

Background

The full range of hitherto documented cost estimates for delivery of Phase 1a of the project with BSC (each of which is prepared on different assumptions and information available at the time of preparation) is as follows:

- a) **£512m** – estimate at May 2008 no increase to this estimate has been approved
- b) Jan 09 Range of **£522m** and **£540m** – reported in January to TPB and briefed to CEC and TS
- c) **£527m** - adopted as a baseline for reporting in Early march (w/ ORSD Feb 2012)
- d) **£553.6m** – provided in a briefing note to CEC officers on 13th April and reflecting a review of the risk allowance based on information available and the status of Infraco engagement at that time.

To each of these estimates it is prudent to add the costs spent on Phase 1a design (£3.0m) plus the amount payable to BSC if we didn't take up the Phase 1b option by June this year (£3.2m) making a total of **£6.2m**.

Estimates b) and c) were provided with a series of express assumptions the most important of which were that commercial engagement with BSC and delivery impetus improved significantly (whilst were engaging in the Strategic Options workstreams and the PMP/DRP processes) with marginal costs shared equitably in accordance with the Infraco contract [as we understand it].

Estimate d) was expressly stated as a scenario of where we could go if the assumptions in the previous paragraph did not fully hold out and there was additional cost as a consequence. It was based upon submissions made by BSC at that point in time.

To inform current engagement with BSC and an understanding of the possible size of the problem we face, a further review of the range of possible outcomes has been undertaken. This range has the status of “scenario planning” to inform an understanding of the nature and extent of our challenge and is not a reliable outturn forecast in any sense unless and until any of the principles and numbers are agreed with BSC.

Outturn Estimate Evolution w/ June 09 Range Review

The following table charts the evolution of the outturn estimate and the major elements of it up to and including a further range of outturns informed by a review by the Commercial and Infraco teams in light of the current state of negotiations and further knowledge of the Infraco notices of change and the status of design activities in particular as now understand them.

Cost Outturn Range Update June 09 (Based on Infraco/Commercial Team Review)

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£m	June 09 Range Review											Notes Ref
	App'd Budget	Delta	Mar 09 Rev	Delta	April 09 Rev	Delta	QS View	Delta	Mid	Delta	Worst	
tie PM	39.0		39.0	5.0	44.0		44.0		44.0		44.0	1
Other Resources	27.4		27.4		27.4	2.3	29.7		29.7		29.7	2
SDS	27.0		27.0		27.0		27.0		27.0		27.0	
Infraco (BB & S)	251.7		251.7		251.7		251.7		251.7		251.7	3
Tramco	58.2		58.2		58.2		58.2		58.2		58.2	
MUDFA	53.3		53.3		53.3		53.3		53.3		53.3	
All else (incl land)	35.8		35.8		35.8	0.4	36.1		36.1		36.1	
Base Costs	492.3	0.0	492.3	5.0	497.3	2.7	500.0	0.0	500.0	0.0	500.0	
Risk Allowance (undrawn)	19.7	15.1	34.8	21.5	56.3	22.1	78.4	13.7	92.1	20.3	112.3	
Total Phase 1a	512.0	15.1	527.1	26.5	553.6	24.8	578.4	13.7	592.1	20.3	612.3	
Phase 1b postpone			6.2		6.2		6.2		6.2		6.2	
Costs to fund			533.3		559.8		584.6		598.3		618.5	
Risk Allowance Make Up:												
Delay - EOT1				2.5	2.5		2.5	0.5	3.0	0.5	3.5	4
Delay - EOT2 and future	5.0	5.0	10.0	1.7	11.7	3.3	15.0	5.0	20.0	5.0	25.0	5
Design (Incl BDDI to IFC)	0.0	6.1	6.1	6.3	12.4	8.4	20.8	6.4	27.3	11.6	38.8	6
Ground Related	2.0	1.0	3.0	6.1	9.1	(2.5)	6.6	0.4	7.0	1.2	8.3	7
Road Reconstruction	1.0	2.3	3.3	0.3	3.6	3.1	6.7	0.3	7.0	0.0	7.0	8
Client inst / other changes				2.0	2.0	4.2	6.2	1.0	7.2	1.9	9.1	9
Burnside Road				1.8	1.8		1.8		1.8		1.8	10
Deliverability of VE	2.0	2.3	4.3		4.3		4.3		4.3		4.3	11
Land & Property	2.5	(2.5)	0.0		0.0		0.0		0.0		0.0	12
MUDFA				3.2	3.2	2.7	5.9		5.9		5.9	13
SDS & Approvals	3.9	(1.2)	2.7	(1.2)	1.5	2.9	4.4		4.4		4.4	14
Other risks/contingency	3.3	2.1	5.4	(1.2)	4.2	(0.1)	4.2		4.2		4.2	15
	19.7	15.1	34.8	21.5	56.3	22.1	78.4	13.7	92.1	20.3	112.3	

Exclusions from above and what they might cost

Open for revenue service in Feb 2012

Total cost only allows for TNC / INTC's raised to date.

Where Estimates have not been submitted tie have taken a view of likely final costs.

No Provision for any INTC's to be raised by BSC (which are not known)

No Provision allowed for an further TNC's to be raised by tie (which are not known)

No Provision - Further SDS Design Change (which is not known about)

No Provision - Siemens Design Change (BDDI - IFC), no visibility

No Provision - INTC 397 (Revised Earthworks Specification)

No Provision - INTC 398 (Revised Concrete Specification)

No Provision - Further On-Street Supplemental Agreements.

Provision allowed for additional capping below full depth road make up (allow additional 300mm to all roads)

Provision allowed for additional cost associated with the depot (Refer INTC 203)

Explanatory notes on the estimates and evolution

My understanding of the “QS view” in the June 09 Range Review reflects an estimated cost of all known Infraco changes based upon the negotiations at PMP on specific individual changes and topics. As an example it reflects the concessions we have made on the Russell Road Retaining wall issue, both in principle and valuation, in our attempts to get this change agreed. The concessions in principle and value have been extrapolated to the other BDDI-IFC changes. The Worst column is intended to represent a world where the BSC commercial position prevailed on all known issues (subject to the listed exclusions) affecting both direct cost and delays to date (ie all to our account) with the Mid column being an illustrative middle ground.

The listed exclusions are very important as there would still be significant remaining commercial and real design and construction uncertainties should we resolve all current issues.

Notes as referenced as follows (subject to correction and further explanation by others):

1. tie PM costs

The increase of £5m reflected in the April 09 review comprised a £4m increase in staff and contractor costs and £1m in associated accommodation (extended Citypoint 1 occupancy) and ICT costs. The additional staff costs are attributable to significant extensions of both the MUDFA and Infraco programmes as well as the additional resources deployed in the Commercial and Infraco teams to address the commercial stance and behaviours of BSC and Carillion.

In actual fact our bare costed manpower plan would now add a further £3m to this figure without efficiency measures which are the subject of ongoing examination. The Jan 09 range reflected an increase of between £3.9m and £4.6m but at that time we had not reflected the impacts of prolongation and commercial team bolstering in the estimates.

2. Other Resources

The increase in other resource costs of £2.3m comprises increases in forecast CEC, TSS and TEL costs from the existing approved budgets in part reflecting prolongation of both the design and construction programmes. The increases have not been signed off as changes yet. The Jan 09 range reflected an increase of between £2.7m and £3.6m for these costs so from that perspective we have come in better than we expected.

3. Infraco (BB & S)

The approved budget reflects some approved drawdowns of Risk for Infraco – in aggregate £2.6m and most significantly £1.4m for additional excavation at the depot site. In respect of Infraco the Jan 09 range reflected:

- An increase of between £1.5m and £2.5m for the extra-over costs of the final design to accommodate the Burnside Road diversion at the airport. This is now full provided for in the risk allowance (see 10 below) and tenders received for the work appear to support this estimate.
- A targeted saving on the provisional sums for Picardy Place and off-route UTC of £3m. This saving looks as if it will indeed crystallise but has been offset by an emerging concern about whether the provisional sum for on-route UTC (Traffic Lights) will be sufficient given known prices quoted by Siemens – £3m possible increase offsets the savings.

4. Delay EOT1

The time of 38 working days has been agreed. Our QS view of prolongation of the prelims in the contract comes to £2.5m (£330k per week). Latest position of BSC is that their prelims are running at £763k per week – ie they want £5.8m. We are a long way apart here and the resources included in the prolongation claim reflect a very much larger and more expensive team on both BB and S than is reflected in the contract prelims. This has enormous implications for the valuation of further prolongation entitlement at 5 below.

5. Delay EOT2 and future

Our range of £15-25m in the June 09 review above would allow for in aggregate 45wks to 75wks of delay found to our account. If we look at the results of the forensic analysis of delay to date and say we are responsible in aggregate for between 1/3 and 1/2 of the 18months (78wks) of projected delay to date then our liability at our rate of £230k per week is £6m to £9m plus allowance for future delays (and there will be future delays). As in previous reviews we assume that acceleration costs versus prolongation is a zero sum game for this analysis.

The latest BSC position is that they want 12mths attributable 100% to tie with costs plus relief from damages for a further 3mths covering all delays up to end March 09. The value of the prolongation costs at their weekly rate is £40m. Reach for all the work we did on forensic analysis of delays and legal opinion on what the contract says about access, obligation to mitigate, obligation to maintain a programme etc.

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6. Design (Incl BDDI to IFC)

The following table gives a summary of the June 09 range:

£m	QS	Mid	Worst	
Retaining Walls – Balgreen to Bankhead	7.3	8.4	10.5	
Retaining Walls – Russell Road	3.5	3.5	5.9	
Depot Access Bridge	1.5	1.5	1.8	
Depot	1.5	1.5	1.8	
Other known BDDI-IFC	3.3	8.6	13.9	
Cost implications of RHEADA C T'form	3.7	3.8	4.9	
	20.8	27.3	38.8	

Previous assessments of our potential liability have recognised that some design “change” rather than “development” had taken place especially with regard to the railway corridor retaining walls. However we awaited detailed information from BSC. What is emerging from the incomplete information we have is the scale of the marginal cost and the fact that BSC hold the position it is all to our account. Specific additions to the retaining wall changes since last review are £1.3m for temporary sheet piling (which apparently we dispute is necessary) and £1.5m for contaminated ground at Russell Road.

The RHEADA track form change is mostly an additional concrete slab required as part of the civils work to support the RHEADA track form – an “alignment” issue. There is a remaining uncertainty re other alignment issues between the SDS design and Infraco proposals may yet flush out.

We have rehearsed the BDDI-IFC issue comprehensively and it is very important to understand the detail on a case by case basis as to why the originally priced design did not work or otherwise why and when it changed and whether the marginal cost is correctly valued under the contract. These explanations are required for us to explain why significant values of change are to our account and for us to think about any recourse we may have to the designer. In this context we have estimated costs from BSC for c20 of the c70 individual INTCs classified under BDDI-IFC.

Other comments to bottom out:

- The Balgreen to Bankhead retaining wall may wholly or partly a consequence of a Network Railway required change to the tram alignment from some time ago. Is it reasonable that we and BSC did know about this either at the time of BDDI or at contract?
- BSC may be asserting that they have not included in their price for elements of the work where there was insufficient detailing on the BDDI - drainage being a specific

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example. Is this not normal design development ie is it reasonable and competent that they would have excluded these items? No wonder they find the principle of full re-measurement attractive.

7. Ground Related

£m	QS	Mid	Worst	
Capping Layers – Sections 5 and 7	3.7	3.9	4.6	
Gogarburn surcharging	1.0	1.2	1.5	
Princes St Supplemental Agreement	1.0	1.0	1.0	
Other	0.8	0.9	1.2	
	6.6	7.0	8.3	

The above figures exclude the cost of extra over excavation at the depot (£1.5m) already agreed with BSC and drawdown from risk.

The possible capping layers cost was not included in our risk allowances up to and including the March 09. The detailing on the BDDI drawing shows a capping layer “if required”. The Sch. pt 4 assumptions seem to be clear about any work below the “earthworks outline” being additional. We have engaged Donaldson’s in this area to challenge the redesign by SDS to determine if it is the best and most cost effective solution. The forensics of why this became a specific exclusion from the BSC price and what circumstances led to the SDS design changing (additional GI) such that the capping layer became a requirement.

8. Road Reconstruction

The allowance now included for additional capping and surfacing along the whole route (£5.6m) plus the negotiated cap on full depth road reconstruction at 4 locations (?) negotiated at financial close (£1.5m) less already drawn down (£0.5m). We need to develop clarity as to how the negotiated cap applies where we have a Princes St style supplemental agreement in place.

At financial close there was a recognised misalignment between the SDS design which anticipated widespread full depth road reconstruction (CEC aspiration?) and the Infraco proposals which anticipated only road planning and anything else being a change subject to the cap negotiated above. Status of SDS redesign on this issue is that it requires even deeper excavation than their original design?? We need information to complete the forensics on this topic.

9. Client instructed / other changes

This category includes a very large number of smaller including those which have been instructed by us or are a planners/CEC/stakeholder requirement. Many of these are in design and we don't have a cost estimate from BSC yet. For info and to get a feel for what's in here consider the following major items (in the QS value column):

Cost incl design	£000s	
New Pedestrian Crossing Stds	163	
Cyclepath nr Gyle Tramstops	212	
Gogar roundabout lighting	270	
Removal of phone boxed/utility diversions	150	
Instructions re Trackform Development w' shop	371	
Revised Cathedral Lane substation	75	
Second access stair at Murrayfield	158	
Alterations at Edin Airport	249	
Haymarket Junction Redesign	254	
Balfour St Crossing	100	
Amendments to Shandwick Place design	222	
Changes pursuant to Forth Ports Agreement	106	
SGN Gas Diversion at A8 Underpass (wasn't in MUDFA)	550	
Total this list	2,880	

10. Burnside Road

Allowance of £1m in the base cost budget as design was not complete and agreed at financial close. The agreed design is estimated to cost us less than the total allowance of £2.8m including a risk allowance of £1.8m.

11. Deliverability of VE

We always recognised that an element of the £12.6m aggregate value engineering opportunities taken into the price was unlikely to be secured either because it was aspirational in the first place (eg tie/BSC team integration efficiencies) or it was qualified on being subject to design to cost ie demonstrating the saving was actually secured. At financial close we provided a total of £1.2m in base costs and a further £2.0m in the risk allowance. The latest view reflected in the reported risk allowance since the March 09 rev is that an additional £2.3m provision is required – ie a total of £5.5m is undeliverable.

12. Land & Property

No significant risk of additional land costs exist.

13. MUDFA

When we struck the £527m the MUDFA programme was expected to be substantially complete in April. The expectancy has now moved to October (reasons not explained in this paper) and we have an increasingly expectant contractor from a commercial perspective. A reviewed outturn cost adds £5.9m to the approved budget for MUDFA including a view on settlement of “claims”.

14. SDS & Approvals

In the days leading up to financial close, SDS negotiated additional costs including provisional sums for design and construction support services post financial close and a n incentive pot for delivery of IFCs on time. We did not add these costs to the bottom line at the time on the basis they were an investment in reducing other risks already provided for – specifically delay related risk. In the circumstances we have now added these costs aggregating £2.9m to the risk allowance. Balance also includes a £1m risk allowance from the QRA iro prolongation of Infraco due to late IFCs – could be added to the general delay / EOT2 provision.

15. Other risks / contingency

Most significant risk allowance in here is £1.8m for as yet unspecified wide area measures (eg additional or amended junction layouts, UTC and other measures required to keep the city moving and as a consequence of introducing tram. Reducing this allowance has been and should continue to be seen as an opportunity. This is in addition to the undrawn £2m provision for offline UTC included in the Infraco provisional sums.