



*Meeting of Forth Estuary Transport Authority  
18<sup>th</sup> December 2009*

## Budget Monitoring 2009-10

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### 1 Purpose of report

To advise the Authority of the Revenue and Capital budget to forecast expenditure position to 31st March 2010. This report has been prepared in consultation with the Chief Engineer and Bridge Master.

### 2 Main Report

#### Forecast expenditure to grant received

- 2.1 The forecast over spend to grant is £2.216m; Grant-in-Aid 2009-10 is £13.055m, forecast expenditure is estimated to be £15.271m.
- 2.2 The estimated forecast to grant position and movement to that previously reported to the Board is shown in the table below:

Expenditure type	Grant in-Aid £'000	Forecast 18th Dec £'000	Over Spend £'000	Forecast 28th Aug £'000	Movement £'000
Revenue	5,048	6,008	960	5,898	110
Capital	8,007	9,263	1,256	9,058	205
<b>Total</b>	<b>13,055</b>	<b>15,271</b>	<b>2,216</b>	<b>14,956</b>	<b>315</b>

- 2.3 The forecast overspend of £2.216m will be met from Reserves. Section 6 of this report details the Reserve position.
- 2.4 Revenue expenditure has been forecast to increase marginally by £0.110m to that reported to the board on the 28th August 2009. The recurring element of the Revenue forecast shows a marginal increase of £0.054m, mainly in employee costs and Maintenance and Operations transport costs. The Revenue costs of Capital Plan projects have been revised upwards by £0.056m in relation to the Anchorage Investigate and Main Cable Replacement/Augmentation study. These increases are due to revised forecasts from the consultants. The Capital Plan forecasts have increased by £0.205m. The Capital position is detailed in paragraph 4.

### 3 Revenue expenditure

3.1 The forecast Revenue over spend is £0.960m.

3.2 The Revenue over spend split between recurring expenditure and the Revenue costs associated with the Capital Plan is shown in the table below;

Revenue expenditure	Grant in-Aid £'000	Forecast 18th Dec £'000	Over Spend £'000	Forecast 28th Aug £'000	Movement £'000
Recurring	5,048	5,186	138	5,132	54
Revenue costs of Capital Plan projects	0	822	822	766	56
<b>Total</b>	<b>5,048</b>	<b>6,008</b>	<b>960</b>	<b>5,898</b>	<b>110</b>

3.3 The recurring over spend of £0.138m, representing an increase of £0.054m to that previously reported to the Board, is primarily due to a reduction in forecast external interest receivable as a result of a drop in interest rates since the budget was set. It has also been forecast that there will be marginal increases in Transport costs, primarily within Traffic Operations.

3.4 The Revenue costs of the Capital Plan have been forecast to increase marginally by £0.056m. The budget for these costs is accounted for within Capital Grant-in-Aid, so the over spend here will be offset by a commensurate under spend within Capital.

### 4 Capital expenditure

4.1 The forecast Capital over spend is estimated to be £1.256m, representing an increase of £0.205m in expenditure to that previously reported to the Board.

4.2 The table below details the forecast over spend per project 2009-10 and details of the increases in expenditure to that previously reported to the Board;

Capital expenditure	Grant in-Aid £'000	Forecast 18th Dec £'000	Over Spend £'000	Forecast 28th Aug £'000	Movement £'000
Viaduct Bearing Replacement	300	820	520	613	207
Main Cable Dehumidification	2,287	3,266	979	3,266	0
M9 Spur/A8000 Main Contract	380	833	453	899	(66)
Other Projects	4,260	4,344	84	4,280	64
Revenue costs of Capital Plan projects	780	0	(780)	0	0
<b>Total Capital</b>	<b>8,007</b>	<b>9,263</b>	<b>1,256</b>	<b>9,058</b>	<b>205</b>

#### 4.3 The main reasons the variance are as follows:

- 4.3.1 Viaduct Bearing Replacement - £0.520m over spend - The project has been brought forward on capital plan resulting from the delay of the Main Expansion Joints project. Further costs are being incurred as a result of additional concrete testing of the viaduct piers and the requirement to monitor the movement of the piers and box girders. This has also resulted in additional design work which has subsequently delayed the project by a few months. A total sum of £15.950m was budgeted and the current forecast is £16.560m. This forecast maybe subject to change resulting from tender submissions.
- 4.3.2 Main Cable Dehumidification - £0.979m over spend - The additional costs are primarily due to the provision of a third gantry to accelerate the works as a result of weather related delays and the subsequent increase in site supervision. Further costs are also anticipated for additional ducting work. This over spend is partially off-set by an under spend in 2008-9 which was carried forward through reserves.
- 4.3.3 M9 Spur/A8000 Main Contract - £0.453m over spend - When the budget for the project was agreed 2009-10 there were a number of unknown outstanding issues that could not be determined at that time. These included costs relating to contractor claims, land acquisition, disturbance claims and compensation claims which currently remain subject to negotiation and litigation. These costs have now been estimated by The City of Edinburgh Council and are based on a "most likely" outcome. Further revisions may be required once claims are settled, this accounts for the movement to that previously report to the Board.
- 4.3.4 Revenue costs of the Capital plan - £0.780m under spend – The Revenue costs associated with the Capital Plan is funded via Capital Grant not Revenue Grant. The costs however require to be accounted for within Revenue which is why the over spend within Revenue £0.822m is partially off-set by the under spend of £0.780m within Capital.

## 5 Funding

- 5.1 The Scottish Government is committed to a three-year spending review settlement of £41.007m. This settlement was for financial years 2008-9 to 2010-11.
- 5.2 The three-year position compared to this grant is set out below;

	<b>2008-9 £'000</b>	<b>2009-10 £'000</b>	<b>2010-11 £'000</b>	<b>Total £'000</b>
<b>Spending Review Funding</b>				
Revenue	7,070	5,048	4,410	16,528
Capital	6,895	8,007	9,577	24,479
<b>Total</b>	<b>13,965</b>	<b>13,055</b>	<b>13,987</b>	<b>41,007</b>

	2008-9 £'000	2009-10 £'000	2010-11 £'000	Total £'000
<b>Forecasts</b>	<b>Actual</b>	<b>Forecast</b>	<b>Budget</b>	<b>Total</b>
Revenue	5,033	6,008	5,451	16,492
Capital	6,505	9,263	8,831	24,599
<b>Total</b>	<b>11,538</b>	<b>15,271</b>	<b>14,282</b>	<b>41,091</b>
<b>Over / (Under) Spends estimated</b>	<b>2008-9</b>	<b>2009-10</b>	<b>2010-11</b>	<b>Total</b>
Revenue	(2,037)	960	1,041	(36)
Capital	(390)	1,256	(746)	120
<b>Total</b>	<b>(2,427)</b>	<b>2,216</b>	<b>295</b>	<b>84</b>

## 6 Reserves

- 6.1 The unaudited final accounts were presented to the Authority at its meeting on 19<sup>th</sup> June 2009 where the Authority noted reserves of **£6.913m** at 31<sup>st</sup> March 2009.
- 6.2 The projected over spend for 2009-10 referred to in paragraph 2.1 above amounts to £2.216m. Projected reserves at 31<sup>st</sup> March 2010 would therefore total **£4.697m**.
- 6.3 The estimated Reserve position is summarised in the table below;

Reserve	2008-9 £'000	2009-10 £'000	2010-11 £'000
Opening Reserve	(4,486)	(6,913)	(4,697)
(Surplus) /Deficit	(2,427)	2,216	295
<b>Closing Reserve</b>	<b>(6,913)</b>	<b>(4,697)</b>	<b>(4,402)</b>

- 6.4 These reserves are subject to a number of key risks, the most significant of which are;

6.4.1 Future bridge strengthening and improvement works yet to be determined.

6.4.2 Main Cable Strength. The inspection of the main cable in 2008, determined that the cables had lost around 10% of capacity due to corrosion. A system of dehumidification is being fitted to the main cables and is expected to be fully commissioned by the end of 2009. Dehumidification is a well-tried system of preventing corrosion of steel and is already in use in the anchorage chambers of the bridge. However, its application to main cables of suspension bridges is relatively new. Such systems are being fitted to new bridges to protect them from corrosion and retrofitted to older bridges in Japan, Sweden and Denmark where corrosion has been uncovered. Whilst there is good reason to have confidence that dehumidification can slow down or halt corrosion there is no

body of evidence yet available to allow an unconditional assurance to be given that this will work on the Forth Road Bridge.

- 6.4.3 Anchorage Investigation. A total sum of £7.188m has been allocated to this project. However, the work is likely to involve excavation in rock to expose the post-tensioning strand in the anchorage tunnels and will have to be done with extreme care to avoid damaging the strands. It is further complicated by both the proximity of the existing viaduct piers, local housing and access roads. Environmental issues are also a key risk. In addition, full scale testing of the sockets within the anchorage chambers is also being considered and access, containment and designing one off testing equipment will increase the financial risk. The project is also undergoing a peer review and this may change the nature of the investigation.
- 6.4.4 Viaduct Bearings Replacement. Given the increase in actual tender prices against estimates recently received for the Main Expansion Joint replacement contract, there is a risk that a similar increase in cost will occur for this project. That risk will increase if only a small number of contractors apply for inclusion on the tender list.
- 6.4.5 Suspended Span Truss Assessment. The checking process for this assessment has commenced and may result in further strengthening work being required on the Truss.
- 6.4.6 Parapet Investigation. Following the successful completion of the Suspended Span Parapet testing, work on the Viaduct Parapet testing has now commenced. This work may lead to a re-evaluation of containment levels and a further assessment of the need to replace the Viaduct Parapets. A sum has been included in the Capital Plan for replacement.
- 6.4.7 Cable Band Bolts. £0.630m has been included in the Capital Plan for this work. However, until the full extent of the cracking is determined the final cost of the remedial works can not be established. Ten cracked nuts in total have been found and replaced. The investigation into the cause of the failures is anticipated to be completed in the Autumn of 2009, and a final report will be brought to the Authority.
- 6.4.8 Main Cable Dehumidification. The wrapping of both main cables has now been completed and the risk of further delays and subsequent costs due to weather are now low.
- 6.4.9 Main Expansion Joints. The decision to delay the replacement of the main expansion joints until the opening of the Forth Replacement Crossing in 2016 was made in February 2009. Additional inspection and monitoring regimes to the joints, including the removal of all the plate trains on a rolling programme up until 2016, will be carried out and temporary failsafe devices will be installed along with the replacement or modification of key components such as pins and springs. A new permanent access system is being procured to facilitate both the inspection and monitoring of the joints. The access system will also be used to assist in the future replacement of the joints. However, given their age, there is still a residual risk that, in the event of an unforeseen significant failure of the joints, full replacement would have to be carried out before 2016. There is also a risk of delay to the Forth Replacement Crossing Project and if such a delay

occurred then a review of the joint replacement programme would have to be carried out.

6.5.0 Improvements to Deck Half Joints. A sum of £0.401 m has been included for this work in 2009/10 to 2011/12. This is to carry out a trial erection of an improved detail at the orthotropic deck half joints. These joints occur every 18 metres and the original detail is causing both structural problems and issues with ride quality. The maintenance of the existing detail is taking up more and more time and resources. The cost of replacing all 768 of these joints has not been allowed for as further discussion will be required following the trial.

6.5.1 Suspended Spans Underdeck Access. The existing steel and aluminium access system is almost 30 years old and is likely to need considerable remedial work or complete replacement at some stage in the near future. A sum of £0.100m has been included for investigation into either replacement or remedial work. The cost of replacement is likely to be significant but has not yet been allowed for in the Capital Plan.

6.5.2 A8000/M9 Spur – Currently a number of matters have still to be concluded that may impact on the final cost of the scheme. Forecasts built in are currently based on “Best-Case” settlement assumptions and may be subject to review as highlighted in paragraph 4.3.

6.5.3 It should be noted that the main key risks remain the condition of the Main Cable and the Anchorages. Investigations are continuing into both elements and as results from these investigations become available then the level of risk can be evaluated. No allowance has been made in the Capital Plan for the replacement of the Main Cables or the Anchorages.

## **7 Conclusions**

7.1 The Reserve balance at 31<sup>st</sup> March 2009 is £6.913m. The anticipated over spend 2009-10 of £2.216m would reduce this Reserve to £4.697m at 31<sup>st</sup> March 2010.

7.2 A number of key risks exist as identified in paragraph 6.4 that may impact on the Reserve balance.

7.3 The financial position will continue to be closely monitored during 2009-10 and further reports will be prepared for future meetings.

## **8 Recommendation**

8.1 It is recommended that the Authority note the contents of this report.

**DONALD McGOUGAN**  
Treasurer

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**Appendices:** None  
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**Background Papers:** Held at offices of the Treasurer