completion of Off Street Section (Airport to Shandwick Place crossover) leading to earlier commencement of Revenue Service date (early partial service on Off Street Section and early service on full route) Further review of BBS Section B completion programme may allow trams to be commissioned ahead of current schedule. Increase in tram delivery rate could allow all trams to be delivered well ahead of schedule
<p>FAILURES</p> <p>None identified</p>	<p>THREATS</p> <ol style="list-style-type: none"> Lack of direction on TVM procurement is delaying the completion of tramstop design and equipment installation FRACAS / Engineering Change procedures required to manage technical issues raised.

Appendix 2 – Health, Safety & Environment

Deliver the Tram Safely / Deliver a safe Tram

1.0 Executive Summary

Executive Summary

- **Independent Competent Person** – ANC 002 - Confirmation of 'Duty Holder' ability to deliver Safety Verification raised during the period.
- **Requirements Management** – Verification and Validation Agreed Status now at 100% complete. Requirements requiring concession being progressed.
- **Evidence File** – Was transferred from 'old' SharePoint to 'new' SharePoint on 25th July.
- **Safety Verification Scheme Audits** – Safety Verification audit TSA/12/02 report to be updated during period 4. All other Safety Verification audits on hold pending satisfactory response to ANC 002.
- **Design** – 3 building fixing approvals remain outstanding. All owners requested further information. A formal agreement has now been sent to each owner. Approval not yet received.
- **Tram** - 19 vehicles have now been delivered to the depot and are under going static and dynamic testing.

Non Conformance Reports

- Total No of NCRs raised is 569.
- 31 NCRs were raised during the period and 29 NCRs were closed out during the period. There are 99 NCRs open, 454 NCRs closed and 16 NCRs cancelled/withdrawn. 31 no open NCRs are greater than 6 months old.

2.0 Safety Verification Scheme (SVS)

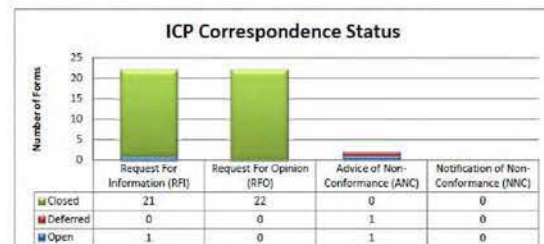
- Evidence File – Currently no information can be uploaded to the evidence file as the site has not been transferred over to the new SharePoint. Following an initial issue during transfer where existing licenses were lost, IT has now arranged the transfer.
- Safety Verification (SV) audit TSA/12/01 report for Maintenance of Depot Workshop Equipment and Track was discussed with the ICP. The report and findings will now be updated for agreement at the audit wash up meeting.
- SVS Audit TSA/12/03 Scheduled for 13th June 2012 – Section 1C - Slips, Trips, Falls (2 Wheel Vehicles) was cancelled by CEC. This resulted in the ICP raising and Advice of possible Non-Conformance (ANC-02).
- SVS Audit programme on hold pending satisfactory response to ANC 002.

3.0 Independent Competent Person

ICP Issues

- The last ICP Liaison meeting was held 11th July 2012. Minutes are being generated.
- The next PSCC meeting to be on 1st August 2012.
- ANC 002 – Due to cancellation of SV audit SVS Audit TSA/12/03 and Infracore to support the current format, the ICP requires clarification as to how the 'Duty Holder' will deliver safety verification to enable operation of the tram network. A way forward is being agreed with BBS.

ICP Correspondence	Open	Deferred	Closed	Total
Request For Information (RFI)	1	0	21	22
Request For Opinion (RFO)	0	0	22	22
Advice of Non-Conformance (ANC)	1	1	0	2
Notification of Non-Conformance (NNC)	0	0	0	0



4.0 BBS Design Construction and Testing & Commissioning Assurance

Design

Electromagnetic Compatibility (EMC)

- BBS Correspondence (Ref. ETN(BBS)CEC\$TEE&ABC#054959) SIT Procedure - Overall Magnetic and Radiated Emissions (IO 1.0) was submitted for information during the period 2. The document is currently being reviewed.
- A meeting was held with BBS during period 4 to discuss the results to date for Rail Conductance. BBS stated that results for Princes St do not meet the contract criteria of being 5 times better than standard. BBS will produce a rationale in support of a concession to this requirement. A follow up meeting is to be held wk. commencing 23/07/2012.
- SDS provided information to enable Network Rail (NWR) to provide a non-objection to the proposed location for the Radio Mast near to the Edinburgh Gateway stop. SDS followed up their request for non-objection from NWR, stating that they are compliant with NWR standards in the planned location. However we are still awaiting confirmation from NWR that the statement of compliance is with the appropriate standard.

Trackform

- Rheda City Track Typical Sections were submitted during the period. These have been reviewed by TSS and significant concerns have been raised in relation to the ability to maintain the tracks in the future. A formalised approach to address these concerns is to be agreed between Turner & Townsend and TSS.

Building Fixings

- 3 building fixing approvals remain outstanding. All owners requested further information. A formal agreement has now been sent to each. Currently awaiting approval / return. These agreements/approvals remain outstanding at this point.

Testing & Commissioning

- Depot and mini-test track operations continue. 19 vehicles have now been delivered and are undergoing static and dynamic testing, with next delivery scheduled for the 26th July.

5.0 Operator/Maintainer Safety Management System (inc. T&C)

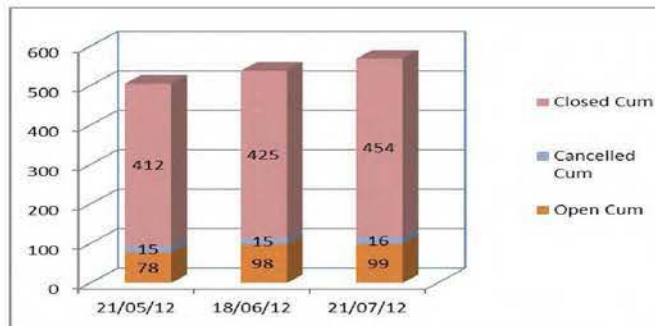
- Depot and mini-test track operations continue. 19 vehicles have now been delivered and are undergoing static and dynamic testing, with the next delivery scheduled for the 26th July.
- A peer review by Lloyd’s Register Rail of the operating and maintenance organisation and its processes is ongoing. Its findings and close out of any recommendations will be presented to Lothian Buses’ board at its August meeting. This will be the fourth peer review which Lloyd’s has carried out to date, with a further review scheduled prior to shadow running.
- Recruitment of additional drivers and controllers to facilitate Section B test track activities from early December has started, as have preparations for their training and assessment. Two controllers/drivers will start work in September, four drivers in October and a further four drivers in November. The post of General Manager has been advertised. Supplier training in control systems, (SCADA, TPDS, IVU, CCTV), has been provisionally booked for October. Operational procedures for airport test track operations have been drafted.
- An environmental audit took place in June. The stage two certification audit for ISO BS EN 9001 and the stage one certification audits for ISO BS EN14001 and BS 18001 took place in the last week in June. These went well and the assessor’s recommendation was that ISO BS EN 9001 certification be awarded. Stage two certification audits for ISO BS EN14001 and BS 18001 are scheduled for September and December respectively.
- Support has been provided to the project on the design and location of operational signage and the risk assessment of crossings and junctions, e.g. Haymarket depot access point.

Metrics

- Currently progressing with QM 73 and QM 78 however these metrics inspections cannot be closed until all relevant Verification and Validation evidence is reviewed and accepted / approved. This process is progressing as part of the requirements management review with close out of the depot evidence not expected to be complete for approximately 3 months.

6.0 NCR’s

- Total number of Non Conformance Reports raised - 569
- Total number of Non Conformance Reports raised in period 3 - 31
- Total number of Non Conformance Reports closed in period 3 - 29
- Number of Non Conformance Reports greater than 6 months old – 31



7.0 Requirements Management

Progress

- Verification and Validation Agreed Status now at 100% complete. Requirements requiring concession being progressed.

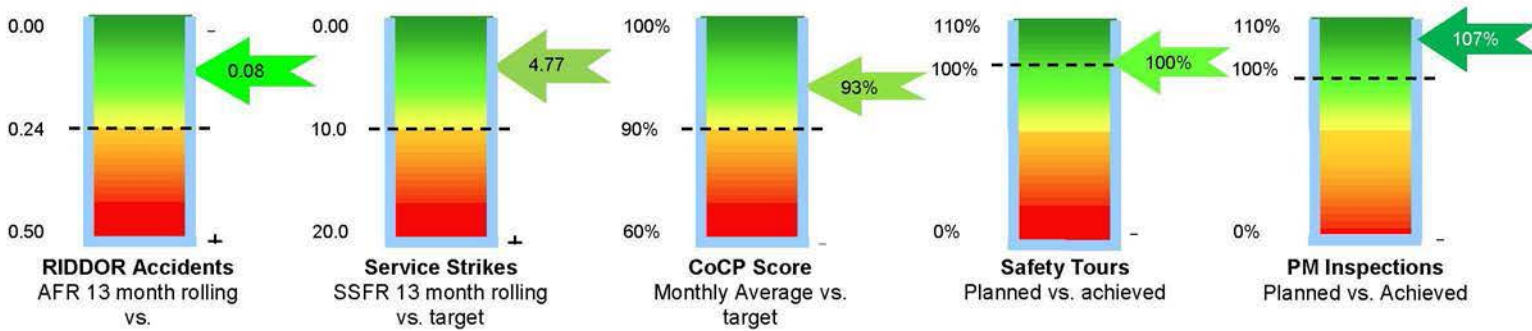
Total Number of Concessions	% Agreed
54	20

% Verification & Validation Agreed Status	% Verification & Validation Approved Status
100%	2%

8.0 Deliver a Safe Tram – Required Actions

- Evidence File to be moved to new sharepoint system.
- Next PSCC meeting to be held on the 1st of August 2012.
- Agreement to be reached on method in which Safety Verification Audits will be carried out.

HS&E ACCIDENTS and INCIDENTS SUMMARY											
Total	Total Hours	>7day	Major	Injury	NM/Unsafe Condition	Service Damage	ENV	RTA	MOP	AFR	SFR
Period	136,686	0	0	2	6	10	6	1	2	0.00	7.32
13 period rolling	1,278,485	1	0	19	68	61	15	1	18	0.08	4.77
INFRACO											
Period	97,044	0	0	2	3	9	4	1	2	0.00	9.27
13 period rolling	956,543	1	0	19	46	37	9	1	12	0.11	3.87
OTHER TRAM											
Period	26,786	0	0	0	3	1	2	0	0	0.00	3.73
13 period rolling	173,086	0	0	0	22	24	6	0	6	0.00	13.87



EXECUTIVE SUMMARY

- There was 2 serious / significant incident reported within the period
- There was 1 serious incident reported which falls within Period 5 which involved a mini excavator being used as lifting equipment to transport a manhole biscuit overturned, this is RIDDOR reportable.
- There were 23 other incidents (3 environmental incidents, 2 injury's, 1 MOP, 9 service damages, 7 near miss/unsafe conditions, and 1 RTA) See Appendix A for details.
- The rolling 13 Period AFR remains at 0.08, better than the benchmark KPI of 0.23 for the project.
- CoCP compliance was recorded at 94% during Period 4
- 100% of planned PM joint inspections have been carried out during Period 4.
- 100% of planned safety tours were carried out during Period 4.

Project Report – Period 4

HS&E INSPECTIONS SUMMARY (a summary of significant inspection findings can be found in appendix B)

Project Running Totals	HS&E Tours (Directors)	HS&E PM Inspection
Number planned	1	14
Number achieved	1	15

HSQ&E KEY ACHIEVEMENTS

- The rolling 13 Period AFR remains at 0.08, better than the benchmark KPI of 0.23 for the project.

Key Issues – Points to Note

- During the last period Turner & Townsend have been working to implement a number of key initiatives regarding health and safety on the project. These have comprised:
 - Aligning the monitoring process to provide the information that is required for the leading indicators that have been identified.
 - Undertaking targeted monitoring to review the barriers that are being utilised within the City centre following an incident which injured a member of the public.
- Turner & Townsend participated in the Bilfinger Berger – Siemens visit to Roseburn Street Primary School. The visit utilised the Network Rail 365 bus for a presentation, and also included a dumper and mini excavator being sited in the playground.
- Bilfinger Berger – Siemens held their monthly Occupational Health & Safety Meeting which was attended by Turner & Townsend.
- A RIDDOR reportable dangerous occurrence occurred when a mini excavator that was being used as lifting equipment overturned.

ENVIRONMENTAL SUMMARY

List any significant environmental events, initiatives, breaches etc

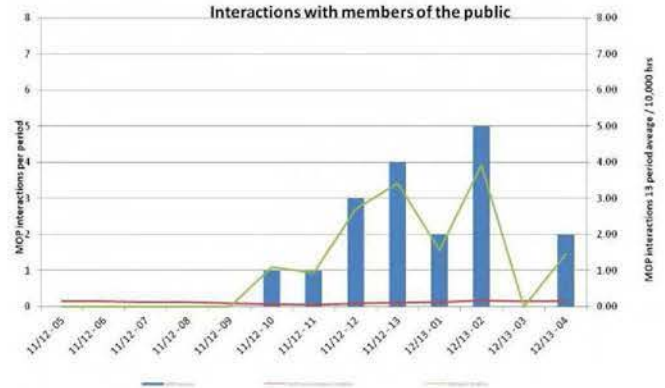
- Four environmental Incidents were reported during the period. One incident has been recorded as significant relating to a hydraulic oil spill from a pilling rig, adjacent to Murrayfield Stadium. Hydraulic fluid entering a tent that had been erected for the Madonna concert.
- Environmental inspection carried out with BBS 12th July 2012; Section 5 Edinburgh Park. No major issues were identified.
- A sewerage leak has been identified at the Grahams site in Haymarket Yards. Grahams are have identified the source of the leak. SDS and Scottish Water are currently developing a proposal to connect the pipe to an out fall. The sewerage is currently being tankered off site.
- An Environmental Site Walk round was carried out with the new Edinburgh Airport Environmental Manager – Julie McKinney on the 3rd July. This walk round was to advise the new manager of the current status of the tram works regarding the Gogar Burn and was attended by Turner & Townsend, BBS and the Ecological clerk of Works. No issues were identified.
- The reinstatement of the Ocean Terminal Monument commenced on the 19th July 2012. This work was instructed by Shane McKenzie of CEC. The reinstatement of the Conan Doyle monument is scheduled for the 30th July 2012.

Member of Public Interaction Summary

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

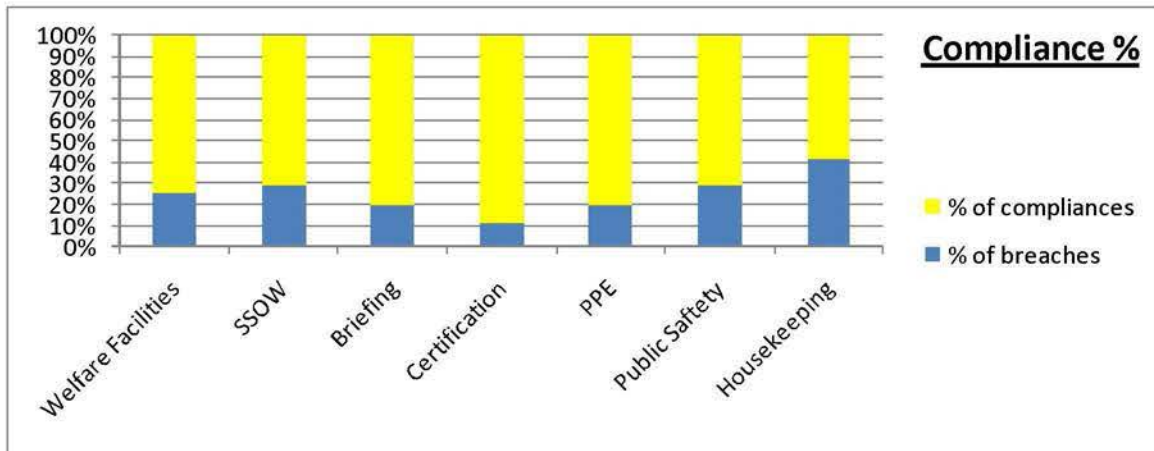
There two reported Member of Public incidents during the Period.

One was classified as a serious / significant incident and related to the collapse of a section of barrier onto a member of the public, the second related to alleged damage to paintwork on vehicles due to piling activities.



Leading Indicators

Include details of compliance against leading indicators



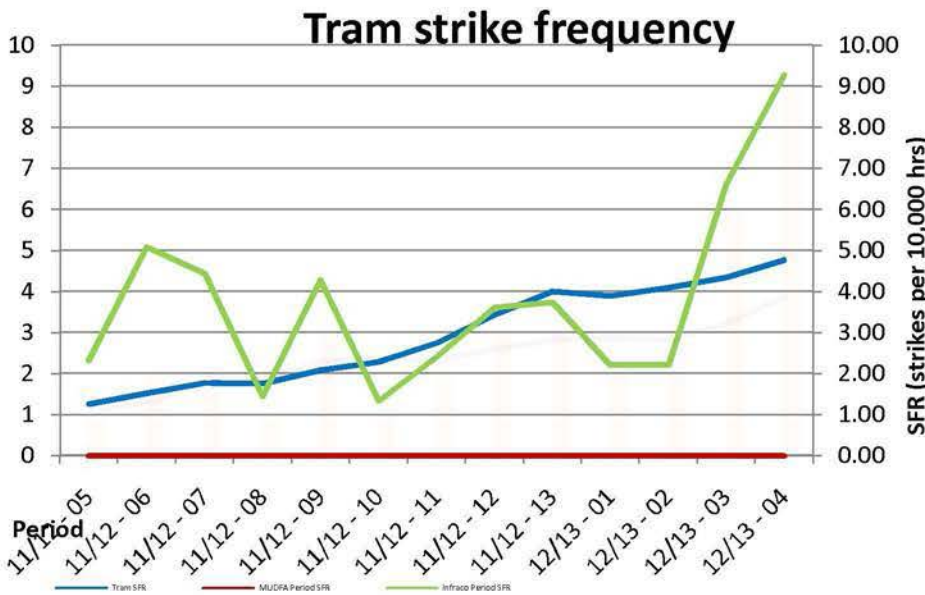
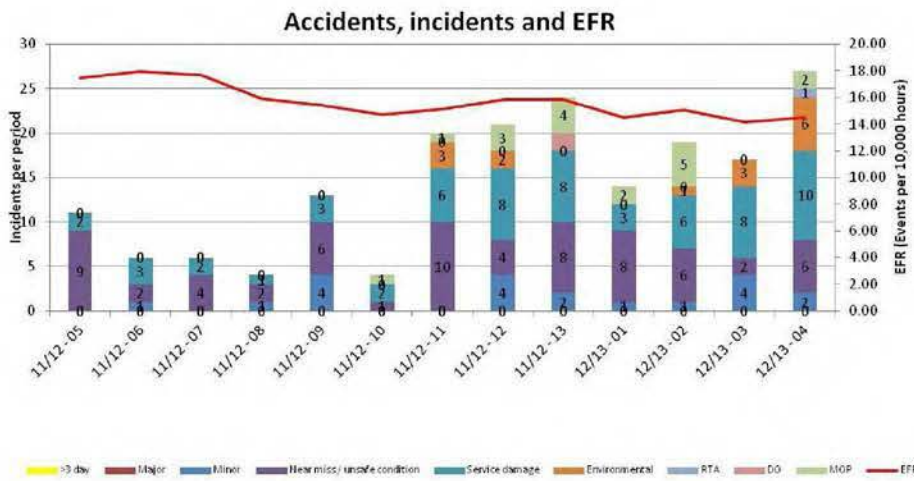
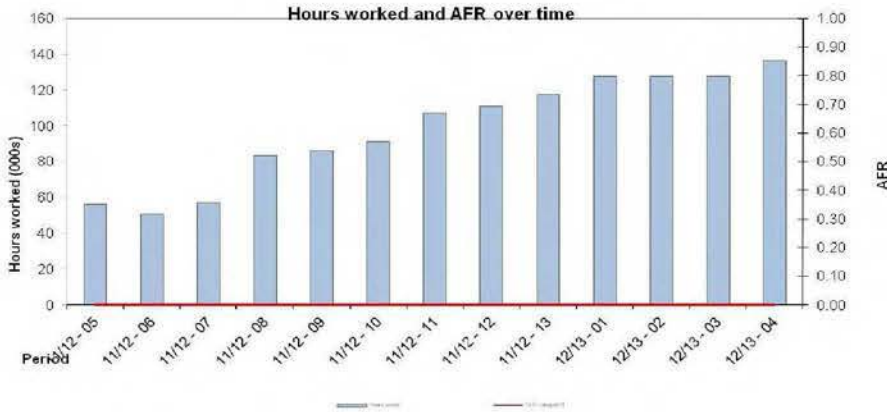
CDM Compliance

List any significant quality events, initiatives, breaches etc

- Reigart completed the demolition works on the 25th July to the toilet block at Cathedral Lane. The site is now fenced off.
- The CDM process has been implemented for the enabling works at York Place which are to be undertaken by Crummock. The construction works commenced on the 16th July and joint monitoring with Crummock to review the initial site set up and arrangements was undertaken on the 19th July.
- The involvement in the CDM process for the works to reinstate the monuments has been raised with Shane Mackenzie from City of Edinburgh Council who is managing the works. He has confirmed that the CDM process and appointment of duty holders is being undertaken by City of Edinburgh Council.

Project Report – Period 4

GRAPHS



Project Report – Period 4

APPENDIX A

There were 25 incidents in total since the issue of the last DtTS report two which were classified as serious / significant. There has been a further serious significant incident which falls outwith the reporting period, but which has been included due to its significance:-

Serious / Significant Incidents since last DtTS report

AIIR Ref:	AIIR 1702	Contractor:	Crummock		
Location:	St Andrews Square				
Project:	On Street	Date & Time:	29/06/12 & 18:12		
Sub Contractor:		Contractor Reference:			
Project Manager:	Mark Redgard	Is the accident / incident Serious / Significant or Major?	Yes X	No	
Description:	A MOP of the public was hit on the shoulder by a section of RB2000 fencing when it blew over. They hurt their shoulder but did not attend hospital				
Action taken by Contractor:	The fencing was re-erected.				
Action taken by Project Team (if required):	Targeted monitoring undertaken to assess compliance of BR2000 barriers being used on the project.				

AIIR Ref:	1720	Contractor:	Graham Construction		
Location:	Murrayfield				
Project:	Infracore	Date & Time:	18/07/12 14:20		
Sub Contractor:	Keller	Contractor Reference:			
Project Manager:	Tom Cotter	Is the accident / incident Serious / Significant or Major?	Yes X	No	
Description:	Hydraulic leak on piling rig resulted in some hydraulic fluid entering a tent at Murrayfield for the Madonna concert.				
Action taken by Contractor:	Spill kits were used to soak up the hydraulic fluid. Meeting held with SRU. Letter issued by Graham Construction providing details of materials involved in incident.				
Action taken by Project Team (if required):	Turner & Townsend to review investigation findings.				

Project Report – Period 4

Serious / Significant Incident in P5

AIIR Ref:	1725	Contractor:	McNicholas		
Location:	Princes Street				
Project:	Utilities works	Date & Time:	23/07/12 14:30		
Sub Contractor:		Contractor Reference:			
Project Manager:	Stephen Lewcock	Is the accident / incident Serious / Significant or Major?	Yes X	No	
Description:	Mini excavator being used as lifting equipment to transport a manhole biscuit overturned. No injuries.				
Action taken by Contractor:	Incident to be reported to the Health and Safety Executive as a Dangerous Occurrence under the RIDDOR Regulations. Incident being fully investigated and report prepared.				
Action taken by Project Team (if required):	Turner & Townsend to review investigation findings.				

Project Report – Period 4

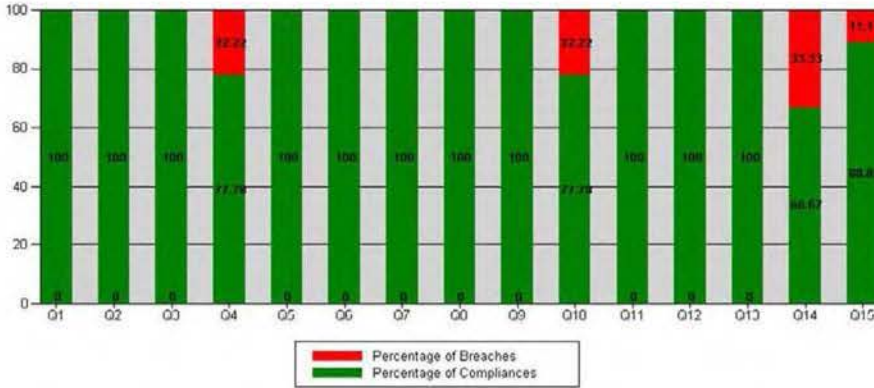
Other Incidents since last DtTS report

Date of event	Location description	Initial description	Contractor involved	Type
26/06/2012	Murrayfield Underpass	Damage to Scottish Water combined sewer - pipe crown of sewer penetrated at pipe joint	Grahams	Service damage
27/06/2012	St Andrew Square	Damage to the top of Virgin Media ducts - no damage to services identified	Crummock	Service damage
27/06/2012	Princes Street	A window in Topshop has been broken as a result of a RB2000 top panel being thrown through it	Crummock	Near miss / unsafe condition
27/06/2012	Murrayfield	Sewer identified as containing a build up of grout resulting in back up of sewerage in sewer system	Graham Construction	Service damage
28/06/2012	Bankhead Drive	Site operative accessed manhole which was classified as a confined space without the use of the equipment he had been issued for the SSOW	Bankhead Drive	Near miss / unsafe condition
28/06/2012	Princes Street	Minor spillage of diesel when changeover took place of diesel generators	Siemens	Environmental
02/07/2012	Roseburn Street/Murrayfield Tram Stop	Silver Citroen SAKO (W522 UAL) struck Class 1 traffic barriers. Occupants (2 x male, 3 x female) exited the car in safe condition	Graham Construction	RTA
03/07/2012	St Andrew Square	Manhole (MH6101) 500mm ring damaged and cracked by 8 tonne excavator during excavation works for track improvement slab.	Crummock	Service damage
04/07/2012	Fiddler's Elbow Pub, Picardy Place	Trial hole is flooding and leaking water into pub basement. No damage to building equipment	McNicholas	Environmental
04/07/2012	Haymarket Yards	Sewage visible on ground surface when works were being undertaken.	Grahams	Environmental
04/07/2012	Corner of Grosvenor Street	Damage to a 180mm dia plastic gas main with a machine bucket. Minor leak of gas	McNicholas	Service damage
07/07/2012	Water of Leith, Murrayfield	CEC needed access to Expanded compound to lay sand bags as Water of Leith was flooding. Bob McCafferty gave ok to go through the fence	Expanded	Environmental
09/07/2012	Murrayfield	Keller operative sustained injury to little finger when it became entrapped during cleaning and maintenance of piling equipment at the end of the work shift. Operative visited hospital for treatment. X-ray confirmed that there was no fracture. Operative returned to work next day	Grahams / Keller	Injury
10/07/2012	Bankhead Drive	During excavation work to install drainage a significant water leak was found on a 450mm DI water main at a VJ coupling close to a 45 degree bend.	BBS	Service damage
12/07/2012	Haymarket Yards	Morgan Sindall employee received electric shock from water heater in shared welfare facilities. Person returned to work.	Graham	Near miss / unsafe condition
06/07/2012	Coates Crescent	Contractor touched lamp post outside 19 Coates Crescent and received a slight shock (John Carroll). Contractor has no injuries	McNicholas	Near miss / unsafe condition
13/07/2012	Bankhead Drive	Damaged caused to existing manholes MH6203, MH8301, MH0302, MH1302	Crummock	Service damage
12/07/2012	Bankhead Drive	Changes to MH7301 and MH2301 have been undertaken without Scottish Water approved TQ and ATC for the works	Crummock	Service damage
13/07/2012	Shandwick Place	Scottish Water apparatus damaged or buried by tram works	Lagan	Service damage
17/07/2012	St Andrew Sq	Concrete truck mixer driver received cut to finger	Crummock	Injury
18/07/2012	Murrayfield	Hydraulic leak on piling rig resulted in some hydraulic fluid entering a tent at Murrayfield for the Madonna concert	Graham	Environmental
18/07/2012	Gogar Landfill	A concrete sleeper was being moved when it fell on to an operatives foot. He attended hospital and then returned to work	Siemens	Near miss / unsafe condition
18/07/2012	Coates Crescent	Report from Scottish Water that a sheet pile came loose from a height whilst being moved and almost collided with an operative	McNicholas	Near miss / unsafe condition

APPENDIX B – COCP INSPECTIONS

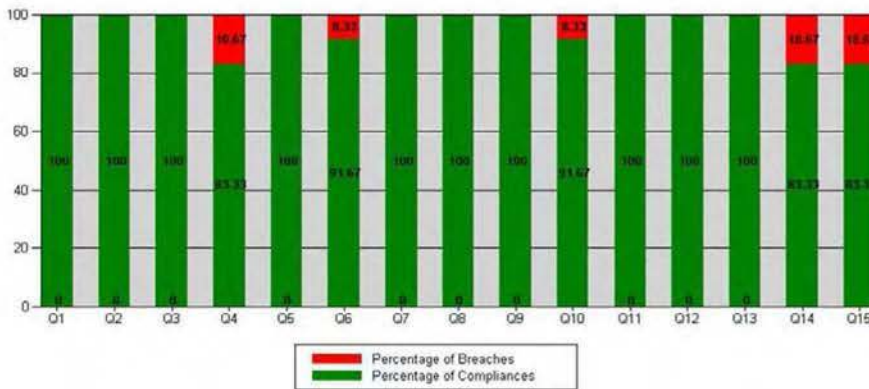
COCP INSPECTIONS / ISSUES

Period 3 (previous period)



Period 4

- CoCP compliance was recorded at 94% during Period 4



Q1. Hours of Work
Q2. Notification
Q3. Notices
Q4. Fencing and Hoarding
Q5. Noise
Q6. Waste Management
Q7. Waste Water and Run-Off
Q8. Water
Q9. Emergency Access
Q10. Parking
Q11. Litter and general housekeeping
Q12. Dust
Q13. Smoking
Q14. Members of the Public
Q15. PPE and Behaviours

Summary of issues identified during Turner & Townsend CoCP inspections and action taken

No	Date of Inspection	Location	Contractor	Question Number	Issue detail	Action taken or required to be taken by contractor	Date to rectify or rectified
1	27/6/12	Haymarket	McNicholas	6	Contractor currently has no special waste facilities on site. Advised to obtain special waste bins/skip and remove waste in accordance with Duty of Care Regulations. This has been discussed again with the contractor. Previously raised during inspection.	tbc	tbc
2	28/6/12	Bankhead	Crummock	4 & 14	Mechanical excavator operating immediately beside pedestrian walkway / cycleway without any barriers or segregation.	Work stopped until barriers put in place.	26/6/12 Closed
3	28/6/12	Bankhead	Crummock	15	Operative observed accessing manhole without confined space access equipment (winch, harness, atmosphere test equipt)	Work stopped. Raised as incident for formal investigation. Immediate actions included site briefings to all site personnel.	6/7/12 Closed
4	29/6/12	Balgreen	Expanded	14	Loose scaffolding tubes lying on top of bridge abutment – could roll and hit member of public.	Tubes removed	29/6/12 Closed
5	3/7/12	Roseburn Street	Grahams	15	Operative not wearing eye protection or ear plugs while using stihl saw.	Operative re-briefed on PPE requirements	3/7/12 Closed
6	10/7/12	McNicholas	Princes Street Gardens	10	Vans parked outside fenced area.	Parking arrangements approved and agreed as part of work scope.	10/7/12 Closed
7	17/7/12	Expanded	Balgreen	14	Sheet of expanded foam hanging over face of bridge abutment towards road traffic.	Sheet removed	17/7/12 Closed

Appendix 4 – Cost Report

Section 1 - Project Summary

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C=A+B	D	E	F=D+E	G	H	I	J	K=F+G+H+I+J	L	M=K-L	N=M-C	O=M/C-1	P	Q
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Mitigated	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	COWD to Date	Outstanding Amount
Edinburgh Tram Programme	500,154	0	500,154	479,660	8,882	488,542	10,430	7,057	0	5,000	511,029	-8,365	502,664	2,510	1%	384,279	103,248
1 Infraco - Off Street	360,060	-3,102	356,958	362,501	-3,102	359,399	10,312	90	0	0	369,801	-6,534	363,267	6,309	2%	302,258	57,141
2 Infraco - On Street	38,817	1,614	40,431	47,384	1,614	48,998	118	224	0	0	49,340	-1,493	47,847	7,416	18%	13,746	35,252
3 Infraco - Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0%	682	2,536
2.1 York Place Direct Works	0	0	0		1,015	1,015		300			1,315		1,315	1,315			
4.1 Utilities (Post Mediation)	1,812	9,485	11,297	1,812	9,485	11,297	0	3,770	0	0	15,067	-188	14,879	3,582	32%	9,189	2,108
4.2 Legacy Utilities (Revised Tram Route)	0	965	965	0	965	965	0	253	0	0	1,218	0	1,218	253	26%	765	200
4.3 Legacy Utilities (Leith Walk)	1,100	-1,100	0	1,100	-1,100	0	0	2,270	0	0	2,270	0	2,270	2,270		0	0
5 Tram vehicles	62,400	5	62,405	63,645	5	63,650	0	150	0	0	63,800	-150	63,650	1,245	2%	57,639	6,011
6 Project Management (refer to CEC Report)		0	0			0					0		0	0			
7 Preparing for Operations (refer to CEC Report)		0	0			0					0		0	0			
8 Specified Risk Allowance	32,747	-7,867	24,880	0	0	0	0			5,000	5,000		5,000	-19,880	-80%	0	0

Comments:

Report excludes Enabling work packages reported under T19 and utilities reported under T18
Contributions include amounts relevant to reported budgets only. Any further contributions are reported by CEC.
Includes changes issued to 23/7/12

Risk:

QCRA as last presentation - slides 18 May 2012.
Note: BBS portion of program saving, £6.5m not included.

Actions

Ongoing risk mitigation of major risks.
Realisation of opportunities associated with specification reductions (road surfacing) and time (York Place)

Infraco Cost Report Section 1 - Commercial Summary

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C = A + B	D	E	F = D + E	G	H	I	J	K = F + G + H + I + J	L	M = K - L	N = M - C	O = M / C - 1	P	Q
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Provision	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	COWD to Date	Outstanding Amount
Infraco Contract	402,095	-1,488	400,607	413,103	-1,488	411,615	10,430	314	0	0	422,359	-8,027	414,332	13,725	5.43%	316,686	94,929
Off Steet	360,060	-3,102	356,958	362,501	-3,102	359,399	10,312	90	0	0	369,801	-6,534	363,267	6,309	3.60%	302,258	57,141
00 Preliminaries and Other Items	150,408	517	150,925	150,409	517	150,926	4,556	30	0		155,512	0	155,512	4,587	3.04%	117,283	33,643
01 Newhaven Road to Haymarket	85,368	-3,333	82,035	87,738	-3,333	84,405	1,408	0	0		85,813	-318	85,495	3,460	4.61%	89,381	-4,976
02 Haymarket Corridor	8,692	-4	8,688	8,692	-4	8,688	0	0	0		8,688	-14	8,674	-14	0.00%	7,016	1,672
05 Roseburn Junction to Gogar	80,035	-186	79,849	80,105	-186	79,919	4,236	60	0		84,215	-5,102	79,113	-736	5.47%	56,029	23,890
06 Depot	19,979	231	20,210	19,979	231	20,210	88	0	0		20,298	0	20,298	88	0.44%	19,301	909
07 Gogar to Edinburgh Airport	15,578	-327	15,251	15,578	-327	15,251	24	0	0		15,275	-1,100	14,175	-1,076	0.16%	13,248	2,003
On Street	38,817	1,614	40,431	47,384	1,614	48,998	118	224	0	0	49,340	-1,493	47,847	7,416	22.04%	13,746	35,252
00 Preliminaries and Other Items	21,837	87	21,924	21,837	87	21,924	29	0	0		21,953	0	21,953	29	0.13%	7,557	14,367
01 Newhaven Road to Haymarket	16,980	1,527	18,507	25,547	1,527	27,074	89	224	0		27,387	-1,493	25,894	7,387	47.98%	6,189	20,885
Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0.00%	682	2,536
00 Maintenance & Mobilisation	2,205	0	2,205	2,205	0	2,205	0	0	0		2,205	0	2,205	0	0.00%	682	1,523
00 Spare Parts	1,013	0	1,013	1,013	0	1,013	0	0	0		1,013	0	1,013	0	0.00%	0	1,013

Comments:

Summary sheet values in £k. All other sheet values in £.
 Opportunities include for time saving based on current QSRA.
 Excludes £3.2m phase 1b payment (refer to budget T19.C)

Risk

Refer to Risk register for risks identified against infraco programme
 All risk is held at programme level. This section of the cost report makes no allowance for risk.
 Refer to the outputs of the QCRA/QSRA for further information on risk.

Actions

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Infracost Report Section 2A - Approved Change - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
501	Hawthornevale Cycle Link - Change the design to widen the footway alongside the south side of Lindsay Road	20,021	20,021	0		01	01
502	Amend the design of Ocean Drive to reinstate the footpath to the north of Ocean Drive	10,231	10,231	0		01	01
503	OLE temporary portals at depot access bridge to allow finalisation without Edinburgh Gateway	67,646	67,646	0	Edinburgh Gateway funding	05	01
504	Review of the banned right turn into Blenheim Place as part of the design for Section 1C2 roads	46,247	46,247	0		01	01
505	York Place Terminal Point - Production of a feasibility report, initial feasibility design for option ii), run time modelling etc	228,653	228,653	0		01	01
506	Design for providing a new cycleway from the Mound to Princes Street	9,437	9,437	0		01	01
506.1	Design for providing a new cycleway from the Mound to Princes Street	1,669	1,669	0		01	01
507	Provide a clarification report and completion of the St. Andrew's Square Public Realm design	133,075	133,075	0	Included within contributions	01	01
508	Obtain EAL approval for the highways design drawings at Eastfield Avenue tram crossing	10,025	10,025	0		07	01
509	Design of Cathedral Lane Substation	233,596	233,596	0		01	01
511	Storm Water Connection from Gogar Lodge to the landowners new septic tank	5,750	5,750	0		05	01
512	Re-design of Ocean Terminal Bypass Road	53,685	53,685	0		01	01
513	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	156,870	156,870	0		01	02
514	Utility Mapping	92,756	92,756	0	Time chargeable costs. L&M Surveys and Class One. Complete	01	02
516	Additional Water main requirement at Depot and Mini Test Track	51,282	51,282	0		06	01
517	Additional BT Ducts at Depot and Mini Test Track	2,996	2,996	0		06	01
520	Valve chamber access and alteration works to 800mm water main at the Depot	105,326	105,326	0		06	01
524	Airport to Gyle - NIL Design Finalisation (also includes Construction)	-40,559	-40,559	0		07	01
526	Airport to Gyle - Tram Delivery Temporary Works	6,878	6,878	0		07	01
529	Design Gogar Castle Access Road tram crossing and approaches	31,308	31,308	0		05	01

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TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
530	Amend the design of the Depot Road turning head as per RDC191. Option 2	30,458	30,458	0		06	01
531	Edinburgh Gateway - Advance Temporary Works design	9,349	9,349	0		05	01
534	SP Insurance Ducts - Install Insurance ducts at various locations	5,637	5,637	0		07	01
536	System Wide - Tramstop Cabinets - reduction in 10 years maintenance liability	0	0	0	No saving to contract	01	01
538	Depot - Tramwash Continuous Mode - Requirement for additional hand lances washers	0	0	0	Change rejected - included within contract	06	01
540	Section 7 - Plot 304 - Omit Landscaping works	-201,120	-201,120	0		07	01
544	Extension to Edinburgh Park Office to accommodate CEC / Transport Scotland	159,900	159,900	0		00	01
550	Shandwick Place OLE & Landscape Design Revision	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	01
553	SDS to provide the services of Matt Fell until August 2012	110,000	110,000	0		00	02
558	Site Wide - Provision of a CAD Technician	1,693	1,693	0		01	02
559	Detailed Design of York Place	56,438	56,438	0	tnc issued - awaiting BBS estimate	01	01
561	Omit all works at the Forth Ports area	-2,443,000	-2,443,000	0	Work deleted from scope.	01	01
562	On Street Generally - OLE Design Changes for On Street Section (PMC 045) - SIEMENS DESIGN WORKS	135,000	135,000	0	Includes original tnc 550, 555, 563	01	02
563	On Street - Amend pile caps from square / rectangular to circular	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
564	Worksite Modelling - (TM)	10,000	10,000	0		01	03
565	Advanced design works for Edinburgh Gateway Minimum Option	2,650	2,650	0		05	01
565.1	Advanced design works for Edinburgh Gateway Minimum Option	3,350	3,350	0		05	01
566	On Street Generally - Ducting Design Changes Due to Utilities Conflicts	60,000	60,000	0		00	02
567	On Street Generally - Drainage Design Changes Due to Utilities Conflicts	100,000	100,000	0		00	02

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TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
568	On Street Generally - Trackform Design Changes Due to Utilities Conflicts	30,000	30,000	0		00	02
569	Additional Running Costs associated with the extension to the Edinburgh Park offices	79,200	79,200	0		00	01
572	Cathedral Lane Substation - Retaining Wall Design	34,459	34,459	0	Value based on submitted estimate from BBS	01	01
574	Haymarket Station - Delete viaduct cladding	-5,571	-10,000	4,429		02	01
576	Depot - Reinstatement to 250mm Water main Remedial Works	36,788	36,788	0		07	01
577	Haymarket Viaduct - Deletion of Sub Station Retaining Wall and Plinth	1,580	1,580	0		02	01
578	SI Provisional Sum Allowance	-57,984	-57,984	0		01	02
580	Cancellation of trackwork materials York Place to Newhaven	-1,100,000	-1,100,000	0	Change resulting from value engineering exercise	01	02
581	Omit Siemens work to Tower Place and Victoria Dock bridges	-100,000	-100,000	0	Change resulting from value engineering exercise	01	02
582	Delete proposed cladding installation costs on Roseburn Viaduct Structures	-308,004	-308,004	0	Change resulting from value engineering exercise	05	01
585	Descoping of Service Vehicle	-21,565	-21,565	0		00	01
586	St Andrew Square - tie in detail	15,228	15,228	0	Change resulting from value engineering exercise	01	01
589	Descoping airport tramstop kiosk and canopy	-150,000	-150,000	0		07	01
591	Diversion of Scottish Power Cable at Haymarket Viaduct	21,789	21,789	0	NR contribution	05	01
595	Haymarket Viaduct - Deletion of fitting out of Crew Relief Facility	-74,001	-74,001	0		05	01
597	Section 1D - Omit disconnection of Bus Tracker	-14,928	-14,928	0		01	01
601	Clarification on length of shelter to RBS tram stop (8m)	27,863	25,000	2,863		05	01
602	Omit purchase of poles for PIDs North of York Place	-23,740	-23,740	0		01	01
609	Traffic Management provision in section 1A	133,140	133,140	0		01	03
613	Temporary Bus Station at St Andrew Square/Waterloo Place - design	50,000	50,000	0		01	01

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TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
615	Haymarket Viaduct - design wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	3,000	3,000	0		05	01
616	Haymarket Viaduct - construct wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	10,798	10,798	0		05	01
617	Tram stops branding changes. Requirement for etched glass to be confirmed	0	0	0	Value TBC	05	01
618	Gogar Depot 1800 mm Diameter Manhole - TQ736	6,176	6,176	0		06	01
619	Omit Track Welding Equipment	-14,420	-14,420	0		06	01
621	Amend the dates of the HV meter installation at substations	12,507	12,507	0		05	01
624	Compressed Air Supply to Depot Gantry Road and workshop	5,576	5,000	576		07	01
640	Unimog Insurance	-1,000	-1,000	0		00	01
652	Maintenance of The Depot Workshop Equipment	49,633	49,633	0		06	01
668	De-scoping of Infraco works in York Place to be undertaken direct by Crummock.	-1,015,156	0	-1,015,156		01	01
Total		-3,101,385	-2,094,096	-1,007,289			

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TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
525	Airport to Gyle - Site Access for Remedial Works	0	0	0	all costs associated with this change allocated to TNC 576	07	01
527	Ingliston - Reimbursement of Costs paid directly to SGN for the diversion of approximately 120m of 10" steel IP gas main to accommodate the new Edinburgh Tram at Ingliston	0	0	0	Saving from Infraco, not included during the period as cost not shown in utility budget	07	01
539	System Wide - Delay in signing - impact on commencement and completion	4,541,161	4,541,161	0	Meeting scheduled to review cost incurred at delay commencement	00	04
541	Princes Street - City Chamber - Annandale Street Communication Links. Usage of CEC available BT-Lines to avoid provision of direct FO link from Princes Street to City Chambers	190,000	111,163	78,837	Off and on street combined under Clause 80	01	01
555	Haymarket - OLE 196B design revision to avoid main sewer	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
556	Track Work Materials York Place to Newhaven - Price Fixing for Rheda City C and D	0	0	0	Included in VE register	01	01
557	Haymarket 1 - OLE Base Relocations (Design mods)	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
571	Hope Street Junction Design	5,000	5,000	0		01	01
573	Roseburn Delta - Non DDA Compliant Footpath	0	0	0	TNC covers design only. Costs associated with this change included in the anticipated change section	05	01
575	Haymarket Station - Take Down Viaduct Staircase and Parapet. TNC now withdrawn - Network Rail carrying out work	0	0	0	Work to be carried out by Network Rail	02	01
587	Revise design for amendments to setts areas and specification	30,000	30,000	0	Subject to separate CEC budget	01	01
592	Haymarket Yards - Realign kerbs at Car Park Entrance	0	0	0	Currently on hold pending A. Sim review.	05	01
593	Secondary Phase 1a - Cessation of Design Work North of York Place	0	0	0	Saving opportunity being investigated in relation to future ownership of design etc prior to finalising value.	01	01
594	Edinburgh Gateway slope option - design costs	200,000	4,200,000	-4,000,000	Covers design works only. Construction costs in tnc 6473	05	01
599	Floating track slab	980,000	980,000	0	Verbal advice from Siemens and Bilfinger Berger of cost of providing floating slab at all locations identified. Potential opportunity to reduce if marginal locations are omitted. Subject to final report from BBS.	01	01
603	Bus Tracker Interface Specification	10,000	10,000	0	Cost based on option 2	01	01
605	Depot - Sub-Station Switching	80,000	80,000	0	Includes allowance up to Section B completion date (8/3/13)	06	03

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Infracost Report Section 3A - Change in Progress - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
608	Delete 110v sockets on Off Street Tram Stops	-16,500	-16,500	0	Assume £1.5k per tram stop. Awaiting estimate	05	01
610	Edinburgh Gateway - Siemens Long Lead Items	65,000	0	65,000		05	01
620	Airport Tram Stop Design	10,000	10,000	0		05	01
622	LV power for sub-station and Tramstop.	0	0	0		05	01
623	Repair minor damage to Depot (Intercom, fence panel and broken slabs	3,000	3,000	0		07	01
625	Engineering attendance on site at Cathedral Lane.	55,000	55,000	0		01	01
626	Advanced procurement of Edinburgh Gateway Materials and Equipment.	0	0	0	Costs included in tNC 594	05	01
627	Delete pedestrian guardrail in the area outside St John's Church (Design)	5,000	5,000	0		01	01
628	Prepare MUDFA As Built drawings	100,000	100,000	0	Requirements to be confirmed	01	01
632	Resolve Depot Building water ingress	0	0	0	Assumed to be BBS liability	06	01
636	Twin Crossing at Lochside Avenue	20,000	20,000	0		05	01
643	Edinburgh Gateway Construction	3,875,000	0	3,875,000	Construction costs; excludes fees and OLE Poles (refer to tNC 594 & 610)	05	01
647	Design work to support VE on carriageway reconstruction & kerb realignment	50,000	10,000	40,000		01	01
648	Cabinet Position For Street Lighting - design	10,000	10,000	0	Provision of as-built drawings	01	01
649	Princes Street Blister - Design Works	0	0	0		01	01
651	Defer Off Street Tramstop Shelter Installation and Fit-out	50,000	50,000	0		05	01
653	Provision of IFC Drawings in DWG CAD format	5,000	5,000	0		01	01
655	Revise CCTV & PA coverage at Murrayfield tram stop	5,000	5,000	0		05	01
657	Drainage As Built Drawings - Princes Street	15,000	15,000	0		00	01
661	Blank off signage to Depot	10,000	0	10,000		05	01

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Infracost Report Section 3A - Change in Progress - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
662	Eastfield Avenue Topographical Survey	3,000	0	3,000		07	01
663	Heras fencing at depot	7,000	0	7,000		06	01
664	Gogar Castle Access Road - Additional High Friction Surfacing	6,000	0	6,000	Requirements being investigated	07	01
666	Pedestrian gate next to the vehicle access gate at the ScotRail Depot.	2,000	0	2,000	Contribution from ScotRail to be reviewed	05	01
667	Call off service to respond to Network Rail TQs and interface issues	5,000	0	5,000		05	01
669	SGN Remedial Works - backfill at New Ingliston Land	12,000	0	12,000		07	03
670	SDS Response to Road Safety Audit for Princes St	10,000	0	10,000		01	01
671	ScotRail car park security fence	10,000	0	10,000	Contribution from ScotRail to be reviewed	05	01
672	Depot - Provide a wet vac to mechanically remove water ingress	1,000	0	1,000	Lothian buses to pay?	06	01
673	Cancel order for OLE poles required for Secondary Phase 1a	-41,594	0	-41,594		01	01
Total		10,312,067	10,228,824	83,243			

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Infraco Cost Report Section 3B - Change in Progress - Schedule 45

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
513.1	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	0	17,210	17,210	17,210	0		01	02
521	Haymarket - Temporary Accommodation	0	1,543	1,543	1,543	0		01	02
522	Haymarket 1 - Road Reconstruction	0	0	0	0	0	Included in VE register	01	02
523	Haymarket 1 - Additional CBR / Plate Testing	0	0	0	0	0	Included within on street priority works (contract milestones)	01	02
528	Haymarket 1 - Slit trench excavation to validate utilities	0	6,565	6,565	6,565	0	Included within on street priority works (contract milestones)	01	02
532	Princes Street - Temporary traffic management design - WITHDRAWN	0	0	0	0	0	Further information required	01	02
533	Princes Street - 500mm Water Main Diversion	0	0	0	0	0	Costs contained within 535	01	02
535	Princes Street - 500mm Water Main Diversion - rev 3 dwg	0	252,986	252,986	252,986	0		01	02
537	Haymarket 1 - Additional visit of Tar planer to facilitate slewing of BT ducts - WITHDRAWN	0	0	0	0	0	Withdrawn	01	02
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	156	256,091	256,247	250,503	5,744	Only covers section H1. H2 to YP included in item 7 of Anticipated Change.	01	02
545	Site Wide - Power to bus trackers affecting the ability to remove site clearance items	0	0	0	0	0	McNicholas to remove. Contra charge BBS; allowance included for BBS attendance	00	02
546	Site Wide - Increased number of drainage boxes including installation	21,482	0	21,482	21,482	0		00	02
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	7,869	4,305	12,174	3,787	8,386		00	02
548	Haymarket H1 - BT Fibre Optic Service requires diverting	0	83,053	83,053	83,053	0		00	02
549	Princes Street - Amend the design of the St. Johns Church OLE bases	37,644	16,769	54,413	17,518	36,895	Opportunity to deduct original scope to be pursued once acceptance of revised pole locations is achieved.	01	02
551	Princes Street - 2011 Christmas Embargo - Temporary Surfacing of Track Infills	0	203,511	203,511	203,511	0		01	02
552	Princes Street - BT diversion @ junction of Princes Street and South St. David Street	0	0	0	0	0	Costs included within TNC 535	01	02
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	57,674	178,423	236,097	219,757	16,340	Refer to Revised issue of TNC	01	02
560	St. Andrew Square - Omit £0.7m of repairs to road surface finishing	-700,000	0	-700,000	-700,000	0		01	02

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Infraco Cost Report Section 3B - Change in Progress - Schedule 45

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
570	Omit the Removal of Trees in Shandwick Place	-9,066	3,299	-5,767	-5,725	-42		01	02
579	Removal of embargo and revised traffic management	0	0	0	0	0	Change resulting from value engineering exercise	01	02
583	Ordering setts for on street works	-90,000	0	-90,000	-90,000	0	Saving based on spreadsheet issued to CEC (GE to AC 22/05/2012). Final value still to be agreed with BBS	01	02
584	Road Reconstruction specification	0	201	201	201	0	Change resulting from value engineering exercise	01	02
588	Stafford St Return of Parking Spaces	0	0	0	0	0		01	02
590	New cycleway from The Mound into Princes Street	0	30,375	30,375	30,786	-411		01	02
596	Section 1D - Costs associated with amended drainage design	1,736	116,716	118,453	116,924	1,528		01	02
598	Section 1D - Incorporate geotextile liner into Clifton Terrace void in accordance with requirements from Archaeologist	0	1,760	1,760	3,500	-1,740		01	02
600	Shandwick place - OLE bases affecting utilities (Piling)	10,789	300,047	310,835	306,695	4,140		01	02
604	St Andrew Sq - OLE bases affecting utilities (Piling)	0	37,550	37,550	37,550	0		01	02
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	13,054	43,524	56,578	46,000	10,578		01	02
607	Delete 110v sockets on On Street Tram Stops	-4,500	0	-4,500	-4,500	0	Assume £1.5k per tram stop. Awaiting estimate	01	01
611	Excavation of Track Slab to be carried out by McNicholas	0	0	0	0	0	Refer to Anticipated change section for costs	01	01
612	Tram stops branding changes. Requirement for etched glass to be confirmed (cost excluded)	0	0	0	0	0	Value TBC	00	01
614	Rothesay Place Traffic Management Amendment	10,000	0	10,000	10,000	0		01	01
629	Utilities affecting Track Excavation at Shandwick Place (S1)	69,582	8,663	78,245	8,830	69,415		01	02
630	Utilities affecting Track Excavation at Shandwick Place (S2)	37,512	18,019	55,531	18,477	37,055		01	02
631	Third parties affecting progress at Shandwick Place (S2)	0	7,161	7,161	7,161	0		01	02
633	Ponding on Princes St at junctions of Frederick St/Castle St	0	0	0	0	0		01	01

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Infraco Cost Report Section 3B - Change in Progress - Schedule 45

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
634	Descope duct installation at Cathedral Lane	0	0	0	0	0	In Anticipated change section	01	01
635	Amend on street drainage scope	236	8,605	8,841	0	8,841	In Anticipated change section	01	02
637	St Andrew Square Pedestrian Crossing	5,000	0	5,000	5,000	0		01	01
638	Remove pedestrian guardrail outside St John's Church	5,000	0	5,000	0	5,000		01	01
639	York Place - Traffic Management Design	10,000	0	10,000	10,000	0		01	01
641	Cathedral Lane substation - scope change to suit Henderson Global requirements. Excludes demolition.	281,000	0	281,000	281,000	0	This allowance is for the extra over cost included in the contract for construction of the new tram substation only. There is no allowance for any works in constructing Henderson Global's substation. Design work is included in TNC 509	01	01
642	York Place temporary Tram Stop	0	0	0	0	0		01	01
644	Finials for On Street Poles	30,000	0	30,000	30,000	0		01	01
645	Princes Street Outstanding Works	271,500	18,451	289,951	290,000	-49		01	01
646	Cabinet Position For Street Lighting	20,000	0	20,000	20,000	0	Relates to locations only - assume no additional work	01	01
650	Princes Street Blister	10,000	0	10,000	10,000	0	Assume resolution agreed on site - no design work	01	01
654	De-scope coloured high friction surfacing at Princes / Sth St David Street Jctn	0	0	0	0	0	Savings contained in tnc 560	01	01
656	Defer On Street Tramstop Shelter Installation and Fit-out	10,000	0	10,000	10,000	0		01	01
658	Clarification of scope to Shandwick Place Wall	0	0	0	0	0		01	01
659	Road signage at Junction of Manor Place / Melville Street	2,000	0	2,000	0	2,000		01	01
660	Princes Street Traffic Management	10,000	0	10,000	0	10,000		01	01
665	Removal of Princes Street "plug"	0	0	0	0	0	Current requirements to be established	01	02
Total		118,668	1,614,828	1,733,496	1,519,814	213,683			

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Infraco Cost Report Section 4 - Anticipated Change

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
2	Pricing Assumptions - 6.4.2.3 York Place Terminal Point	944,000	944,000	0	Excludes design costs (in change section of report) and sheet piling work to strengthen basement (included in risk allowance).	01	02
4	Pricing Assumptions - 6.4.2.6 Dublin Street	70,000	50,000	20,000	Excludes piling if required. Includes allowance for works to adjacent properties.	01	02
6	Track Lowering - bridging trackform over utilities in St Andrew Square	150,000	150,000	0	Requirement for 30m section in St Andrews Square. Costs will come through On Street Works estimates	01	02
7	Piled OLE base in lieu of utility diversion	100,000	100,000	0	Allowance for remaining scope at 23/06/2012. 1 OLE base at Shandwick Place; 2 piles, 3 bases. Costs will come through On Street Works estimates	01	02
14	Roseburn Delta - non DDA footpath	30,000	30,000	0	No design required. Temporary footpath alignment to be agreed on site. Potential modifications to surface water drainage resulting from revised earthworks and Scottish Water approvals.	05	01
15	MUDFA Reinstatement - Hope Street / Lothian Road	30,000	30,000	0	CEC may undertake this work	01	01
23	Drainage redesign and amendments to numbers / depths of manholes, carrier drains / drainage connections.	50,000	50,000	0	Additional design £50k; costs associated with standing time and or delay captured in Schedule Part 45 Costs	01	02
24	Remove drainage from Infraco scope	-250,000	-250,000	0	Extent of deduction to be fully established. BBS have advised a total saving of £250k. T&T believe the value is larger based on our remeasure. However, BBS are disputing the method of calculating the deduction.	01	01
25	Remove excavation of trackbox from Infraco's contract	-250,000	-250,000	0	Value to be determined by detailed site measure and application of Schedule 45 rates. Quantification to be agreed with BBS. Note that this value has been reduced as BBS are disputing the method of calculating the deduction.	01	01
26	Remove ducting in Cathedral Lane from Infraco's contract	-75,000	-75,000	0		01	01

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Infraco Cost Report Section 4 - Anticipated Change

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
27	Amend road reconstruction depth from Contract Requirements	-700,000	-700,000	0	Principles instructed, saving subject to site conditions	01	01
28	Opportunity to reduce cost associated with the temporary tram stop at York Place	-150,000	-150,000	0	Design optimisation - still to be realised	01	01
30	Schedule Part E, Item 8. Trackside Signage	37,320	37,320	0	Current requirements to be established	01	01
31	Schedule Part E, Item 10. OLE Change: Grosvenor Street Pole Movement	12,440	12,440	0	Current requirements to be established	01	01
32	Schedule Part E, Item 11. Unsuitable building fixings Section 1A	118,258	118,258	0	Current requirements to be established	01	01
33	Schedule Part E, Item 12. SDS Lighting Design update impacts OLE combined poles	62,200	62,200	0	Current requirements to be established	01	01
34	Schedule Part E, Item 14. SDS alignment update to match built structures	124,400	124,400	0	Current requirements to be established	01	01
35	Defer tram stop construction	30,000	30,000	0	Increased protection / security	00	01
36	Install fencing to mini test track	20,000	20,000	0		05	01
37	Redesign of OLE bases along Roseburn corridor where they are sited outside of the LOD	10,000	10,000	0		05	01
39	Descope traffic sign and street lighting bases	-50,000		-50,000	McNicholas to undertake bases and ducts	01	01
Total		313,618	343,618	-30,000			

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Infraco Cost Report Section 5 - Opportunities

Ref No	Description	Approved Changes	Changes in Progress	Anticipated Changes	Contributions	Secured	To be secured	Total Opportunity	Value per CS report Jan 2012	Notes
01	Remove embargoes and revised TM	0	0	0	0	0	0	0	-6,460,000	Subject to completion of sections in advance of contract dates. Initial opportunity based on 22 week time saving assumed in the Rev 4C programme. Current master programme indicates 4 week saving as a result of York Place
02	Edinburgh Gateway	0	0	0	-4,140,000	-4,140,000	0	-4,140,000	0	Awaiting instruction from Transport Scotland
03	Setts (separate CEC budget)	0	-90,000	0	-890,000	-980,000	0	-980,000	-1,000,000	Funded by separate CEC budget (added to contributions register)
04	De-scope public realm at St Andrew Sq	0	-700,000	0	0	-700,000	0	-700,000	-700,000	Instructed
05	Contributions 3rd Party Agreements	0	0	0	-2,996,875	-2,996,875	0	-2,996,875	-2,500,000	Refer to contributions register
06	De-scope works at Forth Ports	-2,443,000	0	0	0	-2,443,000	0	-2,443,000	-2,450,000	Instructed
07	Omit Airport Tram Kiosk and Canopy	-150,000	0	0	0	-150,000	0	-150,000	-150,000	Approved, replacement materials t.b.c
08	Temporary tram stop at York Place	0	0	-150,000	0	-150,000	0	-150,000	-150,000	Design optimisation
09	Redeployment of Trams	0	0	0	0	0	0	0	-5,000,000	Included in CEC budget code
10	Cancel track York Place to Newhaven	-1,100,000	0	0	0	-1,100,000	0	-1,100,000	-1,100,000	Instructed
11	Omit Siemens works at Tower Place	-100,000	0	0	0	-100,000	0	-100,000	-100,000	Instructed
12	Turner & Townsend / CEC resources	0	0	0	0	0	0	0	0	Ongoing
13	Shared recovery vehicle	0	0	0	0	0	0	0	0	Not taken forward
14	Road re-construction depth	0	0	-700,000	0	-700,000	0	-700,000	-700,000	Principles instructed, saving subject to site conditions
15	Design freeze north of York Place	0	0	0	0	0	0	0	-250,000	Infraco design costs expended
16	Reduced requirement for storage	0	0	0	0	0	0	0	-1,000,000	Included in CEC budget code
17	Lay off TM at Forth Ports/Leith Walk	0	0	0	0	0	0	0	-180,000	TM not included in Infraco budget provision
18	Roseburn Viaduct Cladding	-308,004	0	0	0	-308,004	0	-308,004	-300,000	Instructed

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Infracost Report Section 5 - Opportunities

Ref No	Description	Approved Changes	Changes in Progress	Anticipated Changes	Contributions	Secured	To be secured	Total Opportunity	Value per CS report Jan 2012	Notes
19	Delete Crew Relief Facility	-74,001	0	0	0	-74,001		-74,001		Instructed
Total		-4,175,005	-790,000	-850,000	-8,026,875	-13,841,880	0	-13,841,880	-22,040,000	

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Infracost Report Section 6 - Credits & Contributions

Ref No	Description	Included in Contract Sum	Approved Changes	Changes in Progress	Anticipated Changes	Total Forecast	Previous Period	Change from Previous	Contribution Received	Notes	Section Code	Change Code
01	Edinburgh Gateway Feasibility	860,000	82,995	0		940,000	940,000	0	528,000	£1.2m in total. Remainder of the costs included in CEC sections of the project budget.	05	01
02	New Ingliston Future Proof measures	540,000	0	0		540,000	540,000	0		Construction works element of overall settlement with NIL. Remaining amount contained in Land budget	07	01
03	Henderson Global - Cathedral Lane substation	-44,596	233,596	281,000		470,000	470,000	0		Full extent of agreement with Henderson Global to be established. Allowance assumes all design costs and proportion of construction costs associated with future substation will be borne by Henderson Global. Cost of £470k has been submitted to Henderson Global	01	01
04	RBS Tramstop	560,000	0	0		560,000	560,000	0		Agreement reached with RBS 11/06/2012	07	01
05	St Andrew Square Public Realm design		133,075	0		133,075	133,075	0	133,000	As per agreed change value. Assumed to be recovered from separate budget	01	01
06	Forth Ports		0	0		0	0	0		Forth Ports work removed from scope - no further contribution from Forth Ports assumed	01	01
07	CEC Miscellaneous. Mainly George Street CEC costs (£298k)	318,213	0	0		318,213	318,213	0	318,213	CEC finance have confirmed that a credit has been received in the amount shown. The extent of the workscope associated with this credit is not clear.	01	01
08	Network Rail - Haymarket station refurbishment	0	13,798	0		13,798	13,798	0		Majority of this work now being carried out by Network Rail. Remaining allowance for wall to crew relief facilities	02	01
09	Contribution from CEC for public realm work (granite setts) at St Andrews Square	890,000	0	0		890,000	890,000	0		No change in scope allowed for - setts funded by CEC. Saving based on spreadsheet issued to CEC (GE to AC 22/05/2012).	01	01
10	Network Rail - Scottish Power Cable diversion - Haymarket Station (TNC 591)		21,789	0		21,789	21,789	0			05	01
11	Edinburgh Gateway Construction		0	4,140,000		4,140,000	4,200,000	-60,000		Potential for additional contribution from TS for reused poles	05	01
Total		3,123,617	485,253	4,421,000	0	8,026,875	8,086,875	-60,000	979,213			

Infraco Cost Report Section 7 - Change Summary

Change Code	Description	Approved Change	Change in Progress	Anticipated Change	Contributions	Total
01	Scope Change	-2,654,409	6,338,906	-1,000,382		2,684,115
02	PAVs (Utilities, etc)	1,024,712	-541,332	1,314,000		1,797,380
03	Miscellaneous Client Risk Items	143,140	92,000	0		235,140
04	Time Delay	0	4,541,161	0		4,541,161
05	Project Contributions	0	0	0	-8,026,875	-8,026,875
Total		-1,486,557	10,430,735	313,618	-8,026,875	1,230,921

Notes:

Some CE's have costs which relate to more than one change code. In such instances they have been allocated to the predominant reason.

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Infraco Cost Report Section 8 - Period Movement

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
524	Airport to Gyle - NIL Design Finalisation (also includes Construction)	-40,559		40,559	0	0
541	Princes Street - City Chamber - Annandale Street Communication Links. Usage of CEC available BT-Lines to avoid provision of direct FO link from Princes Street to City Chambers	0		78,837	0	78,837
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	0		0	5,744	5,744
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	0		0	8,386	8,386
549	Princes Street - Amend the design of the St. Johns Church OLE bases	0		0	36,895	36,895
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	0		0	16,340	16,340
570	Omit the Removal of Trees in Shandwick Place	0		0	-42	-42
574	Haymarket Station - Delete viaduct cladding	4,429		0	0	4,429
586	St Andrew Square - tie in detail	15,228		-15,228	0	0
590	New cycleway from The Mound into Princes Street	0		0	-411	-411
594	Edinburgh Gateway slope option - design costs	0		-4,000,000	0	-4,000,000
596	Section 1D - Costs associated with amended drainage design	0		0	1,528	1,528
598	Section 1D - Incorporate geotextile liner into Clifton Terrace void in accordance with requirements from Archaeologist	0		0	-1,740	-1,740
600	Shandwick place - OLE bases affecting utilities (Piling)	0		0	4,140	4,140

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Infraco Cost Report Section 8 - Period Movement

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
601	Clarification on length of shelter to RBS tram stop (8m)	27,863		-25,000	0	2,863
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	0		0	10,578	10,578
610	Edinburgh Gateway - Siemens Long Lead Items	0		65,000	0	65,000
621	Amend the dates of the HV meter installation at substations	12,507		-12,507	0	0
624	Compressed Air Supply to Depot Gantry Road and workshop	5,576		-5,000	0	576
629	Utilities affecting Track Excavation at Shandwick Place (S1)	0		0	69,415	69,415
630	Utilities affecting Track Excavation at Shandwick Place (S2)	0		0	37,055	37,055
635	Amend on street drainage scope	0		0	8,841	8,841
640	Unimog Insurance	-1,000		1,000	0	0
643	Edinburgh Gateway Construction	0		3,875,000	0	3,875,000
645	Princes Street Outstanding Works	0		0	-49	-49
652	Maintenance of The Depot Workshop Equipment	49,633		-49,633	0	0
659	Road signage at Junction of Manor Place / Melville Street	0		0	2,000	2,000
660	Princes Street Traffic Management	0		0	10,000	10,000
661	Blank off signage to Depot	0		10,000	0	10,000

Infraco Cost Report Section 8 - Period Movement

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
662	Eastfield Avenue Topographical Survey	0		3,000	0	3,000
663	Heras fencing at depot	0		7,000	0	7,000
664	Gogar Castle Access Road - Additional High Friction Surfacing	0		6,000	0	6,000
666	Pedestrian gate next to the vehicle access gate at the ScotRail Depot.	0		2,000	0	2,000
667	Call off service to respond to Network Rail TQs and interface issues	0		5,000	0	5,000
668	De-scoping of Infraco works in York Place to be undertaken direct by Crummock.	-1,015,156		0	0	-1,015,156
669	SGN Remedial Works - backfill at New Ingliston Land	0		12,000	0	12,000
670	SDS Response to Road Safety Audit for Princes St	0		10,000	0	10,000
671	ScotRail car park security fence	0		10,000	0	10,000
672	Depot - Provide a wet vac to mechanically remove water ingress	0		1,000	0	1,000
Total		-941,480	0	19,028	208,683	-713,769

Anticipated Change			0	-30,000	-30,000
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Opportunities			0	0	0
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Infracost Report Section 8 - Period Movement

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
	Change to Anticipated Final Cost	-941,480	0	19,028	178,683	-743,769
	Contributions			-60,000	0	-60,000
	Change to Anticipated Final Project Cost	-941,480	0	79,028	178,683	-683,769

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Utilities Cost Report: Section 1 - Utilities Summary

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals		
	A	B	C = A + B	D	E	F = D + E	G	H	I	J	K = F + G + H + I + J	L	M = K - L	N = M - C	O = M / C - 1	P	Q	
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Provision	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	Cost of Work Done	Outstanding Amount	
Post Settlement Utilities	2,912	9,350	12,262	2,912	9,350	12,262	0	6,293	0	0	18,555	-299	18,256	5,994	48.9%	9,954	2,308	
McNicholas	1,812	9,064	10,876	1,812	9,064	10,876	0	2,517	0	0	13,393	-299	13,094	2,218	20.4%	8,678	2,198	
01 Conflicts	1,812	4,144	5,956	1,812	4,144	5,956		1,217			7,173		7,173	1,217	20.4%	4,572	1,384	
01A Drainage		1,980	1,980		1,980	1,980		53			2,033		2,033	53	2.7%	1,936	44	
01B Grosvenor St / Haymarket Sewer Collapse		188	188		188	188		-29			159		-299	-140	-328	-174.5%	126	62
01C Tower Place Bridge		50	50		50	50		8			58			8	16.0%	58	-8	
01D Princes Street Outstanding Works		143	143		143	143		-71			72			-71	-49.7%	68	75	
02 Legacy Works		965	965		965	965		253			1,218		1,218	253	26.2%	765	200	
03 Standby Team		0	0		0	0		0			0		0	0		0	0	
04 Management Team		788	788		788	788		652			1,440		1,440	652	82.7%	575	213	
05 Design Team		775	775		775	775		397			1,172		1,172	397	51.2%	558	217	
06 Accomodation		31	31		31	31		37			68		68	37	119.4%	20	11	
Statutory Utility Companies	0	1,386	1,386	0	1,386	1,386	0	1,506	0	0	2,892	0	2,892	1,506	108.7%	1,276	110	
01 Scottish Power		126	126		126	126		129			255		255	129	102.4%	111	15	
02 Scottish Gas Networks		55	55		55	55		75			130		130	75	136.4%	43	12	
03 Scottish Water		693	693		693	693		899			1,592		1,592	899	129.7%	742	-49	
04 Virgin Media		104	104		104	104		146			250		250	146	140.4%	158	-54	
05 Verizon		20	20		20	20		-14			6		6	-14	-70.0%	0	20	
06 Cable & Wireless		49	49		49	49		92			141		141	92	187.8%	43	6	
07 Fibrenet		250	250		250	250		-62			188		188	-62	-24.8%	189	61	
08 BT		89	89		89	89		431			520		520	431	484.3%	63	26	
09 Siemens		0	0		0	0		14			14		14	14		4	-4	
12 Contributions (all companies)		0	0		0	0		-204			-204		-204	-204		-77	77	
00 Legacy Works	1,100	-1,100	0	1,100	-1,100	0		2,270			2,270		2,270	2,270		0	0	

Comments:
All values are in £k.
Conflict resolution forecast to complete based resourced schedule.
Legacy works forecast based on current budget. Work is iongoing to establish the full scope.

Risk
Refer to Risk register for risks identified against McNicholas programme
All risk is held at programme level. This section of the cost report makes no allowance for risk.

Actions
Drainage scope and extent of work emerging. Provisional allowance included at present.
Full forecast of legacy scope of works to be carried out once scope is properly defined.

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Appendix 4 – Change Log

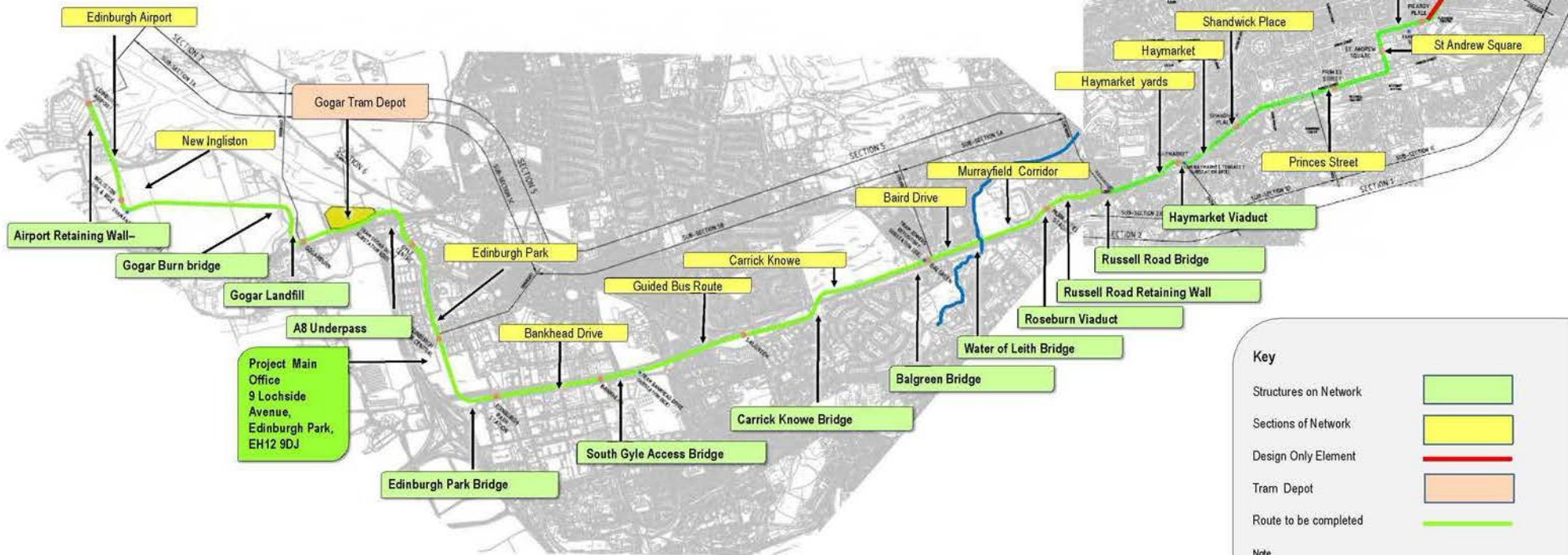
TIC No.	PMU No.	IED No.	Work Item	Description	Reason for Change	On Street Off Street	Change By / Scheduled 45 min	Change Category DC/UC/PAV	Subject Cost for Risk and Potential Changes	Letter Ref	Risk Estimate Date	Is Risk Estimated	Is Risk Estimate Forwarded	Estimated Change Value (\$/kWh)	Estimated Change Value (Contingency)	Time to Implement	Is Risk Inherited to CEC	Approved by CEC/PAV	Rate Approved or Rejected	Agreed Cost for Approved Contingency	Rate EOP Issued	EC Letter Ref	EC RETURNED NY/CI/SDO OIP	Comments	
667		524	On Street - 12th St	Call IED Service to inspect for No work on 12th Street. Current and interface issues on the IED.	1st up call IED service to look with engineer interface issues	On Street	Change By / Scheduled 45 min	UC	15,000.00	12/07/2022	12/07/2022	N	N/A	N/A	N/A	TBA	12/07/2022	CEC	12/07/2022		12/07/2022	RM 0268 8448	N	IN CEC for call of IED Service for 12th Street. OIP	
668		525	On Street - 12th St	On-Street Work for Interface to Overlook	Progressive Mitigation and Cost Engineering proposals	On Street	Change By / Scheduled 45 min	UC		12/07/2022	12/07/2022	Y	N/A - ASSESS	N/A	-12,215,155.00 TBA	12/07/2022	CEC	12/07/2022		12/07/2022		12/07/2022	RM 0268 8447	N	URGENT TRU/DO FOR YORK PLACE, CEC APPROVED TO ISSUE
669			On Street - 12th St	On-Street Work for Interface to Overlook	Make good CAN Evaluation	On Street	Change By / Scheduled 45 min	UC		12/07/2022	12/07/2022	N				TBA	12/07/2022	CEC	12/07/2022				N		

DC - Energy Change
UC - Unknown Circumstances
PAV - Stationary Agreement
RM - Rolling Assumption Variation

Appendix 5 – Risk Register

Appendix 6 – Route Map

Edinburgh Tram Network – Route Map & Key Locations



Appendix 7 – Acronyms

ACRONYMS

ACCB	Accommodation and Boundary Works
AiP	Approval in Principle
ANC	Advice of Non Compliance
APPP	Prior Approvals – Detail Design
APPR	Approvals
APPT	Technical Approvals – Detail Design
ARCH	Architecture
AUXI	Auxilliary Power
BAA	British Airports Authority
BBS	Bilfinger Berger Siemens
BLDS	Buildings
BRDG	Bridges
BSC	Bilfinger Berger / Siemens / CAF - previous consortium
CAF	Tram Provider - (Construcciones y Auxiliar de Ferrocarriles)
CAR	Corrective Action Request
CAR	Water Environment (Controlled Activities) Regulations 2011
CDM	Construction (Design and Management) Regulations 2007
CEC	City of Edinburgh Council
CECS	CEC Services
CFS	Case for Safety
CHAR	Charette Changes
COCP	Code of Construction Practice
COMM	Commissioning
CVI	Confirmation of Verbal Instruction
DAS	Design Assurance Statement
DASB	Design – As Built
DaST	Deliver a Safe Tram
DDAP	Detailed Design Assurance Plan
DEMO	Demolition
DEPO	Depot
DKE	Dynamic Kinetic Envelope
DoC	Declaration of Conformity
DRAN	Drainage
DtTS	Deliver the Tram Safely
E&M	Electrical & Mechanical
EAL	Edinburgh Airport Limited
EART	Earthworks / Embankments
ELEC	Electricity
EMC	Electromagnetic Compatability
ENVI	Environmental
ER's	Employers Requirements
ESM	Engineering Safety Management
FAT	Factory Acceptance Test
FATs	Factory Acceptance Tests
GASS	Gas
GEOT	Geotechnical
HAZID	Hazard Identification Study
HAZOP	Hazard and Operability Study
HIGH	Highways
HIRA	Hazard Identification and Risk Assessment
HMRI	Railway Inspectorate
HS	Historic Scotland
HSE	Health and Safety Executive
HV	High Voltage
ICCO	Independent Certifiers Change Order
ICP	Independent Competent Person

IDC	Inter Disciplinary Check
IDR	Inter Disciplinary Review
Infraco	Infrastructure contract
ISA	Independent Safety Assessor
ISRP	Infrastructure Safety Review Panel
ITP	Inspection and Test Plan
JNCS	Junctions
KPI	Key Performance Indicator
LAND	Landscaping
LIGH	Lighting
LOLER	Lifting Operations and Lifting Equipment Regulations 1998
MANA	Management
MECH	Mechanical
MILE	Milestones
MISC	Miscellaneous
MODL	Modelling
MUDFA	Multi-Utility Diversions Framework Agreement
MUDFA	Multi Utility Diversions Framework Agreement
MULT	Multi-Discipline
NCR	Non Conformance Report
NR	Network Rail
NWR	Network Rail
O&M	Operation and Maintenance
OCC	Operational Control Centre
OCIP	Owner Controlled Insurance Policy
OCL	Overhead Catenary Line
OLE	Overhead Line Equipment
ORA	Operational Risk Assessment
ORR	Office of Rail Regulation
ORS	Operational Radio System
OTHW	Other Works
PHA	Preliminary Hazard Analysis
PLAT	Platforms
PM	Planned Maintenance
POWR	Power (Traction)
PSCC	Project Safety Certification Committee
QCRA	Quantified Cost Risk Analysis
QRA	Quantified Risk Analysis
QSRA -	Quantative Schedule Risk Analysis
RAIB	Rail Accident Investigation Branch
RAM	Reliability Availability Maintainability
REL	Railway Electrification
RFI	Request for Information
RFO	Request for Opinion
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
ROGS	The Railway and other Guided Transport System (Safety) Regulations 2006
RSA	Road Safety Audit
RSAR	Road Safety Audit Report
S&T	Signalling and Telecoms
SAC	Safety Application Condition
SAT	System Acceptance Test
SATs	Site Acceptance tests
SCADA	Supervisory Control and Data Acquisition
SDS	System Design Services
SEPA	Scottish Environmental Protection Agency
SEWR	Sewerage
SFAIRP	So Far As Is Reasonably Practicable
SGN	Scotland Gas Networks
SI	Site Instruction
SIGN	Signalling
SIT	System Integration Test
SMS	Safety Management System
SNH	Scottish Natural Heritage
SP	Scottish Power
STAK	Stakeholder
STRL	Street Lighting
STRU	Structures / Retaining Structures
SUBM	Submissions
SUBS	Sub-Stations
SURV	Surveys

SW	Scottish Water
TPS	Traction Power Supply
T&T	Turner & Townsend
TCO	Tie Change Order
TM	Traffic Management
TNC	Tie Notice of Change
TS	Transport Scotland
TSS	Technical Support Services
UCO	Utilities Change Order
UNC	Utilities Notice of Change