



Transport Edinburgh
Trams for Edinburgh
Lothian Buses

MUDFA Sub Committee Report Papers For Meeting 4 June 2008

Distribution

Willie Gallagher
Tom Condie
Steven Bell
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Graeme Barclay
Mike Connelly
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Duncan Fraser
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Keith Rimmer
John White
Bill Campbell
Bill Nicholls

Alan Dolan
Steven Reynolds
Dave Smith
Steve Hudson



Agenda

Sub-Committee Meeting

to be held at Isambard Kingdom Meeting Room, Citypoint II

on Wednesday 4 June 2008 at 2pm

1. Actions from previous minutes.

2. Construction Director's Report
 - Executive Summary
 - Operations
 - Stakeholders
 - Communications
 - Initiatives
 - Key Issues/Blockers

3. Appendices
 - Appendix 1: Clearance Summary Sheets
 - Appendix 2: Performance Measures
 - Appendix 3: Traffic Modelling
 - Appendix 4: Communications Report
 - Appendix 5: Risk Register

4. AOB



MUDFA Sub-Committee Meeting

AGENDA ITEM 1

Actions from Previous Minutes

tie Limited

Minutes of Sub-Committee Board Meeting

Date: 7 May 2008

Time: 14.00

Venue: Kingdom Meeting Room, CityPoint II

In Attendance

Willie Gallagher	WG
Graeme Barclay	GB
Susan Clark	SC
Tom Condie	TC
Tom Clark	TCL
Mike Connelly	MC
Steve Gorry	SG
Dave Smith	DS
Steve Hudson	SH
Keith Rimmer	KR
Bill Campbell	BC
Alan Dolan	AD

Apologies

Steven Bell	SB
Stewart McGarrity	SM
Colin McLauchlan	CM

Circulation As Above
MUDFA Team

	ACTIONS	ACTION BY	DATE DUE
1.1	[1.3] Newhaven to Ocean Terminal (Section 1) Issue with retaining wall (Forth Ports) AD has asked for a closure on this. Instruction must be issued to SDS to confirm drawings to be used in kerb alignment.	SC	04.06.08
1.2	[1.10] Leith Walk Cable Tunnel We need to ascertain ownership of the tunnel. The real issue is with the integrity of the tunnel rather than access but we do need to know who owns this in order to progress these works. Alasdair Sim (AS) is pursuing with CEC. AS also to contact Scottish Power re ownership. If not resolved in the next two week WG will speak to Alan Bryce.	AS	04.06.08
1.3	Section 1A: 16-21 (Constitution Street) End dates for this section will come out in Rev 07. Close out programme to be issued out next week.	GB	COMPLETE

1.4	<p>Traffic Management</p> <p>There is still an issue whereby site operatives are moving TM out of the agreed area to increase working area. This cannot happen. It is suggested that we use spray paint to identify the TM area or use markers on the roads to make the boundary clear.</p> <p>AMIS to reinforce to all site teams that TM cannot be moved under any circumstances.</p>	DS	04.06.08
1.5	<p>Dalmeny Street</p> <p>Serious issue of work commencing which was not planned and was not approved. This was on a live bus route and if it had not been stopped would have caused serious problems in the area. AMIS to look into how this happened and report back to tie.</p>	DS	04.06.08
1.6	<p>Reinstatement</p> <p>TCL raised concerns re footways being reinstated with incorrect slabs; all pavements etc should be reinstated exactly as they were before. Not clear if these are temp or permanent. GB to look into this.</p>	GB	COMPLETE
1.7	<p>Section 1C McDonald Road</p> <p>GB would like to continue working in this section during the embargo. There is only approx 80m of this section that is affected by the embargo.</p> <p>A specific proposal is required that defines exactly what the works will be; this to be issued to CEC. GB to meet with AMIS and put together proposal; this to be issued to WG who will discuss with CEC.</p>	GB/DS	04.06.08
1.8	<p>Design</p> <p>S1C St Andrew Square: SDS to issue out design specification/procurement schedule 9 May 2008. Final design will be issued 16 May 2008.</p> <p>S2A Haymarket Terrace: SDS to issue out design 19 May 2008.</p>	AD AD	16.05.08 19.05.08
1.9	<p>Section 1D Shandwick Place</p> <p>Close out schedules (as done at Leith Walk) MUDFA PM's currently identifying sections where this can be done. GB/DS to look at this in more detail.</p>	GB/DS	COMPLETE

1.10	WG raised issue relating to works outside Caledonian Hotel. The section was reinstated on a Friday but the worksite was not cleared and re-opened until Monday. Why was this section not released immediately? AMIS to look into this. This should not occur in future works.	DS	04.06.08
1.11	Traffic Management Haymarket Terrace/Phases 2 and 3. These are critical areas in terms of TM. Meetings to be held weekly on these issues until resolved. KR to issue out invites to relevant people for first meeting next week.	KR	16.05.08
1.12	Rev 07 Programme/Resources This will be developed taking cognisance of resource and supervision requirements. This will be agreed with tie and CUS.	DS	04.06.08
1.13	HSQE There has been an increase in the number of incidents on site within the last 2 periods. WG requested a standing item at the sub-committee showing incident rate; showing monthly trend analysis and action plan.	TC	04.06.08



MUDFA Sub-Committee Meeting

AGENDA ITEM 2

Construction Director's Report

Edinburgh TRAM Project

Paper to : Utility Sub-Committee

Subject : Construction Director's Report

Date : 4 June 2008

Executive Summary

High Level View

Progress

		Period 2 (26.04.08 to 23.05.08)			Overall Performance to Date		
		PLANNED	ACTUAL	Variance	PLANNED	ACTUAL	Variance
TOTAL	Metres	5350	2867	-2483	24322	15288	-9034
	Chambers	10	21	11	140	86	-54
BT/Comm	Metres	1792	964	-828	9896	6347	-3549
SGN	Metres	1010	343	-667	3180	1532	-1648
Scot W	Metres	2064	1124	-940	8132	5848	-2284
Scot P	Metres	413	436	23	2628	1247	-1381
Forth Ports	Metres	0	0	0	0	0	0
Gogar Comm	Metres	0	0	0	0	0	0
Gogar Scot P	Metres	0	0	0	0	0	0
Gogar Scot W	Metres	0	0	0	0	0	0

Safety

Period Briefing Summary

Quality was the main focus throughout the period as concern has been raised by SU's over Work force Competency and quality of utility installation.

MUDFA have produced a suite of documents that will form completion certificates the documents have been issued to the SU's for review and comments. SU's have accepted the format. A meeting was then held with Carillion and to allow the viewing of

documentation prior to formal submission. Again this format was accepted and formal issue is expected w/c 2 June 2008.

MUDFA site supervisors are carrying sectional area quality checks; this will supplement the completion certificates.

A subsequent meeting was held on 27 May 2008 with Carillion senior management to discuss work force competency. Carillion have agreed to produce and deliver records of all current site personnel by 19 June 2008.

General

- There were no accidents this period.
- 23 x incidents were reported this period.
- 15 x closed during period, 6 x Awaiting reports
- 13 x recorded as Utility strikes. 7 have no mitigation and will form part of the Utility Frequency Rate UFR (Appendix 1.)
- The Tram project to date AFR is 0.14
- The MUDFA contractor project to date AFR is 0.35 and 0.00 for the period.
- Carillion have reviewed airline system and have identified 11 x Utility strikes with 8 mitigations (Appendix 2) the anomalies will be reviewed by tie HSQE Advisor and Carillion HSE&Q Manager.

Action:

MUDFA Project HSQ&E Initiatives and MAJOR Actions Register has been produced this details action requirement for reducing incidents. Mr David Smith will produce this at the next Sub-Committee Meeting.

Period Progress

Works are progressing in 8 areas (* additional 1 this period):

- Constitution Street (1A)
- Leith Walk (1B)
- St Andrews Street (1C)
- Princes Street West (1C)
- Shandwick Place (1D)
- South Gyle (5B)
- Edinburgh Park (5C)
- Gogar Depot (6)*

Progress of the works in the period has shown improvements in Leith Walk (Foot) and Shandwick Place where both outputs are circa 80%. Remaining sections indicate similar outputs as previous, circa 65%.

Constitution Street progress has been better, but still requires improvement. Slippage in this section due primarily to inconsistent resource levels throughout the period.

Overall progress in period was 56% achieved of planned and although lower percentage achieved than in previous, translates into 2867 lm, which is an increase on the period 1 performance of 225 lm.(8% increase). Cumulative progress 6 weeks behind and 2 weeks against critical path (Infracore).

Issues/blockers

- Insufficient resource/supervisory levels to match programme requirements
- Lower outputs than anticipated –(linked to above)
- Increasing number 'live' sections – additional pressure on resource
- Non productive works at St Andrew Street (BT ducts) and 450mm WM at South Gyle.

Key Areas

Concerted effort is being applied to critical areas of programme (INFRACO); Foot of the Walk, Shandwick Place/Haymarket and Gogar Depot. Close out programmes have been developed and agreed for both Leith Walk and Shandwick Place to ensure alignment of objectives is achieved and focus on key areas is maintained. Close out programme for Leith Walk is presently on programme but has several challenges ahead that remain to be overcome to achieve main diversionary works completion by mid July 2008.

Shandwick Place is on programme for completion 7 July 2008. Areas will be released to public in advance of final completion date to alleviate pressure on immediate businesses. First release will be from Lothian Junction to corner of Stafford Street within w/c 2 June 2008. Completion of full section is due 4 July 2008 which will signal the TM implementation for the next section, from West Maitland to Haymarket Terrace, for commencement 14 July 2008. This requires to be complete by December 2008 latest, to allow Infraco start of 5 January 2009 at Haymarket. Works are planned to progress through August embargo to ensure earliest completion is achieved.

Gogar Depot utility diversions for both the 800mm watermain and 1500mm sewer are critical to Infraco works, depot construction and A8 underpass respectively.

Watermain installation commenced w/c 19 May 2008, following re-profiling of embankments in previous week. Continuation of works dependent on completion of BAA fence realignment which will release final section of proposed pipeline diversionary route. This is presently underway and due for completion within w/c 26 May 2008. Pipeline works indicate earliest completion 11 July 2008. Infraco start remains at 2 June 2008 (earthworks) and foundation works commencing 7 July 2008.

Sewer diversion works being priced by CUS. Planned start July 2008.

St Andrew Square BTO works 65% completion to date, critical to commencement of BT cabling works, but non critical to Infraco commencement in this area. Now due for completion mid July 2008.

Awaiting design release for section 1A plates 1-12 and 14-15. Critical section Newhaven to Ocean Terminal; Infraco commence November 2008. Ocean Terminal to Ocean Drive less critical as Infraco commences January 2009.

Close out programmes developed for Leith Walk, Shandwick Place, Constitution Street and St Andrew's Square (latter two to be agreed with CUS) . These are in line with the Rev 07 construction programme under review presently and targeted for sign end May 2008 (tie/CUS).

See Appendix 1: **Leith Walk Clearance Summary Sheet**
 Shandwick Place Clearance Summary Sheet
 Constitution Street Clearance Summary Sheet
 St Andrew's Square Clearance Summary Sheet

Quality

Areas of concern regarding tidiness, quality of workmanship and handling of materials specifically in Leith Walk and Constitution Street – primarily associated with SGN and SW assets.

Meeting held to discuss issues with CUS to remediate areas and put appropriate actions in place to prevent recurrence. Areas in question were subjected to detailed inspection of all the work sites. Actions and timeframes were agreed for corrective measures to take place. Items identified were closed out following joint inspection by both parties (tie/CUS).

Tool box talks have been carried out with personnel on material handling/storage requirements for SGN and SW equipment.

Additional resources have been recruited to ensure site areas remain clean and tidy.

1.0 Section 1A

Design

1-5

Drawings 1-5: Design still in development. **tie** and SDS working with Scottish Power and SGN to minimise expenditure. Design drawings still awaited. Critical section for Infracore start of November 2008.

6-12

6-10: Issued for approval but **tie** believe some savings can be made. Significant expenditure on electrical diversions (SP & FP). New proposals have been outlined; these will be verified prior to seeking approval. Drawings still awaited by Forth Ports for their approval.

Target commencement to be reviewed on final acceptance of IFA drawings by Forth Ports.

11-12: On hold pending approval of proposed temporary diversions by SUC's.

13-15

13: Works complete based on IFC issued in June 2007.

14-15: SDS regard these drawings as a revision to completed design. As such they will only begin work on them when all other designs have been completed.

Section 1A 16-21 (Constitution Street)

Traffic Management in place between Duke Street and Baltic Street (Section A – E)

Progress

Progress during period against work programme: 63%

- Works are ongoing in Sections A to E. Sections B and D were set up during this period.
- Works are 5 weeks behind programme in Constitution Street
- Section F: Due to start Monday 19th May. Start date deferred. Ongoing works in Constitution Street within Sections A-E and do not want to open up another work section and add to the already extensive TM arrangements that are in place. Works rescheduled to start w/c 14 July 2008 to ensure completion before Forth Ports embargo in October
- Scottish Power works outside of LOD work commenced on Monday 5 May 2008.

Highlights

- Constitution Street/Baltic Street junction Traffic Management design produced and agreed with Forth Ports

Key Issues/Blockers

Programme adherence in Constitution Street is behind works programme due to erroneous assumption that MUDFA works would be carried out on both sides of the street in this section simultaneously. The need to maintain emergency service and pedestrian access has prevented this. Furthermore the appropriate level of resources has not been consistently available meaning progress in certain section remains static for days at a time.

Action – Revised works programme to be produced by CUS and incorporated into Rev 07 Programme.

Programme Lookahead

- Scottish Water: Commencement due early June 2008, although may be deferred to allow Baltic Street junction works to be complete.
- BT: Commencement due June 2008
- Review and sign off of Constitution/Baltic Street Traffic Management approach for commence works at this junction w/c 14 July 2008.
- MUDFA diversions continue in this area
Site Clearance programme to be utilised to focus attention on clearing areas

1.1 Section 1B

Section 1B Sheets 22-26 (Foot of the Walk to Balfour Street)

Traffic Management in place between Balfour Street and the Foot of the Walk to accommodate MUDFA works

Progress

Progress during period against work programme: 72%

- 100% performance against Leith Walk Clearance Programme (as of 2 June 2008)
- Works include installation of gas, water, power and telecoms apparatus in this area on both sides of Leith Walk
- Critical path works on the Duke Street utility crossings have commenced and are 50% complete
- Overall the works are 8 weeks behind programme
- Resources in the section lower than required to deliver the work programme
- Leith Walk One Way System – progress made with stakeholders for one way system on between Dalmeny Street and Duke Street. Subject to agreement of timescales and localised TM measures

Highlights

- 100% performance against Leith Walk Clearance Programme (as of 2 June 2008)

Key Issues/Blockers

Duke Street Utility Crossings are required to be completed before Manderston Street and Leith Walk utility crossings can be completed and existing conflict mains in Leith Walk can be abandoned.

Action – Target date for completion of Duke Street crossings is end of June 2008

Resources in the section lower than programme requirements demand.

Action – revised agreed programme developed to address this issue.

Leith Walk Utility Crossings and the SU requirement to minimise the number of joints beneath the DKE

Action – One way system agreed in principle between Dalmeny Street and Duke Street on the assumption that Duke Street is returned to two way flow.

Programme Lookahead

Gas and water mains to be tested and commissioned
Gas and water service transfer works to commence

Section 1B Sheets 27-31 (Balfour Street to McDonald Road)

Traffic Management in place between Balfour Street and McDonald Road to accommodate MUDFA works.

Progress

Progress during period against work programme: 90%

- Sections of gas main tested and commissioned on Leith Walk.
- Water, gas and telecoms works continue throughout the section.
- Overall the works are 10 weeks behind programme.
- 100% performance against Leith Walk Clearance Programme (as of 19 May 2008)

Highlights

- Pilrig Street Traffic Lights reinstated to original layout
- Leith Walk one way system discounted in this section due to no clear diversion routes. Stakeholder agreement in principle to utilise localised Traffic Management to complete the Utility Crossings

Key Issues/Blockers

Leith Walk Utility Crossings and the SU requirement to minimise the number of joints beneath the DKE

Action - Utility Crossings to be completed under localised TM

Programme Lookahead

Ongoing utility diversions across the Leith Walk Railway Bridge
Gas and water mains to be tested and commissioned
Gas and water service transfer works to commence

1.2 Section 1C

Section 1C Sheets 32-38 (McDonald Road to York Place)

Traffic Management in place between Annandale Street and Greenside Place to accommodate enabling works for Traffic Management measures in this section

Progress

- Enabling works to install TM signs and new road markings ongoing in preparation for 2 June 2008 MUDFA works commencement date
- MUDFA work in this section reprogrammed to commence on 2 June 2008 against original planned start date of 28 April 2008. Start date deferred to allow review of CEC St James redevelopment plans and confirm 'no conflicts' on Picardy Place utilities. Additionally, reduces compounding effect of implementation of City Centre Phase II Traffic Management. Both were planned to be initiated same date. Similar compound effect on the Traffic Management on Leith Walk is minimised.

Highlights

- Leith Walk one way system (Dalmeny – Duke) will not affect the TM layout for London Road/Leith Walk Junction
- Agreement in principle with Scottish Power that Trackform and Tram loading information are not required to allow Utility Diversion works to commence

Key Issue/Blockers

- Picardy Place. Review of proposed development impact on utilities has identified SW utilities as the main problem. Redesign of diversion may be required.

Programme Lookahead

Traffic Management enabling works continue, including, signing and lining at the junction of Leith Walk/London Road.

Section 1C Sheets 39-41 (St Andrew Square)

Traffic Management on York Place at its junction with North St Andrew Street; and between York Place and Princes Street on North and South St Andrew Street to accommodate BT related MUDFA works

Progress

Progress during period against work programme: Works due to be complete in April 2008. However works continue in this section to complete the BT related works – 65% complete to date (Infracore non-critical areas). Completion date now 11 July 2008.

- Post and foundation for Parking VMS removed to allow 34 and 9 way ducts to be laid. Intention is to re-site the pole and foundation in same location once telecoms works are complete.
- Trial holes work commenced in Dublin Street to identify route for BT duct run down to Abercrombie Place/Dublin Street Junction.
- Enabling works commenced on North St David Street, West St Andrew Square and South St David Street
- Traffic Signals altered at junction of York Place and North St Andrew Street to facilitate 34 way duct crossing of York Place
- Remedials to 20way duct bank impacted on production in period; remedials completed.

Highlights

- Liaison with Dublin Street Residents Association to minimise effect of works on the residents and to communicate the requirement and programme for the telecoms works

Key Issues/Blockers

Damaged SW sewer

Action – Design for sewer repair is with SW awaiting approval

Programme Lookahead

BT diversion works – ducts and chamber construction – continue in area
Enabling works continue to allow St Davis Street (North and South) and West side of St Andrew's Square to operate as four lane highway with two way traffic flow
Site Clearance programme to be utilised to focus attention on clearing areas

Section 1C Sheets 42-46 and Section 1D Sheets 47-48 (Princes Street)

- Traffic Management on Princes Street at its junction with South St David Street to accommodate SW related Princes Street crossings.

Progress

- No works planned during period

Design

- Drawing 44 requires design of a 30" cast iron gas main. SDS have written to **tie** to indicate their reluctance to proceed with this design. **tie** have responded by confirming that the design is to be completed ASAP. All other IFC information relating to the remaining utilities has been released. Gas main diversion commences beginning September 2008. Design element non-critical.

Highlights

- Commencement of Traffic Management design process for City Centre Phase III. Proposals include partial closure of The Mound and Hanover Street junction with Princes Street from 8 September 2008

Key Issues/Blockers

Water crossings of Princes Street (at foot of South St David Street) delayed due to SW not carrying out valve investigation works as agreed with CEC, Lothian Buses and Lothian and Borders Police

Action: Valve investigation carried out on Wednesday 21 May 2008.

TM proposals for outstanding Princes Street crossings to be presented to TMRP for approval.

Action: TM for crossings at the foot of South St David Street have been approved by TMRP. TM proposals for gas and water crossings at the head of Waverley Bridge to be developed following results from investigations.

Programme Lookahead

Completion of Princes Street water and gas crossings at South St David Street and Waverley Bridge by Friday 4 July 2008.
Site Clearance programme to be utilised to focus attention on clearing areas.

1.3 Section 1D Sheets 49-53 (Shandwick Place)

Traffic Management on Shandwick Place between its junction with Lothian Road and Manor Place to accommodate MUDFA works

Progress

Progress during period against work programme: 80%

- Overall the works are 3 weeks behind recovery programme, but end date recoverable.
- City Centre Phase II TM successfully implemented over weekend of 26 April 2008.
- Amendments and improvements made to TM associated with City Centre Phase II based on feedback and comments from Lothian and Borders Police, CEC, Lothian Buses and other stakeholders
- Extension at Atholl Place implemented
- Switching of loading arrangements to Coates Crescent to facilitate utility diversion works in Atholl Crescent

Highlights

- Commencement of Traffic Management design process for City Centre Phase III. Proposals include phased works on West Maitland Street and Haymarket from 14 July 2008

Key Issues/Blockers

- Resources in the section lower than programme, less than half that required to deliver the work programme. The resources were allocated to the East end of the section primarily, to ensure Phase 2 Traffic Management requirements were complete for the weekend of Saturday 26 April 2008. This has impacted on the output on the utility diversions within the period.

Action – Issue to be addressed in the revised programme.

Programme Lookahead

Utility diversion works continue in this section with works commencing in Atholl Crescent and Atholl Place.

Site Clearance programme to be utilised to focus attention on clearing areas.

1.4 Section 2A

Progress

Works commenced under a RATS approach in this section on Monday 26 May 2008.

Start date was timed to coincide with closure of access to the Haymarket Station car-park; works delayed whilst awaiting Works Order proposal from CUS.

Programme Lookahead

IFC utility diversion works to commence in this section within June 2008.

1.5 Section 5B

Section 5B Sheets 14-20 (South Gyle Access Tram Stop to Edinburgh Park Tram Stop)

Progress 104%

- Critical path works on the Openreach ducts and chambers are 60% complete.
- Water main diversion has been installed and the road reinstated however the final testing failed and the investigations are ongoing to locate the leak.
- Phase 2 enabling works are underway on the central reservations at the South Gyle Access and Bankhead Drive.
- Overall the works are 5 weeks behind programme due to the water main diversion extension delaying commencement of Phase 2 Traffic Management. Some of this time can be recovered during the construction of the second Openreach chamber however it is anticipated that the work site will be completed 3 weeks late.

Highlights

- Openreach chamber in South Gyle Access/Bankhead Drive Junction programme recovered from 1 week behind to being completed 2 weeks ahead.

Key Issues/Blockers

- The BT chamber in the verge at Bankhead Drive is not on the critical path however little progress has been made to complete the chamber with resources allocated to critical works.

Action: CUS has been asked to complete all remaining available works to allow some of the work area to be reinstated.

- Locating the water main leak is critical to the completion of the section and could impact Section 5C water main connections these are both works to the same main.

Action: Investigations are ongoing.

- The road reinstatement has already shown signs of deterioration and CUS is to progress repairs once the main has been commissioned.

Action: NCR has been raised by the Site Supervisor but there is no benefit to repair the road until the water main has been commissioned unless the deterioration worsens.

- The Traffic Management for Phase 3 and the final requirements for the pedestrian crossing and the signal changes have been approved.

Action: Programme is in place for the final enabling works and the development to Phase 3. The implementation will be carefully monitored to ensure the critical BT chamber commences at the earliest opportunity.

Programme Look-ahead

Completion of the Phase 2 TM and the enabling works including the signals and pedestrian crossings.

Commence critical 402 Openreach chamber at South Gyle Access carriageway in Phase 3 of the Traffic Management on 27 May 2008.
Repair and commissioning of the 450mm water main.

1.6 Section 5C

Section 5C Sheets 21-26 (Edinburgh Park Tram Stop to Gogarburn Tram Stop)

Progress 37%

- Works in the Gyle Car Park commenced on 21 April 2008. The 450mm DI water main is at 80% but is complete within the car park. The 33kV power cable diversions is 60% complete but is incomplete in the car park and further time has been negotiated with the Gyle Centre to accommodate the Project for a further week.
- Works at Lochside Avenue and the verge on the Gyle Broadway commenced 28 April 2008 and are approximately 40% complete.

Design

- The BT 24-way diversion below the tram track adjacent to the underpass has been raised as a technical query to SDS as the chambers were incorrectly orientated on the drawing resulting in an unachievable duct route. This requires urgent clarification from SDS.

Issues/Blockers

- A lamp post at Lochside Avenue is obstructing a number of the diversions and will need to be removed.

Action: SDS to respond to TQ on BT 24-way duct as a matter of urgency.

Action: Scottish Power has agreed to reduce the 33kV cable spacing to get this diversion passed the chambers.

- The existence of the chambers has had a direct impact on the programme with the water main and power cables needing to be double trenched. This has delayed the works by 1 week and this time cannot be recovered.

The roundabout crossings have been issued to CUS as a Change Order to the Section 5C Work Package. The works are programmed for 23 June 2008.

Programme Look-ahead

Works to the 33kv and 450 water main in the Gyle Car Park are to be completed by the revised date of 30 May 2008.

Scottish Power have booked the 33kv jointing date for the 3rd week of June 2008 and the completion of the cable laying is critical.

1.7 Section 6 – Gogar Depot

Progress

- Works commenced to the 800mm water main diversion on 19 May 2008.
- To date earthworks profiling, trial holes and laying out of the pipes has been progressed and pipe laying commenced w/c 26 May 2008.
- Excavation on the twin 600mm mains at the A8 connection is complete.

Design

- 1525mm Sewer issued for approval drawings were received on 15 May 2008.
- 800mm Water main diversion Drawings have been approved by Scottish Water and the IFC drawings received by MUDFA on 12 May 2008.

Key Issues/Blockers

- Review of the IFC drawings and response to queries by SDS will be critical to the progress.
- The reinforcement schedules were not received until the IFC package thus delaying the advance works to the A8 connection progressing during w/c 12 May 2008.
- Material procurement is critical to the progress of the works and will be monitored constantly to avoid delays.
- The removal of the BAA fence has been delayed following the identification of an LV cable that is critical to BAA operations. This will need to be relocated before the existing fence can be removed. MUDFA are in contact with BAA to confirm the programme impact to the 800mm main installation.

Programme Look-ahead

The 800mm main installation will progress from the A8 connection and commence at the north connection working towards the BAA fence.

The 1525mm sewer diversion design is currently with CUS for pricing.

1.8 Section 7A

Progress

- MUDFA works at 7A were completed under RATS. Some remaining diversions have been allocated to Infracore due to earthworks or access restrictions making MUDFA diversions uneconomical.

1.9 Section 7B

Progress

- 7B design by Carillion/Grontmij is in progress.

Design

- Design and build contract with CUS.

Programme Look-ahead

Workshop with BAA has been delayed due to the contract negotiations between CUS and Grontmij. An internal review with tie carried out 28 May 2008 with the Workshop to follow.

Advance works will be identified and carried out under RATS with the agreement of BAA.

Programme start date: 23 June 2008.

See Appendix 2 – Performance Measures

2.0 Traffic Management

Traffic Modeling and design for City Centre Phase 3 works ongoing – progressing through meetings with key stakeholders and senior management.

- Haymarket/Shandwick Place/St Andrew Square
- Extensive review and consultation has been ongoing with TM proposals for City Centre Phase 3, which is arguably the most complex and widespread to date. Implementation of Phase 3 dependent on extent of enabling works and signal alteration/additional requirements. Visibility of the scale of these works will be available within w/c 2 June 2008. Influence of enabling works is from Haymarket Terrace to East of St Andrew Street.
- Target date for TM switch over is 14 July 2008.

TM requirements for signage, traffic signals and enabling works nearing completion for London Road/Leith Walk which will entail a traffic light installation on Leith Walk to interrupt the flow of Northbound traffic to allow traffic from other legs to flow.

City Centre Phase 3 enabling works ongoing at South St David Street/Nth St David Street in place.

Traffic modeling for Leith Walk one way: Ongoing

South Gyle Access/Bankhead Drive installation of Stage 2: Ongoing

Extension to the existing City Centre Phase 2 in place on Atholl Place; this work is crucial to the proposals for City Centre Phase 3.

Other Traffic Management currently in position

- Shandwick Place
- Foot of Walk/Constitution Street
- Leith Walk
- York Place
- Princes Street
- Cultins Road
- Lochside Avenue
- Slip to Morrison's

See Appendix 3: Traffic Modelling

Stakeholders

3.0 Lothian Buses

- TEL has attempted to pull a programme together incorporating MUDFA, INFRACO, other roadworks and events in order to make conflicts/overlaps easily visible, so that where possible revisions can be made to minimise disruption.
- TEL has concerns over a number of points relating to TMRP

- Certain major works that have not been previously discussed at TMRP (latest example is proposed banning of a turn on a bus route at Baltic St junction) have been presented with the expectation that they will be approved even though they do not allow enough time for the communications process, do not take into account any other works/diversions that are going on, and necessitate revisions to bus diversions already agreed and communicated.
- Changes to the start and end dates of agreed works have been made (e.g. earlier finish on Constitution Street, later finish at London Road) without communication via TMRP which is the only forum that stakeholders have for discussing traffic management. (There is certainly no objection to works finishing early, but the proper communication channel is not working as it should.)
- Traffic management for enabling works at London Road junction was installed without advance communication to TMRP of the programme for the various stages of its introduction. This led to considerable disruption when the TM was installed.

The concern here is that TMRP is not being used as the main communication channel. If it is not going to be used in this way, an effective alternative needs to be set up.

4.0 CEC

Reinstatements

As reported last month many of the reinstatements in Leith Walk are either temporary or do not match the original materials

In particular the original buff Perfecta slabs on the footways have been replaced with 50mm grey PCC slabs.

CEC have not yet had an explanation why the reinstatements are not in line with the requirements of the HAUC documents or what steps will be taken to rectify this in due course.

Traffic Signals

In general the working arrangements between the Council Traffic Signals Team, the contractor and tie are working well. However problems arose on Friday the 23 May at Elm Row when major alterations were made to the Pedestrian Crossing on Leith Walk without reference to the Council staff.

It is therefore considered appropriate to remind all parties that signal alteration must not be carried out without the approval of the Traffic Signals Team

Primarily this is in the interest of road safety but also because the Council is responsible for all network equipment and because the experience and expertise of the staff may result in a more effective solution being found.

Bus Tracker Signs

Bus tracker signs have been removed by the contractor and left lying on the road side at several locations along the tram route.

Discussions have now taken place with the Council staff and a procedure has been set down to deal with this matter in future. Once they have notified the Council that a sign needs to be removed the Council will arrange for the power to be disconnected and for the head to be removed to storage by their sub contractor.

5.0 Programme

Rev 07 Programme in final stages of development and agreement with key parties.

6.0 Communications

6.1 Media and Communications

Achievements in the month:-

Communication & Stakeholder activities achieved in previous period

- Production and distribution of Updates 5 & 6 – Constitutions Street Phase 2 and Leith Walk Clearance Programme
- Production and distribution of May Fact Sheet
- Production of tram advertisement for West End Shopping Guide
- Production of tram advertisement for Chamber of Commerce Evening News Supplement
- Production of updates for Tram Community Boards
- Press coverage included: contract signing, project cost increase, Open for Business and Line 1B
- Management of sponsorship, events and exhibitions;
- Innovation in Transport Conference
- Edinburgh Chamber of Commerce 2000 Strong event
- Exhibition stand at City Centre Neighbourhood event
- Presentations to Institute of Highway Engineers SE Scotland, Falkirk Ladies and Falkirk Probus
- Stakeholder strategy in Constitution St being implemented and working well
- Continue to work with traders regarding effective marketing of the 'Open for Business' strategy.
- Continued discussions with trade associations and community councils
- An additional amendment has been made to the new rules of the Small Business Support Scheme. This now includes streets parallel to work sites within 100 metre zone.
- Two information surgeries were held for residents and businesses affected by the London Road works starting 2 June.
- Preparatory work undertaken for stakeholder engagement for next phase of MUDFA - Haymarket etc.

Planned activities in the month include:-

- Production & distribution of updates for upcoming work sites – London Road etc.
- Media briefings for Caley Ale House, Final Design, Haymarket and other upcoming works
- Commencement of Final Design presentations. Includes mail shot of 60,000 invitations and face to face presentations
- Publication of Outlook with tram feature
- Produce tram fact sheet June/July

- Open for Business Marketing Group
- Continuing to work with all stakeholders as agreed in strategy
- Events: Tram stand at Spokes Breakfast
- Next Tram Operations Group (TOG) meeting on Monday, 2 June

6.2 Site works

The Trams for Edinburgh website was updated during the month to reflect all MUDFA activity.

6.3 Customer Interaction Cycle

Inbound demand remains high reflecting the range of site notifications, the high number of live sites and increased intensity of MUDFA operations. There were a total of **148** enquiries this last month compared to the record high demand of **164** last month. The analysis is shown in the report appendices.

Proactive contact by Tram Construction Advisers remains at a high level across all work sites.

The key focal point around new works sites relates to the work in the Gyle and Gogar areas in addition to the first of the Infraco sites.

6.4 Stakeholder Engagement

Business Support: Following the changes in scheme eligibility reported last month In excess of **500** packs now issued with **250** acceptances and **£932,000** now committed.

See Appendix 4: Communications Report

7.0 Initiatives

- Review of service utility diversions requirements based on revised depth and protection. Area of review 400 – 1200 depth range below FRL. Further review of latest detail of INFRACO proposed RHEDA CITY track system and potential reduced diversions ongoing. Overall construction depth to be of the order of 350 – 400mm. Protected services identified on 'as-builts' for informing SUC's/ INFRACO et al. Method of measurement may affect overall saving.
- Maximise recovery of costs associated with SUC C4 estimates via specialist consultant's advice/input – this would only be related to SW and BTO. Telecom specialist has joined the MUDFA team to assist in the design/construction and C4 implications related to betterment/deferment etc. Agreement reached with SGN for whole of the works – retained within the allowance (excl. MP gas main at the Mound). Agreement reached with Scottish Power for whole of the works.
- Provision of an independent survey team to carryout dilapidation surveys along the tram route (SDS responsibility) – protect **tie's** position from potential 3rd Party claims post MUDFA & INFRACO – Commencement of dilapidation surveys by independent body on 10 December 2007. Expect these to be completed by end of June 2008, due to additional requirement to survey the route of the diversions.
- RAT's proposal put forward for section 7b and following discussions with BAA, principle to adopt process on less complex utility diversions accepted.

- Review of both MUDFA/INFRACO programmes to identify critical areas and where synergies can be adopted through interface of programmes. Revised 07 construction programme under review for final acceptance within June 2008.
- Review of section 1A diversions – assess potential programme gains due to implementation of temporary diversions, thereby allowing earlier construction start to INFRACO works. Awaiting details of retaining wall structure on Lindsay Road to verify alternative diversions. Proposed structural changes to bridges on Ocean drive under review to assess impact on temporary diversion proposals.
- Redesign wing-wall at Bankhead Drive through VE exercise to mitigate significant 1500 sewer diversion.

8.0 Key Issues/Blockers

- SGN 30" gas main at the Mound: Ratifying commercial regarding minimum diversion.
- SGN service work outside of the LOD (service connections); SGN to carry out works – key area Foot of the Walk.
- Scottish Water acceptance of the Gogar 800 water main to enable issue of IFC documents received. MUDFA are in frequent discussion with SDS to progress remaining details for works to commence; proposed ground profile.
- Section 7B – procurement of D&B ongoing. Potential delay to commencement of this section. Presently programmed to commence 7 July 2008.
- SW acceptance of retaining sewer location below tram footprint, but outwith DKE.
- Traffic Management works for Haymarket; enabling works completions for 7 July 2008 changeover.

See Appendix 5: Risk Register



MUDFA Sub-Committee Meeting

AGENDA ITEM 3

Appendices



MUDFA Sub-Committee Meeting

APPENDIX 1

Clearance Summary Sheets

St Andrews Square

Site Close out Programme @ 13/05/2008 KG / JMCA

AREA NO.	LOCATION	START DATE	END DATE	NOTES
<u>1</u>	Dublin Street	20/05/2008	03/06/2008	This section will not be completed until 06/06, this has been slowed due to resident pressure
<u>2</u>	Yorke Place	26/05/2008	11/06/2008	
<u>3</u>	North St Andrews Lane	27/05/2008	06/06/2008	ok these be completed.
<u>4</u>	North St Andrews Street	ongoing	06/06/2008	ok these will be completed
<u>5</u>	Remedial works	02/06/2008	16/06/2008	
<u>6</u>	St Andrews Square	16/06/2008	11/07/2008	
<u>7</u>	South St Andrews Street	19/05/2008	06/06/2008	ok appart from the road crossing, and the remedial works being undertaken on the BT chamber at West Register Street

Shandwick Place

Site Close out Programme @ 13/05/2008 KG / JMCA

AREA NO.	LOCATION	START DATE	END DATE	NOTES
<u>1</u>	Zone (1)	03/03/2008	COMPLETE	
<u>2</u>	zone (2) from nbr 3 to nbr 47	03/03/2008	COMPLETE	to be released for pedestrian use only
<u>3</u>	zone (3) from nbr 49 to 95	03/03/2008	02/06/2008	
<u>5</u>	zone (5) from nbr 95 through to the junction of Walker street	21/04/2008	30/06/2008	Water and gas connections within Stafford and Canning Street
<u>4a</u>	Zone (4a) from 101 Shandwick to 11 Athol Crecent	19/05/2008	06/06/2008	Change inlocation of loading Bay to Coates Crescent
<u>4b</u>	Zone (4b) from 11 Athol Crecent to 23 Athol Crescent	09/06/2008	27/06/2008	Change inlocation of loading Bay to Coates Crescent
<u>7</u>	zone (7) from 23 Athol Crescent to 10 West Maitland Street	02/06/2008	03/07/2008	
<u>6</u>	Zone (6) from Junction of Walker Street to the junction of Athol Crescen	03/03/2008	03/07/2008	site compound and welfare
<u>0</u>	Zone (0) from Junction of Lothian Road to the junction of South Charlotte Street	03/03/2008	27/06/2008	

Leith Walk Programme

AREA NO.	LOCATION	START DATE	END DATE	NOTES
1	3-17 Albert Place	Existing	25 th April 2008	Complete
2	Corner of Albert St.	Existing	2 nd May 2008	Complete
3	Corner of Iona St.	Existing	2 nd May 2008	Complete
4	229-263 Corner of Jameson Pl.& Lorne St.	Existing	2 nd May 2008	Complete
5	21-55 Corner of Crown Pl.	Existing	2 nd May 2008	Complete
6	72-75 Corner of Brunswick St.	Existing	9 th May 2008	Complete
7	1-3 Corner of Brunswick St./Rd.	Existing	9 th May 2008	Complete
8	297 & 301-307 Corner of Dalmeny St.	Existing	9 th May 2008	Complete
9	265-289 & 293	Existing	9 th May 2008	Complete
10	77-91 Corner of Crown St.& Manderston St.	Existing	9 th May 2008	Complete
11	4-10 Corner of Brunswick Rd.	Existing	16 th May 2008	Completed on the 16/05
12	13-32 & 372-381 Corner of Iona St.	Existing	16 th May 2008	Complete
13	185-227 Corner of Smith's Pl.& Lorne St.	Existing	23 rd May 2008	Complete
14	169-177 Corner of Smith's Pl.	28 th April 2008	23 rd May 2008	Complete
15	135-165	Existing	23 rd May 2008	Completed on the 23/05 there was only 2/3ds available due to a gas main encroaching on the DKE, the TQ has been answered and revised date for completion is required.
16	13-17	Existing	30 th May 2008	Still ongoing due to gas main test failure revised date required from Carillion
17	Corner of Iona St.	26 th May 2008	30 th May 2008	Complete
18	99-131 Corner of Manderston St.	Existing	30 th May 2008	Gas main has still to be laid, for approx 18m, this has been slow due to TQ for gas main near the DKE, TQ has been answered, 180mm water still to be laid – revised completion date required.
19	19-31	Existing	6 th June 2008	This site is ongoing with Gas and water installation over the existing Bridge deck

				/ only back fill and reinstatements required here/ RB & PD to assess ongoing
20	Corner of Shrub Pl. Lane	28 th April 2008	6 th June 2008	Water main work ongoing on this section, all excavated to receive services,
21	Corner of Dalmeny St.	2 nd June 2008	6 th June 2008	Completed ahead of schedule
22	Corner of Jameson Pl.	9 th June 2008	13 th June 2008	BT chamber is completed but sgn works still to be undertaken, to determine the failure of the test.
23	Corner of Albert St.	9 th June 2008	20 th June 2008	Completed ahead of schedule
24	276-282 Corner of Balfour St.	Existing	27 th June 2008	This section is being used for the testing point for the water, Carillion to confirm if this section can be closed off, asap.
25	166-180 Corner of Stead's Pl. & Springfield St.	Existing	27 th June 2008	slabbing and Kerbing works completed up to number 166- 168, thereafter reinstatements for both Kerbs and slabs, 75 % complete.
26	142-150	Existing	27 th June 2008	This section is being used for the testing point for the water, Carillion to confirm if this section can be closed off, asap.
27	100-140	2 nd June 2008	27 th June 2008	This is due to commence on the 02/06/2008.
28	80-98	12 th May 2008	27 th June 2008	This section has not commenced on programme, Carillion are to reevaluate the programme and advise if the completion date is to be met.
29	Corner of Duke St. & Great Junction St.	Existing	4 th July 2008	Works ongoing in this section.
30	3-18	7 th July 2008	21 st July 2008	
31	Corner of Manderston St.	7 th July 2008	21 st July 2008	

Future works requiring Traffic Management

Constitution Street

Site Close out Programme @ 13/05/2008 KG / JMCA

AREA NO.	LOCATION	START DATE	END DATE	NOTES
<u>A1</u>	Duke Street To Laurie Street	31/03/2008	23/06/2008	Excludes tie-ins: 90% complete.
<u>A2</u>	Duke Street To Laurie Street	19/05/2008	23/06/2008	Excludes tie-ins: 90% complete
<u>B1</u>	Laurie Street to Coat field Lane	07/04/2008	20/06/2008	
<u>B2</u>	Laurie Street to Coat field Lane	20/06/2008	21/07/2008	
<u>C1</u>	Coatfeild Lane to Queen Charlotte Street	31/03/2008	23/06/2008	North Bound Lane
<u>C2</u>	Coatfield Lane to Queen Charlotte Street	02/06/2008	04/08/2008	South Bound Lane
<u>D1</u>	Queen Charlotte Street to Mitchell Street	30/03/2008	11/07/2008	South Bound Lane
<u>D2</u>	Queen Charlotte Street to Mitchell Street	02/06/2008	HOLD	North Bound Lane
<u>E1</u>	Mitchell Street to Baltic Street	30/03/2008	30/05/2007	Final reinstatement outstanding: 90% complete
<u>E2</u>	Mitchell Street to Baltic Street	02/06/2008	HOLD	

Traffic Management at Queen Charlotte Street and Baltic Street Junction to be finalised



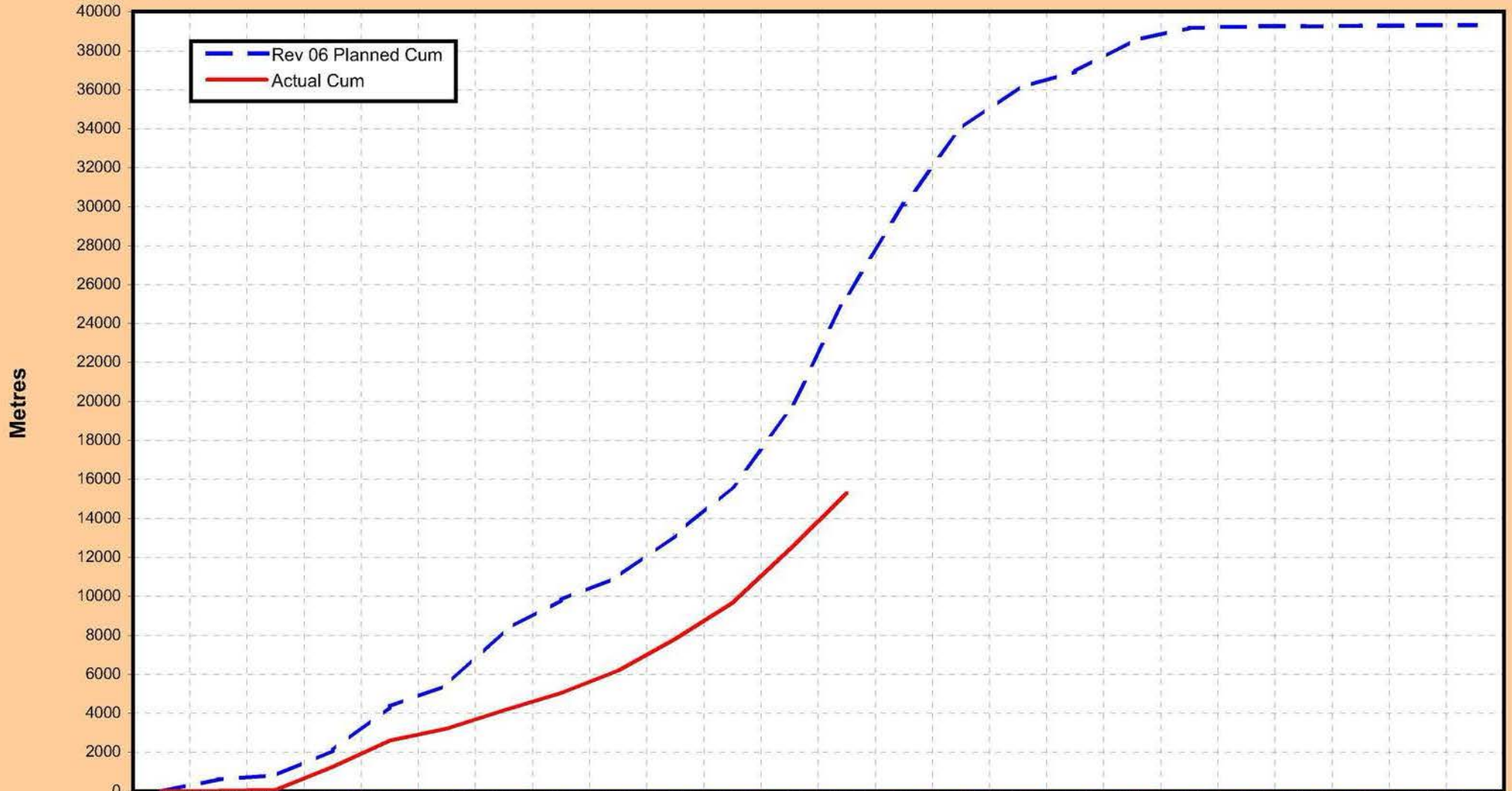
MUDFA Sub-Committee Meeting

APPENDIX 2

Performance Measures



Edinburgh Tram Project MUDFA Rev 06 Programme Project Metres Status



	2007-08 - P03	2007-08 - P04	2007-08 - P05	2007-08 - P06	2007-08 - P07	2007-08 - P08	2007-08 - P09	2007-08 - P10	2007-08 - P11	2007-08 - P12	2007-08 - P13	2008-09 - P01	2008-09 - P02	2008-09 - P03	2008-09 - P04	2008-09 - P05	2008-09 - P06	2008-09 - P07	2008-09 - P08	2008-09 - P09	2008-09 - P10	2008-09 - P11	2008-09 - P12	2008-09 - P13
Rev 06 Planned Cum	0	621	828	2088	4339	5445	8226	9810	11014	13142	15622	19499	25443	30126	34038	36085	36924	38513	39181	39244	39244	39280	39301	39301
Actual Cum	0	8	64	1237	2605	3211	4154	5026	6186	7805	9665	12421	15288											

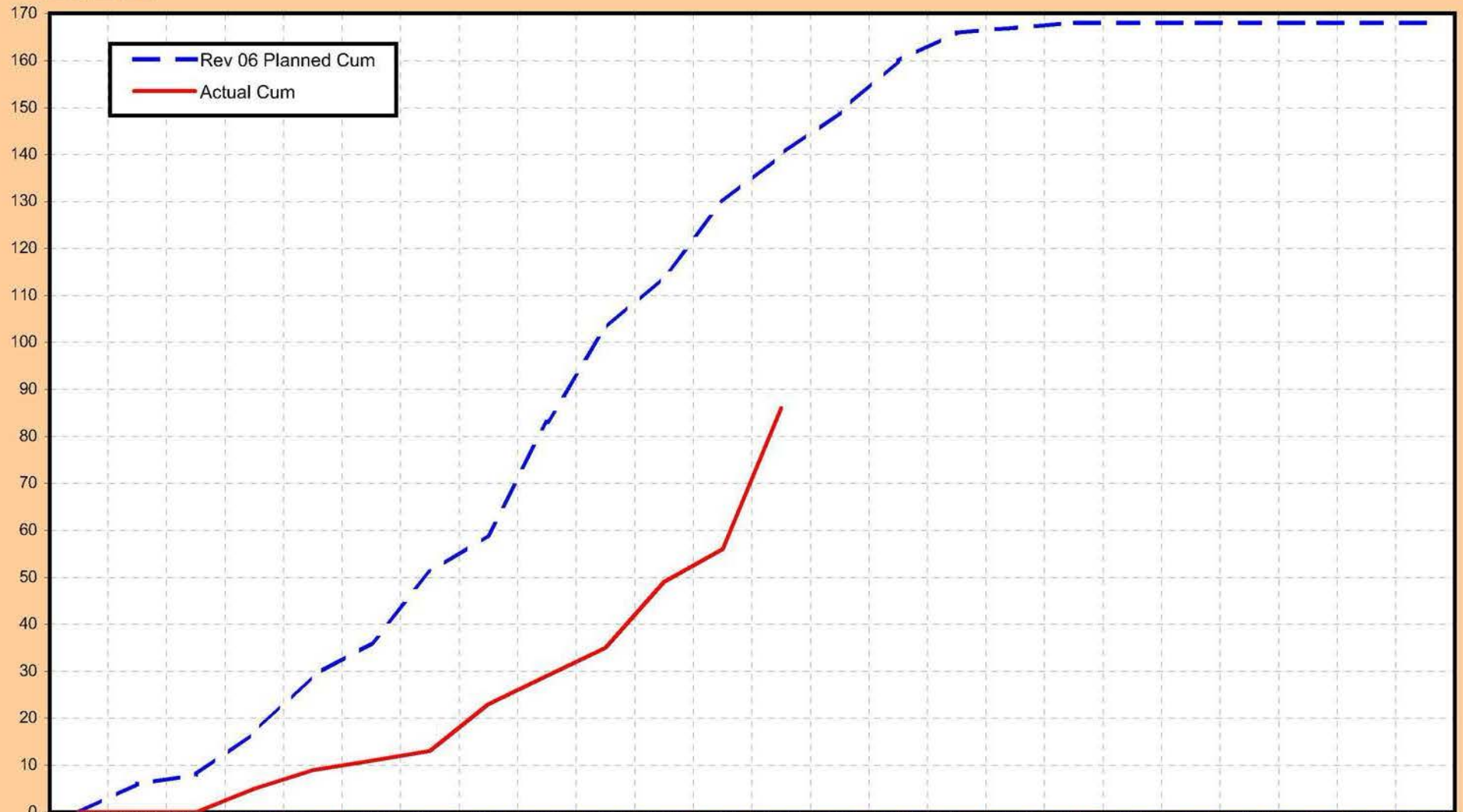
Period



Edinburgh Tram Project MUDFA Rev 06 Programme Project Chambers Status



No. of Chambers



	2007-08 - P03	2007-08 - P04	2007-08 - P05	2007-08 - P06	2007-08 - P07	2007-08 - P08	2007-08 - P09	2007-08 - P10	2007-08 - P11	2007-08 - P12	2007-08 - P13	2008-09 - P01	2008-09 - P02	2008-09 - P03	2008-09 - P04	2008-09 - P05	2008-09 - P06	2008-09 - P07	2008-09 - P08	2008-09 - P09	2008-09 - P10	2008-09 - P11	2008-09 - P12	2008-09 - P13
Rev 06 Planned Cum	0	6	8	17	29	36	51	59	83	103	114	130	140	149	160	166	167	168	168	168	168	168	168	168
Actual Cum	0	0	0	5	9	11	13	23	29	35	49	56	86											

Period



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APPENDIX 3

Traffic Modelling

Lead in Time required to Allow Modelling Exercise for forthcoming MUDFA Works

Location of Works	Current Modelling and TM Design Position	Programmed Start Date	Required Date to Start Modelling - 10 week lead in	Required Date to Start Modelling - 6 week lead in
Shandwick Place Closure (Phase 1)	Modelling & TM design completed and installed	03/03/2008	24/12/2007	21/01/2008
Constitution St / FOTW	TM modelling and design completed. TM procurement initiated	31/03/2008	21/01/2008	18/02/2008
Gogar RA / A8	No modelling required, localised TM required.	21/07/2008	12/05/2008	09/06/2008
London Road Traffic Signals	TM Modelling and design ongoing.	02/06/2008	24/03/2008	21/04/2008
Hope Street re-designation (Phase 2)	Faber issued modelling and TM design brief	28/04/2008	18/02/2008	17/03/2008
Picardy Place	No works actioned	08/09/2008	30/06/2008	28/07/2008
Haymarket / Manor Place	TM Modelling and design ongoing.	14/07/2008	05/05/2008	02/06/2008
The Mound	TM Modelling and design ongoing.	10/09/2008	02/07/2008	30/07/2008
St Andrew's Square	TM Modelling and design ongoing.	07/07/2008	28/04/2008	26/05/2008
Baltic Street/Bernard Street	TM Modelling and design ongoing.	05/01/2009	27/10/2008	24/11/2008

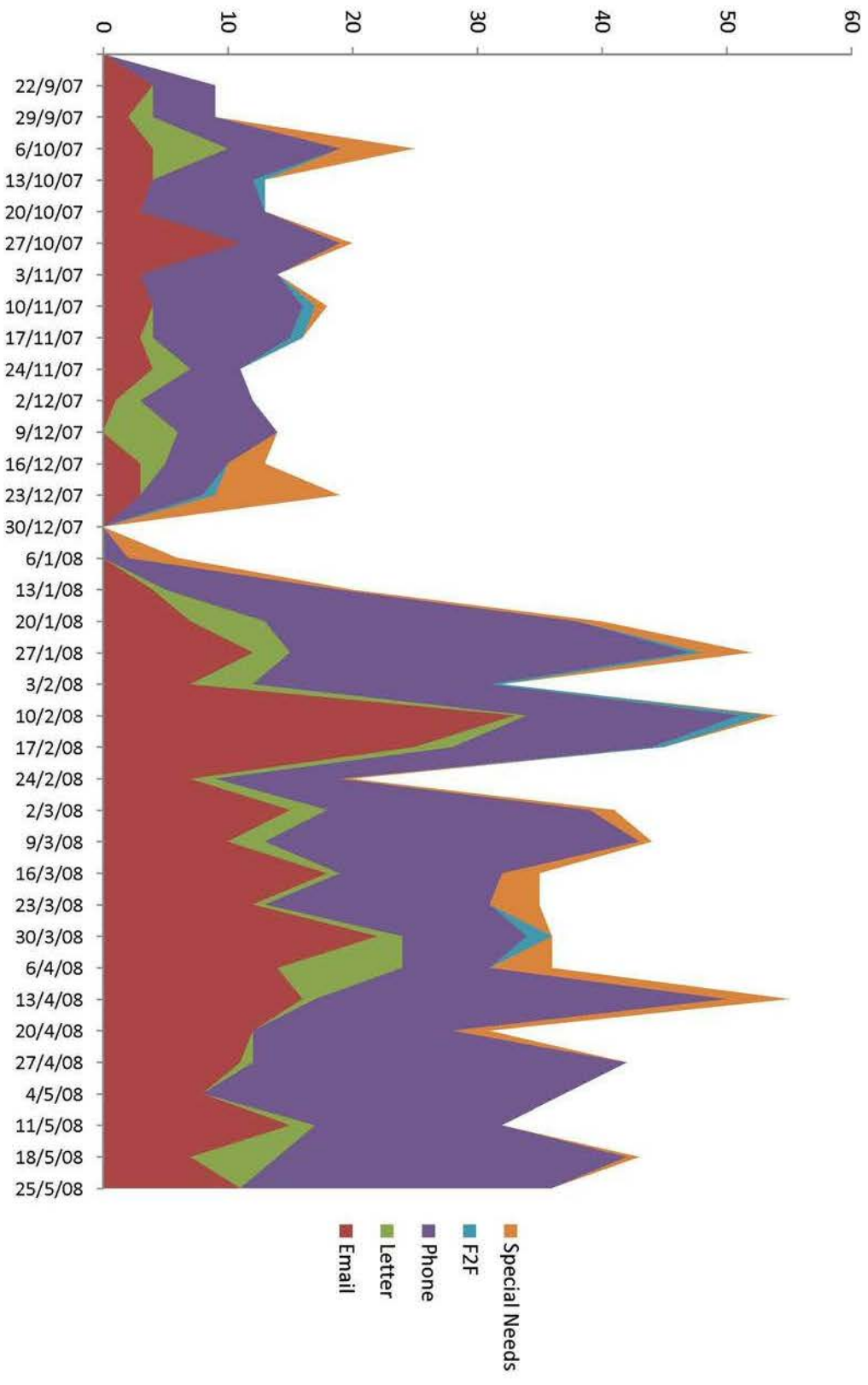


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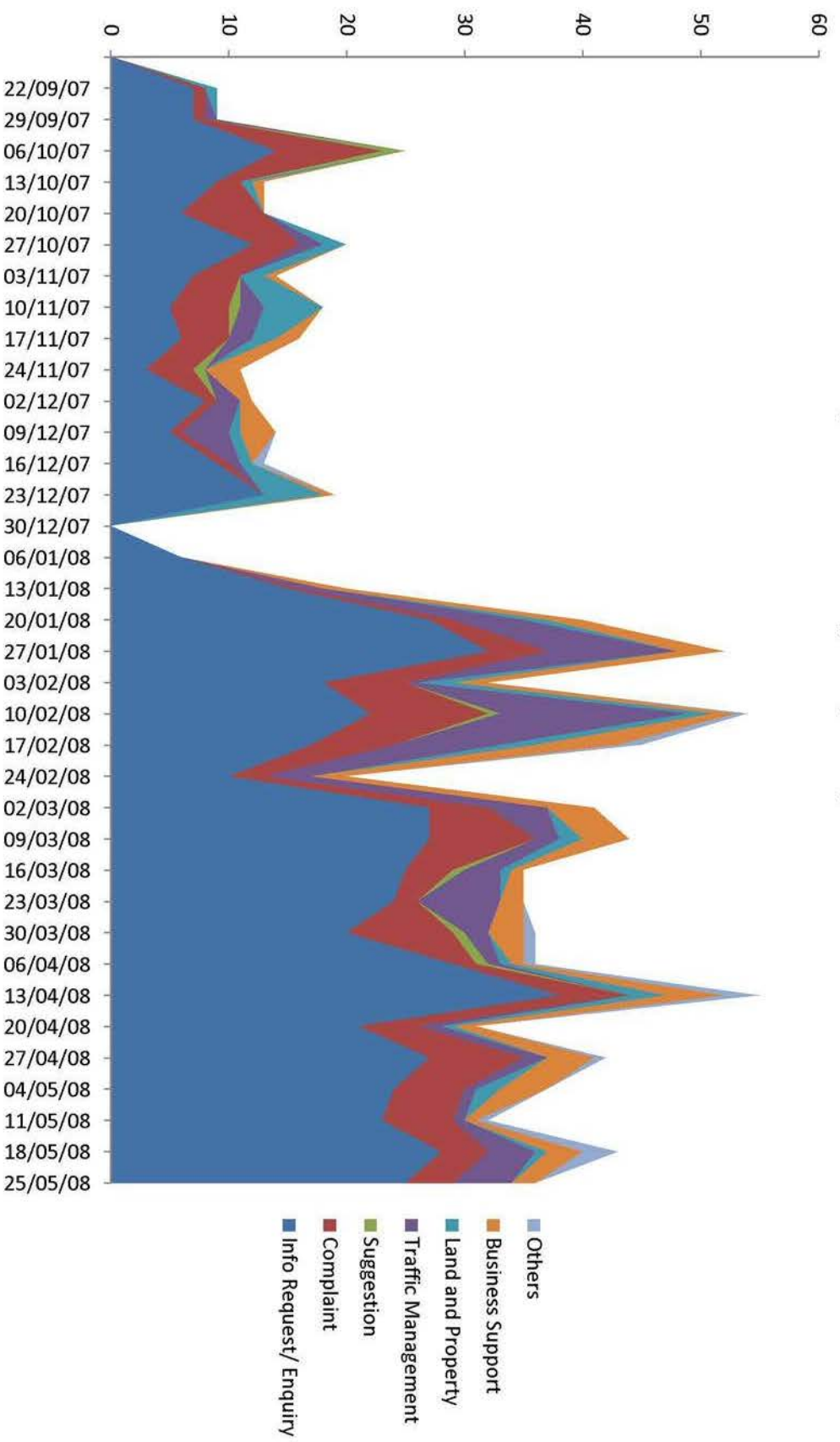
APPENDIX 4

Communications Report

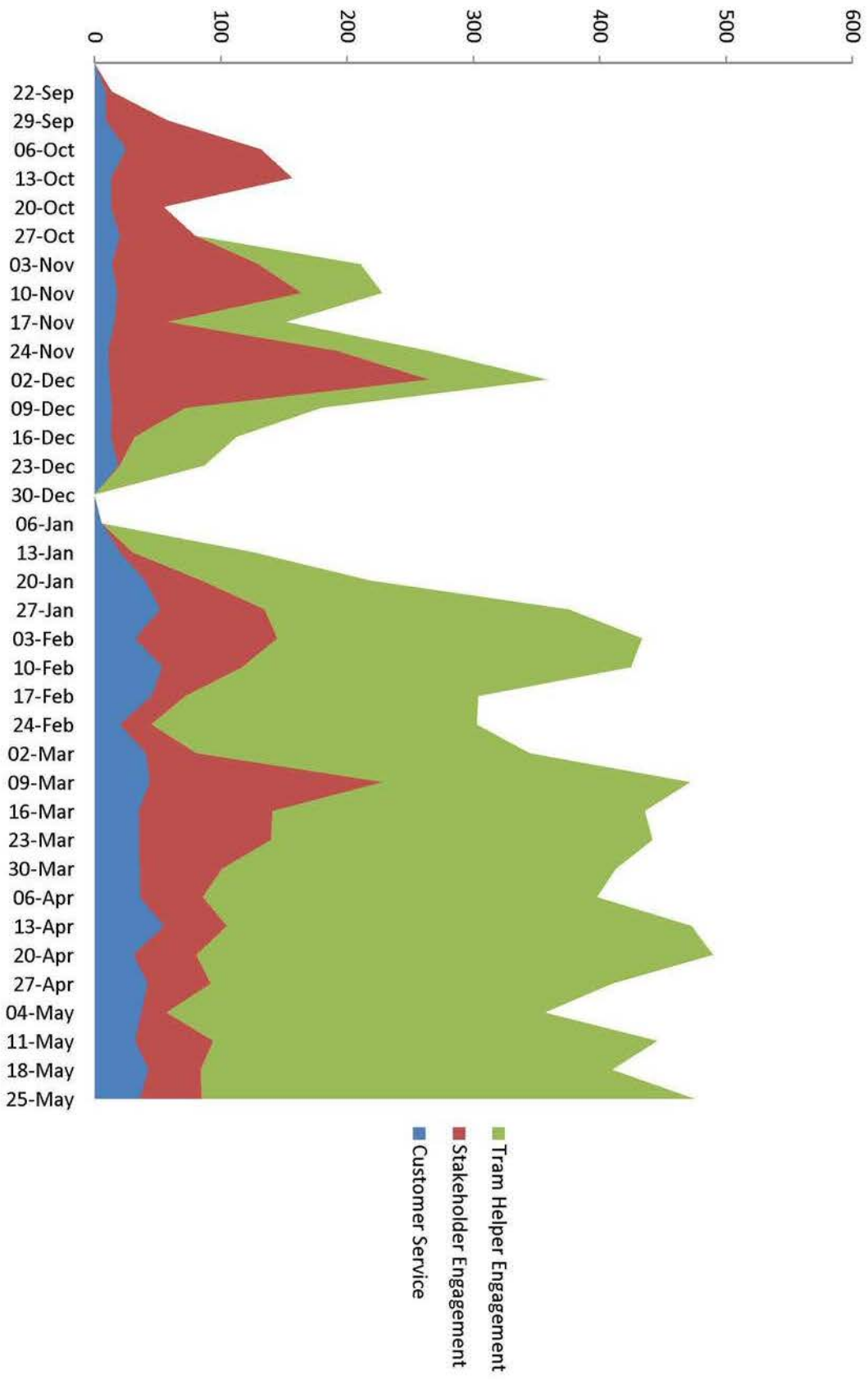
Enquiries to May – by Mode



Enquiries to May – By Subject



Total Contacts – Cumulative to May



Complaints -May

No.	Date	Complaint Description	Resolution
1	29/04/2008	Customer ripped coat on site fencing	Requested submit claim in writing. Fencing checked, no obvious problems.
2	25/04/08	Workmen rude. Also concerned re. timescales	T.C.A. Visit. Workmen established not one of ours. T.C. A. Advised would take 12 weeks.
3	29/04/08	Complaint re. electrical earthing	Explanation given
4	30/04/08	Complaint re. alleged road rage involving a tram worker	Investigation took place re. van involved, confirmed not tram related.
5	30/04/08	Complaint re. sewage coming up through toilet	Confirmed not tram related, local blockage.
6	01/05/08	Noise levels in Lorne Street	Junction of Lorne Street and Leith walk. Apology given but fully compliant with COCP
7	05/05/08	Complaint re. work safety following water burst.	Incident investigated, no further action, customer given £10 M&S voucher for water damage to beret.
8	05/05/08	Complaint re. tree stump at Gogarburn – hazard to vehicles.	Tree stump now removed.
9	06/05/08	Disruption and compensation request re. moving out whilst work going on in Constitution Street	Explanation given together with copy of COCP. No further action.
10	07/05/08	Misleading map.	Advised that tram route map schematic only.
11	09/05/08	Complaint regarding delay in providing information re. house purchase in Baird Drive.	All information now sent.
12	09/05/08	Alleged breach of COCP at Dublin Street.	Work started at 6.38am. Apology given and no repetition assured. Also explanation why Dublin Street site was larger than originally expected.
13	13/05/08	Complaint of poor reinstatement quality in Leith Walk	Explanation given that post Infracore, full streetscape would be completed.
14	16/05/08	Customer said bins overflowing in Constitution Street	T.C.A. Acted, CEC advised, situation resolved.
15	13/05/08	Complaint about noisy metal plates at Lorne Street	F.L.M. Repositioned plates, issue resolved.

Complaints – May (contd)

No.	Date	Complaint Description	Resolution
16	07/05/08	Complaint re. insufficient activity at Bankhead Drive / South Gyle sites	Confirmed resources as per plan, customer advised.
17	14/05/08	Complaints from Hairdressers regarding reinstatement outside shop	Further work done, item resolved.
18	19/05/08	Complaint re. poor notification of new work site in Atholl Crescent	Explained that overall notification sent earlier, TTRO widely publicised and individual resident letters sent.
19	19/05/08	Complaint re. parking being taken away in Atholl Crescent area	Details passed to CEC as part of mitigation
20	20/05/08	Customer very unhappy re. parking arrangements, received a ticket in spite of mitigation	Advised re. appeal process.



MUDFA Sub-Committee Meeting

APPENDIX 5

Risk Register

MUDFA Risk Register - Period 1

Risk Description											
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Black Flag	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
139	Utilities diversion outline specification only from plans	Uncertainty of Utilities location and consequently required diversion work/ unforeseen utility services within LoD	Increase in MUDFA costs or delays as a result of carrying out more diversions than estimated	G Barclay	High - 25.00		Carry out GPR Adien survey	Complete	Complete	31-Oct-07	J Casserly
							Identify increase in services diversions. MUDFA to resource/re-programme to meet required timescales.	Complete	Complete	23-Nov-07	J McAloon
							In conjunction with MUDFA, undertake trial excavations to confirm locations of Utilities and inform designer	On Programme	On Programme	31-May-08	A Hill
164	Utilities assets uncovered during construction that were not previously accounted for; unidentified abandoned utilities assets; asbestos found in excavation for utilities diversion; unknown cellars and basements intrude into works area; other physical obstructions; other contaminated land	Unknown or abandoned assets or unforeseen/contaminated ground conditions affect scope of MUDFA work	Re-design and delay as investigation takes place and solution implemented; Increase in Capex cost as a result of additional works.	I Clark	High - 25.00		Carry out GPR Adien survey	Complete	Complete	31-Oct-07	J Casserly
							Identify increase in services diversions. MUDFA to resource/re-programme to meet required timescales.	Complete	Complete	23-Nov-07	J McAloon
							In conjunction with MUDFA, undertake trial excavations to confirm locations of Utilities and inform designer	On Programme	On Programme	31-May-08	A Hill
342	Tram alignment at A8 crossing at Gogar coincides with 1500mm sewer	1500mm sewer required to be diverted	Capex cost to cover BT data nest/cable move; additional design costs; delay while works to undertake move are carried out; additional tunnelling costs.	I Clark	High - 24.00		Confirm if diversion required	On Programme	Complete	8-Mar-08	G Barclay
							Confirmation of BT requirements to tie	Complete	Complete	15-Oct-07	I Clark

911	Scottish Power own and maintain a cable tunnel in the vicinity of Leith Walk that may or may not interfere with Tram construction and operation; exact location and depth of tunnel is unknown; condition of tunnel is unknown.	Presence of Scottish Power tunnel in Leith Walk requires approved construction methodology from Scottish power - works scheduled for August 08.	Tunnel may have to be decommissioned and re-laid in a more suitable location; tram alignment may require to be adjusted; special foundation solution e.g. cantilever may be required; increased capex; potential for tunnel collapse during operation and consequent disruption for tram.	M Blake	High - 24.00	Liase with Scottish Power to agree and approve method of crossing tunnel	Undefined	On Programme	31-Aug-08	M Blake
						Scottish Power to establish exact location of tunnel	Complete	Complete	2-Apr-07	M Blake
						SDS to try and ensure tram alignment footprint is outwith Scottish Power alignment - confirmation via thumbnails due 16th November	Complete	Complete	28-Dec-07	T Glazebrook
						tie to undertake engineering feasibility study	Complete	Complete	2-Apr-07	J Casserly
914	Required approval/acceptance turnaround time does not reflect SUC standard practice; SUCs do not have enough resource or process capability to achieve 20 day turnaround	Statutory Utility Companies unable to meet design approval/acceptance turnaround time to meet programme	Additional period required for design approval/acceptance turnaround	T Glazebrook	High - 20.00	SDS to obtain consent for design in accordance with programme requirements - Scottish Water and all Telecoms	On Programme	On Programme	30-Jun-08	I Clark
						SDS to obtain consent for design in accordance with programme requirements - SGN and Scottisk Power	On Programme	On Programme	30-Jun-08	M Blake
926	Complexity of traffic management proposals require additional approvals (relating mainly to city centre)	Approvals for traffic management proposals are not approved or take so long to approve that work cannot commence in line with the programme	Delay to project.	G Barclay	High - 18.00	Review traffic management requirements for rev 6 programme and the alignment of these requirements with programme start dates	On Programme	On Programme	1-Jun-08	K Rimmer