

Review of major capital projects in Scotland

Report supplement: Summary of projects reviewed



Prepared for the Auditor General for Scotland
June 2008

Auditor General for Scotland

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Note:

Prior to September 2007, the Scottish Administration was generally referred to as the Scottish Executive. It is now called the Scottish Government. When dealing with the earlier period, this report refers to the Scottish Executive. Recommendations for the future refer to the Scottish Government.

Acknowledgements:

Audit Scotland prepared this report for the Auditor General for Scotland. This study was managed by Jim Martin, supported by Gareth Dixon, under the general direction of Barbara Hurst, Director of Public Reporting (Health and Central Government), Angela Cullen, Assistant Director of Public Reporting (Central Government) and Dick Gill, Portfolio Manager (Central Government). Ernst & Young was engaged to work with Audit Scotland on the review of project case studies and the review of project appraisals.

We have had the generous support of the Scottish Government, Scottish Prison Service and Transport Scotland and the other bodies whose projects we examined and surveyed.

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Contents

Introduction	4	A876 Upper Forth Crossing at Kincardine Project	26
Completed projects		Stirling-Alloa-Kincardine Rail Link	28
Summary of five completed projects against cost, time and quality targets	7	A898 Erskine Bridge	30
Beatson Oncology Unit	8	Scottish Crime Campus	32
Upgrade to Polmont Prison – phase 2	10	Edinburgh Prison - Phase 3	34
New Scottish Agricultural Science Agency HQ at Gogarbank	12	Parliament House Master Plan	36
Playfair Project – Phases 1 and 2	14	State Hospital Redevelopment	38
A80 Auchenkilns	16	Golden Jubilee Heart & Lung Centre	40
Current projects		Royal Museum Masterplan	42
Summary of 15 current projects' progress towards cost, time and quality targets	18	National Intranet	44
M74 completion	20	eCare	46
Glasgow Airport Rail Link Project	22	Royal Botanic Gardens Visitor Centre	48
Edinburgh Waverley Infrastructure Works	24		

Introduction

1. As part of our *Review of Major Capital Projects*, we conducted a high-level case study review of 20 projects (five completed and 15 current projects).¹ The case study reviews covered each current government portfolio and £2 billion in value (36 per cent by value of recent and current projects).
2. This document supplements our main report by providing a high-level summary of our findings for each of the 20 projects we examined.
3. We assessed projects in relation to
 - Progress towards cost, time and quality targets
 - Project management and governance
4. We explain the basis of these assessments below. The individual case study summaries are presented on pages 7 to 18 (five completed projects) and pages 19 to 50 (15 current projects).
5. Appendix 4 of our main report¹ outlines our study methodology including our approach to the case study reviews. We completed our case study reviews between October 2007 and February 2008. Inevitably projects have moved on since we completed our examination of them.

Progress towards cost, time and quality targets

6. We assessed project outcomes (or expected outcome) in relation to cost, time and quality targets using a traffic light indicator system shown in Exhibit 1 below.

¹ *How Government Works: Review of major capital projects in Scotland*, Audit Scotland, June 2008 (<http://www.audit-scotland.gov.uk>).

Exhibit 1

Assessment criteria for cost, time and quality

	Significant changes and/ or uncertainty R	Relatively minor changes and/ or uncertainty A	On target G
Cost	Actual or forecast cost materially over initial approval or contract value Cost estimates currently materially uncertain	Delivered just over cost Currently forecasting a possible small cost overrun	Completion within initial approval and contract value (or forecasting with reasonable certainty)
Time	Actual or forecast delivery well outside timescale	Actual or forecast delivery with a small overrun in time	Actual or forecast delivery to time or ahead of time
Quality	Did not deliver to the required scope Scope has increased or decreased significantly	Delivered to the original scope or minor loss of function Currently minor changes forecast in scope during project	Delivered to scope in the business case No residual issues Forecasting to deliver to business case

Source: Audit Scotland

Project management and governance

- We assessed the project management and governance of each project taking into account the main features of good project management practice summarised in Exhibit 2 below (Appendix 3 of our main report gives further detail). For each project, we assessed project management capability on a scale ascending from “Basic” through “Adequate to improving” to “Advanced”.

Exhibit 2

Good practice in major project management

Good practice area	What this covers
Vision and direction	Strategic alignment, business case and sponsor commitment
Planning	Governance, risk management and procurement strategy
Execution	Project management, resources and people and procurement
Measuring & monitoring	Benefits management and reporting
Business acceptance	Change management and stakeholder management.

Appendix 3 in our main report details the model of good project management practice

Source: Audit Scotland

- We have based the good practice statements on advice from Ernst & Young, whom we commissioned to help complete our reviews of individual projects. We took into account other published sources of advice, guidance and good practice on major project management, as detailed

in paragraph 12 of our main report. We have also published separately a good practice checklist for public bodies, which gives further information.²
















Project summaries

9. We reported our findings on each project to the Senior Responsible Owner for it. The remainder of this document reproduces the summary findings provided in each case. For each project we give:
- A brief description of the project
 - A summary of our main findings
 - A table incorporating our traffic light assessment and commentary on progress towards cost, time and quality targets
 - A further table incorporating our assessment and commentary on project management and governance in each of the five good practice areas.

² *Good practice checklist for public bodies*, Audit Scotland, June 2008 (<http://www.audit-scotland.gov.uk>) .

Completed projects

Summary of five completed projects against cost, time and quality targets

Project	Final cost £m	Completed	Procured by	Description	Outcome compared to plan		
					Cost	Time	Quality
Beatson Oncology Unit	87	2007	NHS Greater Glasgow & Clyde	New-build regional centre of excellence for oncology services for the West of Scotland.			
Upgrade to Polmont Prison	39	2007	Scottish Prison Service	Provision of new cell block and regimes accommodation.			
New SASA HQ at Gogarbank	33	2006	Scottish Agricultural Science Agency	New headquarters building and facilities for specialist scientific, technical and support services.			
Playfair project phases 1&2	32	2004	National Galleries of Scotland	Refurbishment of the Royal Scottish Academy building and provision of a new underground link to the National Gallery of Scotland with education facilities and visitor services.			
A80 - Auchenkilns	22	2007	Scottish Executive Transport Group	Upgrade of the existing road in preparation for future M80 motorway works and the removal of an existing junction.			

See Exhibit 1 in the Introduction for definitions of R-A-G

Source: Audit Scotland

Beatson Oncology Unit



Infrastructure works to provide a regional centre of excellence for oncology services for the West of Scotland.

Note: We reviewed this project in November 2007.


Summary findings

1. This project delivers Phase II of the relocation of the Beatson Oncology Centre from the Western Infirmary in Glasgow, providing an expanded specialist oncology facility serving the West of Scotland from a site at Gartnavel General Hospital. The new facility increases the number of Linear Accelerators (LINACs) from eight (five housed in Phase I and three housed in the Western Infirmary) to 11, with additional space for an accelerator to allow for a replacement programme. In addition, it provides for the first time co-location of a number of different specialist oncology services, including haemato-oncology.
2. The project includes: integration of services; additional LINACs; reduction in treatment bottlenecks; improved patient accommodation; more efficient use of resources; and more collaborative working between the disciplines involved in oncology treatments.
3. The project went through the formal NHS planning process with an outline business case (OBC) in September 2001, a full business case (FBC) signed off by the NHS Board in December 2003 and the NHS Capital Investment Group in January 2004. The budget set for the construction was based on cost models.
4. The construction was scheduled for delivery in three sections. There were time overruns on two sections
5. Contract costs increased by 13%.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> <p></p>	<p>At original OBC in 2001, the cost of construction was estimated at £40.1m (Q1/2001 £40.7m), using a 2001 tender price index. By the FBC in November 2003, when the contract had been tendered for July 2004 start, the estimated cost was £50.2m (Q1/2001) prices.</p> <p>This is a design and build fixed price contract. The contract sum was agreed at £45,066,013 ex VAT within approved full business case budget of £86,670,025 inclusive of VAT, fees and equipment. Changes and recognition of prolongation were progressed only on the understanding that the necessary budget was available to accommodate them. The Cost Consultant report (Sept 07) identified additional costs under the following headings:</p> <ul style="list-style-type: none"> • Employer changes £3.4m • Prolongation £0.9m • Disruption costs £0.9m
<p>Time</p> <p></p>	<p>At FBC approval the project was scheduled for practical completion by 1 July 2006. It has run 8 months late, completing at 2 April 2007. However, the contractor was granted extensions of time on each of the three sections of the contract.</p> <p>Extra time was needed for:</p> <ul style="list-style-type: none"> • design development issues affecting secure accommodation of radioactive materials as a result of the new regulatory regime effective from 1 January 2006 and the guidance available from National Counter Terrorism Security Office • change in scope of the project to provide dual MRI machines rather than the proposed MRI and CT scanner as a result of the workforce planning issues surrounding recruitment and retention of imaging staff and more efficient working practice of consultant staff. • protection measures and the location of the aseptic pharmacy and Brachytherapy treatment, as well as issues over the HEPA filtration

Delivery to cost, time and quality *(continued)*

Assessment	Commentary
<p>Quality</p> <p></p>	<p>Between the outline business case and the full business case, the area requirement of the project increased from 14,251m² to 16,375m² (17 %). Half of this was due to changes in design guidance, with the remainder spread between increases in circulation space, recognition of underestimation of circulation space and negotiations with users over the space they required to deliver the service. The area change added £7m to the estimated costs of the project.</p> <p>There are issues with heavy radiation protective doors required in this specialist building. These have caused problems with automatic closing devices, which must be resolved.</p> <p>The project has benefited from the involvement, at an early stage in the design and construction works, of an art coordinator and the charitable funding partners thus ensuring an overall enhancement of space and therapeutic design.</p>

Project management and governance

Project area	Assessment	Commentary
<p>Vision & direction</p> <ul style="list-style-type: none"> Strategic alignment & business case Sponsor commitment 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> Outline and full business cases show clear vision for project. The objectives for the project are linked to the national cancer care strategy and for west of Scotland Scope for OBC to have specified objectives more clearly with gaps in analysis of risk and procurement options Accountability between SRO, Project Sponsor and delivery team
<p>Planning</p> <ul style="list-style-type: none"> Governance Risk management Procurement strategy 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> Project Board met monthly over most of project life; Project team met fortnightly Risks register in place and reported to the Project Board on a quarterly basis. Procurement strategy to use competitive design and build with shadow design team advising client.
<p>Execution</p> <ul style="list-style-type: none"> Project management Resources & people Procurement 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> Internal project manager with quantity surveying background supported by external cost consultants. All client instructed changes reported to project board for approval Shadow design team employed to advise on design specification for Invitation to Tender (ITT) and exemplar designs for ward layout and footprint fit. Pre qualification questionnaire identified 9 potential suppliers, achieving competitive tenders from three, out of shortlist ITT of five
<p>Measuring & monitoring</p> <ul style="list-style-type: none"> Benefits management Reporting 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> Benefits from the project are set out in FBC along with means of measurement. Post Project Evaluation is to be undertaken. Project Board receive monthly reports outlining progress as well as updates on risk register.
<p>Business acceptance</p> <ul style="list-style-type: none"> Change management Stakeholder management 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> New facility led changes in operations, which drove design development Stakeholders engaged through meetings across West of Scotland. Wide stakeholder representation on Project Board

Upgrade to Polmont Prison – phase 2




Provision of new houseblock (Monro Hall)

Note: We reviewed this project in February 2008.

Summary findings

1. The project was for the provision of: a 4 storey 284 design capacity, maximum 356 place houseblock, with associated facilities/services directly connected to a new link corridor; a 14 cell segregation unit; 2 new all weather pitches: new wall and fence to connect to the prison boundary; a regimes facility directly connected to a new link corridor; demolishing specified existing buildings and enabling works; and providing new utilities/services infrastructure as required.
2. Design and build contract awarded to Skanska 13 December 2004 under framework agreement. The contractor has already tendered through the agreement for set elements of costs (overheads, risk, hourly rates and profit). The contractor, as far as is possible, competitively tenders works packages, with the package tender prices determining the contract price on which the contractor accepts the risk at commitment to construct.
3. At Approval Gateway (AG) 1, when the framework contract was given to Skanska the estimated costs was £42.7m. Following detailed design work the estimate had dropped to £38.7m at AG2. At AG4, after package tender, the estimate reduced to £38.7m, including risk allowance. The final cost was £38.5m.
4. The post project evaluation on the project is due to be done shortly. Feedback on the project has been positive.

Delivery to cost, time and quality

Assessment	Commentary
Cost 	Saving of 10% compared to business case (£42.7m versus £38.5m). Contract outturn £38.5m versus £38.7m "tender" sum.
Time 	Three weeks over on a programme of about 18 months. No significant operational challenges as delay covered Christmas holiday period.
Quality 	No post project evaluation – but one in prospect after one year. Positive feedback from staff and inmates, said to be "delighted". Project manager anticipated caution from staff, but no problems in the event. We have seen a copy of the evaluation of the Phase 1 project. Positive defects management and commitment to learning from experience with Skanska representative on site for six months post completion.

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Business case for the project links to the SPS Estate Strategy ▪ Sponsor of appropriate experience, seniority and influence in place to support the project ▪ The project forms part of the SPS strategy to deliver correctional excellence 2002 ▪ The project is supported and monitored by the SPS Estates Development Group comprising the key directors within SPS
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Roles and responsibilities are defined and documented ▪ Risk management integrated into the core processes of the prison service with project risk identification confined to construction risk. ▪ Documented procurement strategy encompassing a framework agreement with three contractors for delivery of the prison upgrading programme
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change control is present, an approval gateway process operates, through which to project and budget change are approved/rejected by estates development group. ▪ In-house professional staff provides project management, with cost consultancy services bought in. ▪ Framework contract arrangements arranged through OJEU rules. Competitive tendering of works packages and open book accounting.
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ SPS employ a defined monthly cycle of reporting on projects to which project managers, contractors and advisors must report on pre-set dates. ▪ There are regular monthly project managers meetings that PMs are required to attend.
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ The SPS Estates Review 2002, endorsed by Scottish Ministers, set the case for change. ▪ Stakeholders engaged through Estates Review and the development of the contributory projects. ▪ Key stakeholders formally signed off the Edinburgh Prison Development plans, which the project forms part.

New Scottish Agricultural Science Agency HQ at Gogarbank

Construction of new headquarters building and facilities for specialist scientific, technical and support services for implementation and enforcement of legislation in areas of crops and environmental regulation

Note: We reviewed this project in October 2007.

Summary findings

1. Project, completed in December 2005. Initial cost estimates (£14-24m) proved to be understated, but the construction phase of the project was completed on budget within the approved limit of £33m.
2. Fully designed, lump sum fixed price contract, with five compliant bidders.
3. Strong contractor, project management and client capability.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> <p>R</p>	<p>Ministers approved the project should proceed in 2002 at an estimated cost of £24m. There was no adequate provision for risk or uncertainty within this initial estimate.</p> <p>Ministers approved a revised business case at £32m in 2003. Following tenders the estimated cost increased to £33m in 2004 and the project was delivered within this in 2005</p>
<p>Time</p> <p>A</p>	<p>Some initial slippage in programme during planning, but 18 month construction contract completed on time in December 2005.</p>
<p>Quality</p> <p>G</p>	<p>Evidence that new building met project objectives. Improvement in operational performance of SASA, based upon previous year following first full year of occupancy. Highest satisfaction rating in staff survey for Scottish Executive bodies relating to physical working environment and accreditation to BS EN ISO 9001:2000 across full range of activities.</p>

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Cost benefits analysis of strategic options undertaken, with clear rationale for chosen option. ▪ Business case presented in ministerial briefing papers in 2000 and 2002. £24m funding approved in 2002 spending review. ▪ Clear separation of roles between sponsor and deliverer. Strong personal commitment from both SRO and project sponsor.
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Roles and responsibilities defined within SASA and also the wider project team, including levels of authority ▪ Risk register in place which is comprehensive and identifies risk owner at organisational level. No formalised escalation process for risks. ▪ Lump sum fixed cost contract, with detailed design, 5 compliant bidders for construction contract. ▪ The initial proposals in 2000 and 2002 made no adequate provision for risk or uncertainty within initial estimates
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Project execution plan in place, which identifies areas of responsibility. ▪ Well resourced team, both in terms of quantity and calibre/capability. ▪ Contracts and responsibilities aligned. ▪ Effective competition (as Planning above)
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Declared project objectives achieved including improved operational performance following first year of occupancy of new building and ISO quality accreditation achieved. ▪ No formal benefits realisation plan in place and no formal post occupancy evaluation have been completed. ▪ Reporting arrangements provided in detail in execution plan
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Project brief provided, with relevant information, evidence of ongoing involvement with staff. ▪ Outline Business Case considered impact on staff. ▪ Formalised stakeholder plan not provided.

Playfair Project – Phases 1 and 2



Refurbishment of the Royal Scottish Academy (RSA) and the design and construction of an underground link connecting RSA and the National Gallery of Scotland

Note: We reviewed this project in November 2007.

Summary findings

1. This project comprises two elements, the refurbishment of the Royal Scottish Academy (RSA) building to provide world-class exhibition spaces and the design and construction of an underground link connecting RSA and the National Gallery of Scotland providing education facilities and visitor services appropriate to the institution.
2. Project funding was from a variety of sources; Scottish Executive £10.4m; Heritage Lottery Fund £7.4m; Other substantial donations raised through fundraising by National Galleries of Scotland, £15m
3. The project was carried out in phases, with the full project completing by August 2004, seven months ahead of the original target of February/March 2005. The decision to carry out the RSA and link works together initially indicated a potential saving of one year but this dropped to seven months. Shortening the programme duration did not affect costs of the project.
4. Building into Princes Street Garden required specific authority of an enabling act of parliament for both land transfer from the City of Edinburgh Council and building. There was a protracted parliamentary bill process: some 22 months, leading to delays on works packages and additional project costs estimated at £1.6m by the cost consultants.
5. The project cost increased by 18% from initial commitment to completion. This was due to a number of factors, including: the Bill delay; changes in specification by the NGS; a late decision by the NGS to fit out the restaurant rather than leave it to the franchisee; the works on the NGS new wing completed in the 1970's were found not to be as per the record drawings, presenting problems in the new ground works. Some increases met conditions of funding requiring a small extra cost in relation to the external funds offered. The restaurant fit out decision, agreed with Scottish Executive, reduces future calls on grant funding.
6. The client assessment of delivery to quality is scored 9 out of 10 on the post project evaluation and the project has been generally well received. Visitor numbers to the whole National Gallery complex have reached 950,000 against a target 690,000, with the RSA attracting around 500,000 visitors a year against an estimate of 240,000.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> 	<p>The project cost was estimated at £25.7m at the point that the Scottish Executive approved the project in November 2000. This was in cash costs with an inflation allowance on construction of 11.6%</p> <p>Estimated costs had risen by 4.2% to £26.8m by January 2001, ahead of the tender exercise. The outturn costs in the PM's Report 46 is £32.4m a further 21.0% increase. However, this includes £1.1m in fundraising costs not included in earlier estimates. On a comparable basis the increase is 17.1%.</p> <p>Poor visibility of costs breakdown – e.g. construction cost, to fundraising costs should be clearly defined.</p>
<p>Time</p> 	<p>The project completed ahead of the original programme target by some seven months. However, the plan for the project changed to deliver the RSA works and link element together.</p> <p>The change was initially estimated to advance the programme by one year. The performance of delivery ahead of schedule by seven months has therefore to be seen in the context of a revised potential project delivery of March 2004.</p> <p>The project experienced delay in securing the necessary legislation to allow building into Princes Street Garden (22 months). This required a private bill and the NGS were critical of the time taken for the progress of this through parliament. While the delay on the bill did not affect the delivery of the project to time it did impact on the costs, affecting 18 of the separately tendered works packages.</p> <p>Delay in progressing contracts exposed the project to price inflation.</p>

Delivery to cost, time and quality *(continued)*

Assessment	Commentary
<p>Quality</p> <p>A</p>	<p>The post project evaluation records the project delivering to expected quality although a concrete slab did not meet the design specification. NGS explored the possibility of seeking redress but it proved to be more costly than any remedy achieved.</p> <p>The project scope changed during the construction period, including:</p> <ul style="list-style-type: none"> • Additional education rooms included in the project to attract a substantial donation; • The decision to fit out the restaurant area rather than leave it to the franchisee; • A change in limestone flooring to provide better wearing and reduce lifetime costs.

Project management and governance

Project area	Assessment	Commentary
<p>Vision & direction</p> <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ The project is linked to the NGS vision to provide exhibition spaces of international quality ▪ The Weston link meets the NGS wish to have educational and visitor facilities appropriate to the sites importance
<p>Planning</p> <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Risk management process in place and the risk register was reviewed and amended regularly ▪ There was a considered procurement strategy which was altered in the light of market response ▪ Roles and responsibilities have been defined and documented
<p>Execution</p> <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change control embedded in the construction management process. ▪ Professional external resources employed for the project to secure effective project management ▪ All aspects of the project were secured using effective competition.
<p>Measuring & monitoring</p> <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ No benefits management plan in place ▪ Regular reporting was required to senior managers and to the Trustees.
<p>Business acceptance</p> <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Stakeholders were actively managed to secure the funding for the project and to ensure their commitment throughout its procurement ▪ A stakeholder engagement plan is in place - and senior managers realistically estimate the necessary time commitment.

A80 Auchenkilns




Construction project involving the upgrade of the existing road in preparation for future M80 motorway works and the removal of an existing junction (Auchenkilns roundabout).

Note: We reviewed this project in November 2007.

Summary findings

1. The aim of this project was to upgrade the existing A80 Auchenkilns junction in preparation for the future planned M80 motorway project. The project is now complete in readiness for the future M80 motorway project. However, the project was subject to delay due to one of the slip roads collapsing during construction. The cost of the delay has been met by the contractor due to the design and build contract form of procurement.
2. The cost of the project is approximately £21.9m which inclusive of VAT produces an overall cost of approx £700,000 (three per cent) over the allocated budget for the project.
3. The project has been subject to resource challenges with two project managers leaving resulting in the project sponsors becoming more actively involved in the management of the project.
4. A selection of documentation was unavailable for review such as the business case, benefits realisation plan and project risk register and assurance cannot therefore be given in these areas.

Delivery to cost, time and quality

Assessment	Commentary
Cost 	<p>The final estimated cost of the project is £21.9m which is exclusive of VAT. The total cost would then rise to approx £25.7m, which is £0.7m over the project budget.</p> <p>Through the design and build contract additional costs will be absorbed by the contractor. The additional costs are estimated to be significant due to the delay caused by the collapse of one of the slip roads.</p>
Time 	<p>The project has been subject to a significant delay when one of the slip roads collapsed. This caused an approximate 14 week delay (resulting in the programme completing at end of December 2005). This has not, however, impacted upon the cost to Transport Scotland.</p> <p>The cost of this delay has been absorbed by the contract team (Morrison Construction Services Ltd and Tony G & Partners Ltd) who, as part of the contract arrangements, were also responsible for ensuring the design and construction was fit for purpose.</p>
Quality 	<p>The quality procedures of the appointed contractors have been reviewed and assessed by Transport Scotland to ensure that they met with the required ISO 9000 standard. The road meets the technical standards set by Transport Scotland.</p>

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Project was a tactical response to mitigate the delay and construction risk inherent in the proposed M80 project. ▪ Objectives of project linked to Scottish Executive Major Road procurement and traffic management strategy. ▪ Sponsor of appropriate experience, seniority and influence in place to support the project.
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Dedicated roles allocated including IDM Board, technical project sponsors and project management team. ▪ Risk management transferred to contractor. ▪ Design and build contract intended to pass additional costs onto the contractor.
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change managed via contract variations. ▪ Project manager turnover presented resource challenges, met by greater involvement of project sponsor ▪ Competition weakened by two of four invited tenderers withdrawing
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Project part of larger scheme and as a result no separate cost benefit analysis performed. ▪ Regular reporting to senior managers produced in a timely manner.
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Opportunity to instigate change taken by project sponsor when required. ▪ Stakeholders engaged prior to and during project delivery.

Current projects

Summary of 15 current projects' progress towards cost, time and quality targets

Project	Latest cost £m	Stage at review	For delivery in	Procured by	Description	Progress compared to plan		
						Cost	Time	Quality
M74 Completion	692	Procurement (now at delivery)	2011	Transport Scotland* (<i>Glasgow City Council</i>)	New build, 6 lane urban motorway, extending the M74 west from the eastern edge of the Glasgow built up area to the M8 near the south end of the Kingston Bridge.	R	R	G
Glasgow Airport Rail Link Project	300 - 400	Procurement	2011	Transport Scotland* (<i>Network Rail</i>)	A new rail link to Glasgow Airport, combined with upgrading of a section of the Network Rail Paisley Corridor route	R	A	A
Edinburgh Waverley Infrastructure Works	150	Delivery	2008	Transport Scotland* (<i>Network Rail</i>)	Rail capacity enhancements to provide 4 extra train paths an hour through Waverley Station and enable other projects e.g. Airdrie-Bathgate and Stirling-Alloa-Kincardine	G	G	G
A876 Upper Forth Crossing at Kincardine	120	Delivery	2008	Transport Scotland	A new bridge to reduce congestion at Kincardine and allow refurbishment to existing bridge with minimal disruption	G	A	G
Stirling-Alloa-Kincardine Rail Link	85	Delivery	2008	Transport Scotland* (<i>Clackmannan-shire Council</i>)	Re-opening of disused railway to provide passenger services from Stirling to Alloa and allow diversion of coal from the Forth Bridge to be replaced by commuter services	R	R	R
A898 Erskine Bridge	29	Delivery	2010 & ongoing	Transport Scotland	Long term strengthening and maintenance programme commenced in 1996	R	A	G
Scottish Crime Campus	63	Inception	2011	Scottish Government	A new purpose built crime campus facility at Gartcosh	R	A	A
HMP Edinburgh Phase 3	25	Delivery	2008	Scottish Prison Service	A new gatehouse, games hall, stores and administration accommodation and upgrade to the main link corridor for the prison.	R	A	A

Project	Latest cost £m	Stage at review	For delivery in	Procured by	Description	Progress compared to plan		
						Cost	Time	Quality
Parliament House Master Plan	62	Delivery	2012	Scottish Court Service	Major essential maintenance and some refurbishment within Parliament House, a complex of very important, historic and Grade A listed buildings	R	R	G
State Hospital Re-development	85	Procurement (now at delivery)	2010	The State Hospitals Board for Scotland	Redevelopment of a high security residential and patient treatment centre through new build construction/ adaptation on the existing hospital site near Carstairs	G	G	G
Golden Jubilee Heart & Lung Centre	14	Delivery	2007	National Waiting Times Centre Board	Fitting out/ reconfiguring the shell of an empty floor and providing/ equipping new medical facilities within an existing hospital	A	A	G
Royal Museum Masterplan	46	Procurement	2011	National Museums Scotland	Complete refurbishment of the Royal Museum in Edinburgh	G	G	G
National Intranet	38	Delivery	2010	Scottish Government	The national schools broadband intranet for Scotland's 800,000 teachers and pupils.	G	A	G
eCare	33	Delivery	2009 & ongoing	Scottish Government	IT project to enable information sharing and collaboration between Health Boards and councils (to support single shared assessments and child protection messaging).	A	A	G
Royal Botanic Garden Visitor Centre	16	Delivery	2009	Royal Botanic Garden Edinburgh	A new purpose built visitor centre at the West Gate entrance to the existing site	G	A	G

See Exhibit 1 in the Introduction for definitions of R – A – G.

* Transport Scotland became the principal funder and decision maker for transport projects on its creation in 2006. In most cases, it has delegated contracting authority and delivery to third parties, as indicated in the table.

Source: Audit Scotland

M74 completion

New build, 6 lane urban motorway, extending the existing M74 westwards approximately 8 kilometres (5 miles) from the eastern edge of the Glasgow built up area to the M8 south of the Kingston Bridge near the city centre

Note: These are the findings at the time of our review of this project in November 2007. Case Study 1 on pages 22 and 23 of our main report provides updated information about the project, including Ministers' decision to proceed with the main construction report in March 2008. ³

Summary findings

1. At the time of our review no construction contract has been awarded and the achievement of the current programme and cost targets for it remains correspondingly uncertain. Before the current (still live) tender process there were indications that the total cost may exceed the publicly announced estimate of £500m. We have not seen the indicative tender price, which is commercially confidential at this time.
2. A contract award is possible in January although depends on the outcome of the current tender process which involves only one bidder which presents risks to value for money and affordability. Transport Scotland is using a shadow bid to "cap" the tender and maintain competitive tension. This appears to provide a reasonable vfm test in the circumstances.
3. There is scope to review and assess lessons from the competition process in this case. Other projects may now be at risk from weak competition and it is important that Transport Scotland should mitigate any such risks.
5. There is assurance for aspects of the management and governance processes for the project although a number of risk areas have been identified.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> <p>R</p>	<p>Current cost projections are around double the estimate when Ministers approved the project in 2000. However lessons were learned from Holyrood on the need for more prudent cost estimates, which were introduced in 2003. Transport Scotland has moved away from point to range estimates with inflation built in and an allowance for uncertainty.</p> <p>The project cost will remain highly uncertain until the current tender process with a single consortium tender has been completed.</p> <p>It is not clear that the project costs can be contained within the current publicly announced estimate of £500m</p>
<p>Time</p> <p>R</p>	<p>The extension of M74 has been subject to a long development timescale, going back to the 1960s. The Scottish Executive accepted the project as a trunk roads scheme in 2000, but the report of a public local inquiry in March 2004 did not recommend going ahead with it. Ministers overruled this in March 2005 but the project was then subject to a legal challenge. This was later dropped but it prevented procurement starting for more than a year until August 2006. By this time the project had to compete with other significant construction projects (UK and worldwide) resulting in a decision to proceed to a tender process with only one bidder. Until a contract has been awarded the intention to complete construction by the end of 2011 remains highly uncertain.</p>
<p>Quality</p> <p>G</p>	<p>Under the proposed form of contract (design and build) any contractor will be strongly incentivised to provide an efficient design which meets the normal and well established engineering standards.</p>

³ *How Government Works: Review of major capital projects in Scotland*, Audit Scotland, June 2008 (<http://www.audit-scotland.gov.uk>).

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Subject to appraisal using standard tests of transport economic efficiency ▪ Several assessments of the physical, environmental, and community impact of the project ▪ Clear commitment to the project from the 3 partner councils and the Scottish Government
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Formal risk management plan, but not fully embedded ▪ Weak accounting for risk in cost estimates ▪ Total cost has doubled since acceptance in 2000 ▪ Project dates back to 2000 and beyond, with 1 health-check (05/07) and 1 gateway review (08/07) ▪ Procurement strategy did not anticipate that market factors would weaken competition
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ TS project team has significant experience (informed client) & is confident that GCC project team is performing ▪ Small TS team, well understood roles ▪ Scope to prepare a project resource schedule and plan for this headline project ▪ Carefully considered approach to competitive dialogue with the single bidder
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ No single business case document - lack of clarity around the benefits of the project, risk that benefits not continuously reviewed, sustained and articulated ▪ Not clear that cost reporting for this flagship project was rigorous enough
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change management process linked to the risk register ▪ Trigger points for escalation do not appear to be defined, though escalation custom & practice appears clear

Glasgow Airport Rail Link Project



The Glasgow Airport Rail Link (GARL) project involves the construction of a new rail link to Glasgow Airport, with concurrent upgrading of a section of the Network Rail Paisley Corridor (PCR) route

Note: We reviewed this project in November 2007.

Summary findings

1. Established governance arrangements have been agreed the foundation of which being a Memorandum of Understanding between the three main parties involved: Transport Scotland, Network Rail and Strathclyde Passenger Transport. The governance arrangements are still in their infancy but are developing.
2. Progress is also being made with regards to other project management control areas such as risk management where individual risks at work stream level are being merged into an integrated project risk register. Although integrated risk management procedures are in the process of being adopted by each party involved, the biggest area where further development and agreement is required is with regards to the approach adopted towards modelling risk.
3. This has resulted in the integrated cost model having a varying degree of ranges based on the particular risk modelling approach adopted. As a result, an integrated cost model for the project has still to be agreed.
4. The GARL only element estimated cost increased by 8% in January 2007 and by 1.2% in May/June 2007. The inclusion of the PCR element in the cost estimates in July 2007, added a further 23% to costs. Consequently, there is currently a funding gap between the original bill costs (in 2005 of £160m) and the latest realistic cost range estimate. Based upon the variety and range of cost estimates that have been produced for the integration of PCR with the GARL project, it is currently difficult to ascertain the current realistic costs of the project.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> 	<p>The realistic cost model has yet to be determined due to the funding of Network Rail being dependent on Office of Rail Regulation (ORR) review, scheduled in 2008.</p> <p>The originally anticipated budget for GARL only element was £160m at bill stage. This rose by 8% (£10,059,000) in a revised estimate in January 2007 and by a further 1.2% (£1,586,000) in June 2007. The GARL PCR costs rose by a further 23% (£31,642,000) in July 2007.</p> <p>The combined costs have risen to approx £210m (based on original £160m for the GARL extension and £48m for PCR element). However, with the integration of the Paisley Corridor Route (PCR) works, the total integrated cost model has still to be agreed and validated by the project board.</p> <p>The true costs of the integrated GARL project have not yet been fully validated but progress is being made with regards to the agreement of actual integrated costs of the project.</p> <p>One problematic area is the agreement of a consistent methodology of modelling risk. These have yet to be agreed between all parties, as there is a variance in the absolute costs due to the uncertainty over the risk modelling approach.</p>
<p>Time</p> 	<p>Overall project timescales have been affected by the June 2007 decision to merge the GARL and PCR projects. Merger is sensible in part because the previous separation would have resulted in GARL signalling elements being reworked in the subsequent PCR project.</p> <p>The current estimate of completion for the combined projects is January 2012; this may change but previous estimates (Ministerial statement in June 2006) were for completion of GARL by end 2010, or up to a year earlier. While GARL elements may be subject to a degree of delay the decision to integrate the projects reflects in part an assessment that the PCR works were more urgent than previously estimated. The PCR works are therefore being brought forward compared to previous estimates.</p>

Delivery to cost, time and quality (continued)

Assessment	Commentary
<p>Quality</p> <p>A</p>	<p>The project began as a direct rail link to Glasgow Airport but has expanded to include the upgrading of the Paisley Corridor Route as an integrated project in order to avoid subsequent reworking of parts of the new route shortly after opening.</p> <p>The integration of both the GARL and PCR projects has identified economic benefits in reducing the replacement of nearly new equipment and delays on the route during the later upgrading. However, the downside being the delay of implementation of the rail connection to the airport by around one year, with the consequent loss of benefits to passengers and road users.</p>

Project management and governance

Project area	Assessment	Commentary
<p>Vision & direction</p> <ul style="list-style-type: none"> Strategic alignment & business case Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> Original business case for the GARL project identified a number of benefits. The tangible benefits of the integration of both projects have been identified and assessed. There is clear top management support and commitment from three stakeholders.
<p>Planning</p> <ul style="list-style-type: none"> Governance Risk management Procurement strategy 	<i>Basic practices</i>	<ul style="list-style-type: none"> Risk tolerance levels have not yet been formally established and agreed between the delivery agents. Model used to calculate risk within the cost estimates needs to be agreed between all delivery agents. Estimated base costs for GARL rose 8% from Bill submission to revised cost estimate in January 2007 and a further 1.2% to May 2007. Inclusion of PCR has added a further 23% in costs from May 2007 to July 2007 Costs associated with PCR element remain uncertain pending ORR funding review.
<p>Execution</p> <ul style="list-style-type: none"> Project management Resources & people Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> A coordinated project master programme is in place. Existing change control procedures in place for delivery agents. Dedicated resource team being assembled from three delivery agents to provide relevant rail and project management experience.
<p>Measuring & monitoring</p> <ul style="list-style-type: none"> Benefits management Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> The original benefits of the GARL project have been identified and assessed. Defined reporting structure in place including weekly progress reports to key stakeholders. Defined escalation process in place.
<p>Business acceptance</p> <ul style="list-style-type: none"> Change management Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> Formally agreed change control procedures are yet to be established for all parties. Ongoing stakeholder communication in place with key external stakeholders identified and engaged.

Edinburgh Waverley Infrastructure Works




Infrastructure works to provide capacity enhancements to provide four extra train paths per hour through Waverley Station and enabled by other projects including Airdrie-Bathgate and Stirling-Alloa-Kincardine enhancements.

Note: We reviewed this project in November 2007.

Summary findings

1. Project managed effectively and on schedule for completion within time, cost and quality with the exception of the redevelopment of Waverley steps.
2. Questions on the robustness of risk assessment and contingency, with Transport Scotland having a £25m client contingency in addition to the project contingency, and the resultant challenge on value for money. Currently over £20m of savings forecast on project at completion.
3. Redevelopment of the Waverley Steps is primarily based upon ensuring compliance with Disability Discrimination Act (DDA). However the proposed and revised solution is heavily focused on escalators, which are non-DDA compliant. Option of alternative routes to meet DDA not considered in Transport Scotland Investment Decision Making Board paper (IDM(07)25).

Delivery to cost, time and quality

Assessment	Commentary
Cost 	Project completing to schedule – 76% of contract works now completed. Expected completion date April 2008. Cost estimates included significant contingency now with low probability of being used.
Time 	With exception of Waverley steps and additional rework all key project milestone have been achieved. Waverley steps have a significant degree of uncertainty of achieving revised project dates and extend beyond planned project completion date by 2 years. This is a minor part of the project but highly visible to passengers.
Quality 	Additional work has been carried out against initial scope. Large contingency risked potential scope creep and lack of challenge in value for money in change control. Additional work was carried out which did not require escalation for additional funding.

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Short term option implemented to provide increased capacity, whilst keeping long term options open ▪ Business case not revisited since December 05. ▪ No process in place to review the interdependencies between projects and the related costs and benefits. ▪ Accountability between SRO, Project Sponsor and Delivery partner.
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Quarterly review meetings, with senior Transport Scotland and Network Rail staff to challenge project ▪ Clarity of roles and responsibilities. Contracts and responsibilities aligned. ▪ Delegated authorities and escalation process defined within implementation agreement with Network Rail. ▪ Risk register (threats and opportunities) in place
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Informed client within Transport Scotland. No evidence of impact from change control on business case and benefits not routinely or formally reviewed. ▪ Sufficient resources, both in terms of quantity and calibre/capability, are available to the programme ▪ Transport Scotland project manager located within Waverley site.
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Reliance on other projects for benefits, although not reviewed. Project focus is on meeting project objectives not benefits. ▪ Panel reviews track both original and revised plans. ▪ Implementation working group minutes provided.
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Stakeholder communication plan not provided. ▪ Detailed lessons learnt workshop held and report produced. ▪ Network Rail have individual and collective meetings with sub-contractors. ▪ With Waverley steps the wrong stakeholder was identified as the decision maker.

A876 Upper Forth Crossing at Kincardine Project




Construction of new bridge to reduce traffic congestion at Kincardine and allow refurbishment to existing bridge with minimal disruption

Note: We reviewed this project in November 2007.

Summary findings

1. Effective project management and controls on cost, time and quality with overall progress to schedule.
2. Contractor incentivised to meet schedule with primary risk from adverse weather.
3. Overall effective, with example of good practice risk management, although lack of clarity on scope/basis of risk transfer to contractors.

Delivery to cost, time and quality

Assessment	Commentary
Cost 	Project has remained within budget since approval of £120M in March 2005.
Time 	Some delays to groundwork caused by adverse weather. Bridge is approx 35 days ahead of schedule. Contractor meets delay costs. Primary risk from adverse weather.
Quality 	Quality of work checked by contractor and certified by designer. Non conformance reports (NCRs) raised to track quality issues. To date 190 NCRs raised with 80% resolved.

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Business case exists ▪ Objectives linked to strategy but not regularly updated i.e. static view ▪ Sponsor with experience, seniority and influence in place to support the project
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Project governance plan in place, clear roles and responsibilities, delegated authority and sign off levels. ▪ Ongoing interaction and challenge between TS and project team including site visits and meetings. ▪ Construction risks register with responsibility at organisational level of risk owners. No formalised project level risk register.
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Advanced practices</i>	<ul style="list-style-type: none"> ▪ Project execution plan presented, with strong challenge on progress and completion to time and quality. ▪ Formalised change control in place. Focus on relationships with contractors to develop trust and good working arrangements ▪ Project team reviewed CVs of key team members for effective team dynamic
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ No evidence of a formalised benefits realisation plan. ▪ No formalised ownership of benefits. ▪ Lack of formalised process in place for benefits and business case to be reviewed as part of change control. ▪ Reporting provided routinely on progress, financial, design and construction.
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Open communications encouraged to develop and maintain a problem solving approach rather than adversarial and claims driven culture. ▪ Ongoing stakeholder communications although no formalised communications or stakeholder plan presented. ▪ Contractor challenged to demonstrate has consulted with stakeholders.

Stirling-Alloa-Kincardine Rail Link




Re-opening of disused railway to provide passenger services from Stirling to Alloa and also allow diversion of coal from the Forth Bridge to be replaced by commuter services

Note: We reviewed this project in November 2007. Case Study 2 on page 24 of our main report provides further information about the project. ⁴

Summary findings

1. The initial cost of £35M in 2005 has increased to Anticipated Final Costs (AFC) which have been repeatedly revised to a current estimated final cost of up to £85M with a start of service in May 2008.
2. This cost and programme escalation is primarily due to weak project governance and misaligned roles and responsibilities. Also no formalised requirement specification, change and cost controls, or a resource linked execution plan prior to Transport Scotland taking over direct control in June 2007. As the preliminary design progressed changes were required and resulted in significant scope change, There were ineffective controls in place to address and manage the process effectively, which led to poor performance on cost, time and quality.
3. Since June 2007 project management and governance has improved, with more effective risk management. However this has in turn uncovered significant risks not previously captured and increased the anticipated AFC. Risks to the delivery of the revised cost and schedule remain although there is evidenced they are understood.
4. Whilst project control has improved under Transport Scotland, the escalation process for Transport Scotland to intervene and take control is not formalised. The timing of the Transport Scotland intervention was in part the result of a late requirement from Her Majesty's Railways Inspectorate (HMRI), which resulted in a further programme delay.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> 	<p>The technical audit of the project by independent specialists in June 2007 provided a revised cost estimate to completion and also identified risks which were not previously captured in the plan. It also critically reviewed contract claims.</p> <p>There was no formalised change or cost control in place prior to Transport Scotland taking over control of the project in June 2007.</p>
<p>Time</p> 	<p>Transport Scotland undertook a detailed technical audit of the project involving independent specialist expertise. This provided a revised schedule for the project. The project completion date has moved from Winter 2005, at the time of contract award to the current estimate of May 2008.</p> <p>Lack of certainty due to previously unidentified risks being now recognised.</p>
<p>Quality</p> 	<p>No evidence was submitted for review to give assurance in this area.</p> <p>Without benefits measurement being defined, risk of not being able to assess the actual quality of benefits once delivered.</p>

⁴ How Government Works: Review of major capital projects in Scotland, Audit Scotland, June 2008 (<http://www.audit-scotland.gov.uk>).

Project management and governance

This covers only the period after Transport Scotland took control of the project in August 2007

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Business case has not been reviewed. ▪ Transport Scotland taken ownership of project. ▪ Sponsor of appropriate experience, seniority and influence in place to support the project ▪ Responsibilities defined to allow delivery
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Revised organisational structure put in place by Transport Scotland ▪ Roles and responsibilities defined and documented in delivery plan, including steering group but lacking KPIs. ▪ Risks reviewed by technical audit; identified risks not previously captured in the plan. Risk management integrated into core processes
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change controls linked to risk management ▪ Specialist resources brought in to review and deliver programme by Transport Scotland ▪ Project delivery plan produced, resource schedule challenged against other ongoing projects to avoid resource conflicts
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ No evidence to support increase in Benefits Cost Ratio, although costs have significantly increased. ▪ No evidence of review of benefits ▪ Revised reporting pack put in place by Transport Scotland. Technical audit has identified additional risks, reported through to steering group.
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change control and value engineering adopted. ▪ Stakeholders identified and communications plan outlined with commitment for detailed plan to be developed. ▪ Relationship with delivery partners improved

A898 Erskine Bridge


A strengthening and maintenance programme of works which commenced in 1996 when a strength assessment was undertaken as part of a National Bridge Assessment & Strengthening Programme.

Note: We reviewed this project in November 2007.



Summary findings

1. This project is unusual in the terms of the scope of this Major Capital Projects Review because it constitutes a number of phased programme of works rather than one individual project. The proposed capital spend of this programme is approximately £29m (as reported within the IIG database). As a result, the procedures and controls in place to manage the variety of programme of works merit assessment against time, cost and quality criteria.
2. The current cost of the maintenance programme from 2001 is £29m, however there is no definitive lifetime budget or end date target for these works. Recent internal Transport Scotland reports identify different costs of between £24m and £26m. Since 2001, some £17m of works have been tendered and £10m has been spent on maintenance. The actual completion cost of all the constituent work is subject to uncertainty as approximately three contracts have not yet been procured or awarded. For contracts that have been awarded since 2001 and are now complete, the average variation between tender cost and final outturn was +69%.
3. With regards to time, the majority of the contracts awarded to date have been completed on time. The majority of contracts completed have been fixed price contract, with one exception. The contract which over ran was a variable price contract.
4. High level governance arrangements are in place with key financial decisions being delegated to the Trunk Roads Network Management Division Investment Decision Making panel which reviews project progress at least every 6 months. However, outside of this forum there is no formal project board or project team established. With regards to the management of risk, although risk registers are in place at contract works level, risk management is not embedded within the Programme of works.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> 	<p>Since 2001, some £17m of works have been tendered and £10m has been spent on maintenance. Current cost estimates are based on contract prices which are determined by fixed price/ lump sum or variable price contracts. There is currently one project in operation (West Side Gantry Beam replacement) which is scheduled to complete on time but is estimated to be over budget.</p> <p>There is no definitive lifetime budget or end date target for the programme of works. The current cost of the maintenance programme from 2001 reported in the IIG database is £29m.</p> <p>The actual completion cost of all the constituent work is subject to uncertainty as several contracts have not yet been procured or awarded (although estimate costs have been identified). It is anticipated that most or all of the remaining works contracts will be awarded on a fixed price/ lump sum basis. Contracts already completed using this method show a low variance between contract sum and final tender.</p> <p>Lack of clarity of the final costs of the programme.</p> <p>Beyond 2010 planned requirements will include resurfacing works and other ongoing repairs which are estimated to be approx £5m.</p> <p>Funding comes from within Trunk Road Network Maintenance Department's (TRNMD) annual maintenance budget which is subject to review on a quarterly basis.</p> <p>No financial appraisal has been undertaken.</p>

Delivery to cost, time and quality *(continued)*

Assessment	Commentary
Time 	<p>There are schedules of projects of work in place for current and planned works up to 2010/11.</p> <p>Assessment of progress against time was not possible because the end point of the complete maintenance programme is not defined. For example, post 2010 we understand that additional maintenance works will be required to the bridge at an estimated cost of £5m.</p>
Quality 	<p>The management of the contracts of works is undertaken by Amey (on behalf of TS) and quality assessed during monthly progress meetings with contractors on site.</p>

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ No formal business case is in place – risk that intended aims/benefits of programme of works are not assessed or tracked. ▪ No strong basis to test the need for this work or help control of scope/cost / time for the remaining stages of the project. ▪ No clear condition targets or KPIs have been set for these works
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Defined delegated levels of authority in place with regards to procurement. ▪ Regular meetings held between the Project Sponsor, Chief Engineer and Project Manager ▪ Documented procurement strategy - awareness of market appetite for the project
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Programme reporting of time and cost to Project Manager on a monthly basis. ▪ Suitable level of skilled and experienced staff.
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ No formal process in place to track and monitor the benefits of the programme of works. ▪ Lack of regular / frequent reporting to the TRNMD panel other than the 6 monthly reports. ▪ Lack of formal (or defined) reporting escalation process in place.
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change is managed via contract variations with the appointed contractors ▪ Lack of a defined process in place with regards to reviewing and collating changes. ▪ Key stakeholders are engaged with as and when required

Scottish Crime Campus




Scottish Government's proposal to build a new purpose built crime campus facility at Gartcosh.

Note: We reviewed this project in October 2007.

Summary findings

1. The project is at inception stage (November 2007) with the concept of the new Crime Campus facility being given Ministerial approval in 2006. However the level of funding is yet to be finally approved. The projected cost of the project is currently estimated to be £63m, however economic appraisals require to be undertaken to determine the realistic cost.
2. Governance arrangements have been established with the formation of a project board in 2007 with representation from the key stakeholder groups involved in the project. However, formal delegated authority levels have still to be established. The management of project risk has been delegated to the appointed project management company with initial processes (eg, the initial identification of risk and the establishment of a risk register) having been developed.
3. The project is due to enter the procurement phase with the pre-qualification for the design stage in the process of being developed. The procurement strategy for the construction of the new campus facility has yet to be defined.

Delivery to cost, time and quality

Assessment	Commentary
Cost 	The current cost estimate for the building is £63m with the breakdown of costs being identified in the initial feasibility study work undertaken by Drivers Jonas in 2005. However, the cost baseline has yet to be determined and is dependent upon the outcome of the recent Spending Review and the approval of the OBC.
Time 	Project timescale developed but not confirmed until approval of OBC process. No assurance was gained on achievement of timescale, due to the level of uncertainty regarding project funding.
Quality 	The design company will be accountable for design quality and the construction company accountable for construction quality, however no additional assurance was evidenced within the review of how the quality of stated benefits are to be measured.

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Draft outline business case is in the process of being developed. ▪ The economic and financial benefits of the project have still to be fully defined. ▪ There is sponsorship and clear direction from senior management within Scottish Government
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Roles and responsibilities have been defined and documented within a 'Project Governance Handbook'. ▪ Formal delegated authority levels have still to be established. ▪ Risk management procedures are in the process of being embedded within the project ▪ The intended procurement strategy for construction of the new campus is still to be defined.
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ There are no formal change control procedures yet in place. ▪ Project liaison officer appointed within Scottish Government to support the Project Sponsor and to be the first point of contact with the project manager (Cyril Sweet Ltd). ▪ The project is about to enter the procurement phase with pre-qualification for the design stage.
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ The expected benefits from the project are defined within the outline business case but require further development. ▪ Regular reporting in place at both operational and senior management level
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Initial stakeholder workshops and meetings undertaken to identify and agree requirements for proposed new facility. ▪ Stakeholder engagement plan is to be developed. ▪ Key stakeholders represented on the project board

Edinburgh Prison - Phase 3



Works including, new gatehouse, games hall and link corridor upgrade

Note: We reviewed this project in February 2008.


Summary findings

1. Phase 3 (of 4) of the Edinburgh Prison development plan following the recommendations of the SPS Estates review 2002. The project covers the provision of a new gate complex, games hall, estates, & general stores, recycling and estate yard, rebuilding of the main link corridor, completion of the secure boundary, new parking facilities, a new internal roadway, soft and hard landscaping.
2. Project procurement uses a framework agreement following formal OJEU procedures. Three contractors, AMEC (now Morgan Ashurst), Carillon, and Skanska are covered by the framework. Carillon are the contractor for this element of the work, they also worked on earlier phases of the Edinburgh plan.
3. The procurement framework employs a two-stage design and build contract. The contractor has already tendered through the agreement for set elements of costs (overheads, risk, hourly rates and profit). The contractor, as far as is possible, competitively tenders works packages, with the package tender prices determining the contract price on which the contractor accepts the risk at commitment to construct.
4. At Approval Gateway (AG) 1, the project cost approved was £18.2m, rising to £20.4m at AG2. SPS attribute the increase to scope change and to an inadequate quantity surveyor original budget. After design development and tendering of the works packages, the estimated cost approved at AG4 was £24.5m, an increase of £4.1m. SPS attribute £2m of the increase to additions due to factors not foreseen at AG2: these include poor ground conditions, Disability Discrimination Act requirements, additional landscaping, car parking, increased enabling works etc. SPS attribute a further £1.7m to an error in cost planning by the QS at AG2 stage.
5. At the time of this review (8 February 2008), the project completion estimate was 5 weeks beyond the programme date. This is due to HM Inspectorate of Fire now requiring the provision of cabling for electric door locking with a one-hour fire rating. The lead-time for securing the cable may result in the programme delay.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> 	<p>Forecast outturn costs increased by £2.3m between Approval Gateway (AG) 1 and AG2. SPS identify this as due to a significant underestimate by the external Quantity Surveyor. (c £1.7m).</p> <p>From AG2 to AG4, the costs increased by a further £4.1m, 20%. Part of this was due to additions to the scheme and issues unforeseen at an earlier stage costed at £2.0m, with the balance due to an error in cost planning by the QS at AG2.</p> <p>The contract price agreed at AG4 was £24.5m. SPS has approved increase a further increase of £0.05m, due to changed requirements of HMFIS on fire ratings for cabling.</p>
<p>Time</p> 	<p>The expected construction completion date for the project has gone back by 18 weeks from the date forecast at AG1. This reflects a later start on site by the contractor (21 weeks) but the duration on site drops by 3 weeks (81 weeks). The Games Hall will be handed over in June 2008, 3 months ahead of schedule.</p>

Delivery to cost, time and quality *(continued)*

Assessment	Commentary
Quality 	<p>There are some changes in the scope of the project from initial approval, which include; use of a key vending system, which will offer increased staff efficiency; a small change in the level of cellular accommodation; integration of the control room, compliance with the Disability Discrimination Act and compliance with new fire ratings for electronic locking systems.</p> <p>SPS are modifying car-parking facilities within the works (to include technical changes to comply with the Water of Leith flood management plan) and providing additional landscaping to improve the value of surplus land available for disposal.</p>

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> Strategic alignment & business case Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> The project forms part of the SPS strategy to deliver correctional excellence 2002 Business case for the project links to the SPS Estate Strategy for the SPS. Sponsor of appropriate experience, seniority and influence in place to support the project The projects is supported and monitored by the SPS Estates Development Group comprising the key directors within SPS
Planning <ul style="list-style-type: none"> Governance Risk management Procurement strategy 	<i>Basic practices</i>	<ul style="list-style-type: none"> Roles and responsibilities are defined and documented Risk allowance insufficient for significant scope and cost changes between AG1&4 Project risk identification confined to construction risk. Documented procurement strategy encompassing a framework agreement with three contractors for delivery of the prison upgrading programme.
Execution <ul style="list-style-type: none"> Project management Resources & people Procurement 	<i>Advanced practices</i>	<ul style="list-style-type: none"> Change control present: an approval gateway process operates, with project and budget change are approved/rejected by Estates Development Group. In-house professional staff providing project management, cost estimating relies on quality of bought in services. EU compliant framework contract, with competitively tendered works packages and open book accounting.
Measuring & monitoring <ul style="list-style-type: none"> Benefits management Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> SPS employ a defined monthly cycle of reporting on projects to which project managers, contractors and advisors must report on pre-set dates. There are regular monthly project managers meetings.
Business acceptance <ul style="list-style-type: none"> Change management Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> The SPS Estates Review 2002, endorsed by Scottish Ministers, set the case for change. Stakeholders engaged through Estates Review and the development of the contributory projects. Key stakeholders formally signed off the Edinburgh Prison Development plans, which the project forms part.

Parliament House Master Plan


Replacement of infrastructure and services and some general reconfiguration of and improvements to accommodation

Note: We reviewed this project in February 2008.



Summary findings

1. The Parliament House buildings have chronic backlog maintenance problems in areas like IT services, heating and cooling, electrical systems etc. The current project involves the replacement of infrastructure and services and some general reconfiguration/ improvements to the accommodation without significant changes to the fabric in historic areas. The buildings house the Court of Session and the courts will remain operational throughout the project.
2. We have focussed on the management of the project since 2005; earlier, more ambitious redevelopment plans were stopped in 2004 while SCS took stock of the project, which was experiencing increasing costs (potentially up to £200m) and uncertainty about the scope of works required.
3. Two tender rounds in 2005 and 2006 did not produce any bids because contractors had no appetite for the contract risk profile (fixed price design & build). Revising the procurement approach resulted in a satisfactory competition for management of the construction works but delayed delivery by about 2 years.
4. Since the stage D design was approved in March 2006 the total estimated costs of the project have increased by about 10% (excluding the effect of inflation, which was excluded from earlier estimates)
5. The project is split into three main phases which helps SCS manage risk (from potential future changes in court activity) and affordability.
6. Under the contract now adopted, significant risks (coordination, access, decant, design and hidden condition) remain the responsibility of SCS as the client.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> 	<p>A cost plan was approved in March 2007, with £31.1m total estimated construction cost (ex fees & VAT). The latest (stage 2) tender estimate for phase 1 works total £11.9m ex fees & VAT. 86% of these costs are based on firm tenders from sub-contractors.</p> <p>The £11.9m tender estimate for the phase 1 works has been contained within the cost plan limit, with the application of some contingency funding. Contingency of £1.5m remains available for the remainder of phase 1.</p> <p>Significant risks remain the responsibility of SCS as the client. The estimated project costs include a risk allowance of £4.4m. Risk allowances in earlier estimates have been smaller than subsequent changes in base construction costs.</p> <p>As noted above, since the stage D design was approved in March 2006 the total estimated costs of the project have increased by about 10% (excluding the effect of inflation, which was excluded from earlier estimates).</p> <p>The £57.2m estimated project cost in the latest BC is based on a construction cost element of £30.6m. However the March 2007 cost plan is based on construction costs of £31.1m (+£0.5m).</p> <p>The latest BC is based on £57.2m estimated project cost, or £62.1m including future inflation at 3% a year.</p>

Delivery to cost, time and quality *(continued)*

Assessment	Commentary
<p>Time</p> <p></p>	<p>Stage 2 tendering for phase 1 of the Parliament House project has been completed and a revised contract period of 87 weeks is now agreed with Interserve. This is four weeks longer than previously estimated. But the contract target for completion of phase 1 works is consistent with previous estimates and assumptions.</p> <p>Two tender rounds in 2005 and 2006 did not produce any bids because contractors had no appetite for the contract risk profile (fixed price design & build). Revising the procurement approach resulted in a satisfactory competition for the construction works but has delayed delivery by about two years.</p> <p>The refurbishment involves working in a complex of historic buildings, which will remain operational throughout the project. Under the form of contract adopted, significant risks (coordination, access, decant, design and hidden condition) remain the responsibility of SCS as the client.</p>
<p>Quality</p> <p></p>	<p>Design for phase 1 of the works is completed and approved. Users have been consulted and the scope of works for phase 1 is now firm (and largely tendered).</p> <p>Phases 2 and 3 have not yet been developed beyond Royal Institute of British Architects (RIBA) stage D. This is a deliberate strategy to ensure the project can be adopted to meet any change in business requirements. However the scope of these works is correspondingly less certain.</p>

Project management and governance

Project area	Assessment	Commentary
<p>Vision & direction</p> <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> ▪ Up-to-date business case exists ▪ Sponsor in place with experience, seniority and influence ▪ Lack of clarity and risks around preference for refurbishment given recent economic analysis, which suggests new build may be better value for money
<p>Planning</p> <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> ▪ Clear project leadership with senior representatives from across the business and structure for user involvement ▪ Well documented procurement strategy, now alert to risk profile/ market interest & appetite for the project ▪ Risk register in place and maintained but some scope for further improvement in risk management
<p>Execution</p> <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> ▪ Change control is present (needs to be extended to design development of later project stages) ▪ Sufficient skilled resources, clarity on roles and responsibilities ▪ Effective competition amongst capable suppliers (after initial competition produced no bids)
<p>Measuring & monitoring</p> <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> ▪ Clear & systematic project manager reports to senior managers monthly. Issues log to ensure follow through. ▪ Benefits defined at a physical level and built into the design and specification of the works. ▪ No specific business benefits measures or any provision for benefits reporting ▪ Specific provision for full post project review and evaluation 12 months after completion.
<p>Business acceptance</p> <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<p><i>Adequate – Improving practices</i></p>	<ul style="list-style-type: none"> ▪ Project phasing to help manage strategic risks around change ▪ Evidence of previous stakeholder consultation but no up-to-date communication plan seen

State Hospital Redevelopment




Redevelopment of a high security residential and patient treatment centre through new build construction (19,000m²) and adaptation of existing facility (1,500m²) on the existing hospital site near Carstairs

Note: We reviewed this project in October 2007.

Summary findings

1. At the time of our review the project was about to undertake the construction phase. Arrangements were in place to manage the project with: a clear governance structure, good stakeholder commitment and clearly defined project management and organisation; sufficient and capable resources; helpful clear financial management and reporting; appreciation of risk management; and a strong procurement approach aimed at minimising risk and delivering successful project outcomes.
2. Opportunities to further improve systems, prior to construction and delivery phases.

Delivery to cost, time and quality

Assessment	Commentary
Cost 	The latest forecast outturn cost is £85.2 million. The estimate is firm. It reflects the tender results for a design and build (develop and construct) contract for the main works and incorporates the guaranteed maximum price that the preferred bidder has offered. It also reflects the project team's assessment of optimism bias. Final contract negotiations are at an advanced stage and no significant price adjustment is expected. The latest cost estimates are slightly lower in real terms than those approved at OBC stage in 2006.
Time 	The project has been tendered and is on the point of FBC approval and contract award. Completion of the final phase of construction work is now planned for 2010. The project has been in development planning since 2004, with a revised procurement strategy (moving from PFI to a design & build approach) being introduced in 2005. The current target completion date is now a year later than initially desired, but has not altered from the planned date approved in the outline business case in May 2006.
Quality 	The project development process has resulted in a development of construction designs to RIBA stage G (tender document) for phase 1 and stage D (outline design/complete development of the project brief) for phase 2. The project team has consulted stakeholders extensively in developing the design, which it considers fit for purpose.

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Advanced practices</i>	<ul style="list-style-type: none"> ▪ Project strongly supported by the Chief Executive, the Board and the Health Directorates ▪ Business case provides a comprehensive justification for the redevelopment, linked to service redesign ▪ Systematic and rational option appraisal ▪ Benchmarking with provision of similar facilities
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Clearly defined responsibilities & organisation ▪ Thorough, convincing and detailed project documentation ▪ Only a very high level risk register – but risk management highly valued in the project culture ▪ 2 gateway reviews (but not independent)
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Sufficient, capable project resources ▪ Careful & effective engagement with market pre-tender ▪ Effective competition amongst capable suppliers. Target sum with capped price contract ▪ Project execution plan – yet to be developed
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Statements of deliverables exist at project and work stream level ▪ Systematic approach to reporting – preferred contractor offering “open book” reporting
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Wide engagement with users during design - but we have not seen a stakeholder communication plan ▪ Change control procedure stated but not yet applied

Golden Jubilee Heart & Lung Centre




Fitting out and reconfiguring the shell of an empty floor and providing and equipping new medical facilities within an existing hospital

Note: We reviewed this project in October 2007.

Summary findings

1. The construction project supports a major change in service – facilitating the creation of a new regional heart & lung centre for the west of Scotland. Our review focused on the construction aspects of the project.
2. As a result of user requirements, there were changes in the scope and nature of the construction work during construction, causing some delay and 14% increase in works costs. However the works cost overrun can be absorbed well within the overall financial parameters laid down for the project because of savings elsewhere i.e. in equipment costs; and the works delay has not affected the overall project end date. Project management consider the construction works will provide accommodation fit for purpose and of suitable quality.
3. Following completion of physical construction works anticipated in October 2007 the objective is to complete service transfer into the new facility no later than March 2008. The transfer involves existing heart and lung services from three other hospitals in two other Board areas. NHS Greater Glasgow & Clyde and NHS Lanarkshire will move these services to the new centre in the Golden Jubilee Hospital (under the responsibility of the National Waiting Times Centre Board). Service risks remain associated with the transfer of clinical work into the new facilities during the transitional phase of service transfer.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> 	<p>Scope and design adjustments during construction to meet user requirements have caused delay but not otherwise complicated delivery. Other works costs (additional to the main AKP works contract) do not appear to have changed significantly compared to the full business case (FBC) estimate.</p> <p>Due to changes in project scope, the estimated outturn costs of the main works contract will be £8.413 million compared to the tender sum of £7.381 million (14% variance) (all figures include VAT).</p> <p>In addition to the increase in the AKP contract cost, some work allowed for in it (cath labs) has changed in scope and been taken forward under a separate contract at a net additional cost of some £0.2 million including VAT.</p> <p>The construction works form part of a larger service reconfiguration project, with provision within the FBC for additional equipment costs. The latest forecast outturn equipment cost is £3.999m, 71% of the FBC estimate of £5.615m inc VAT. The reduced costs are a result of reductions in scope (partly due to the transfer of new equipment from another Board) and significant savings in tender prices compared to pre-tender estimates.</p> <p>The apparent saving in equipment costs has masked the increase in construction costs and undermined scrutiny.</p>
<p>Time</p> 	<p>Planning for the completion of the project has been integrated with service redesign. Although construction has been delayed service redesign is progressing at a satisfactory pace for the sponsors.</p> <p>The award of the construction contract was deferred pending approval of the FBC. The delay cost of holding the preferred tender open between December 2005 and June 2006 was £0.532 million including VAT (7% of the tender sum).</p> <p>The scope of works was adjusted to accommodate users' requirements after the contract had been awarded.</p>
<p>Quality</p> 	<p>The construction works were procured on the traditional model, with works tendered on an approved design. Technical compliance assessment has confirmed work is in accordance with the revised design/ specifications and to standard.</p> <p>The multiple project stakeholders appear satisfied that the finished project will provide accommodation fit for purpose. Pending the planned post-implementation project review, there is no specific evidence to confirm the effectiveness of the completed facility in meeting service requirements.</p>

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Strong & clear rationale for the project, with focus on final user/ service benefits ▪ Strong & clear sponsor commitment ▪ Widespread buy-in & acceptance amongst multiple users and stakeholders with complex needs - no evidence of significant unresolved conflict
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Comprehensive, clear, well designed and well documented project organisation & governance ▪ Risk register in place, with risk owner identified and regular review & reporting
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Clear leadership, direction and allocation of responsibility ▪ Project structures promote effective communication & interaction between the many stakeholders ▪ Reasonable market interest, generally an effective tender process, leading to an effective competition amongst capable suppliers
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Regular reporting to NWTC Board, Partnership Board and Executive Group (& Health Directorates) ▪ Benefits clearly quantified in terms related to improved business performance ▪ Benefits realisation plan in FBC with commitment to follow through in post project evaluation
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Changes in user requirements emerged only after works designed/ contractor appointed (+14% variance in construction costs) ▪ No explicit change management strategy for the project, change control system not documented

Royal Museum Masterplan

Complete refurbishment of the Royal Museum in Edinburgh

Note: We reviewed this project in November 2007.

Summary findings

1. The main element of the project is the refurbishment of the Royal Museum of Scotland in Chambers Street, Edinburgh. A smaller element of the work provides additional storage facilities at the Granton Research Centre that will also take decanted exhibition material during the refurbishment.
2. Main project risks relate to affordability and construction inflation costs. National Museums of Scotland (NMS) has experience of managing funding risks and of successfully raising funds, as well as management of inflation risk. The project was put out to competitive tender, with two of three bids received within NMS budget.
3. The project is well resourced with specific experienced project team and supplemented by external contractors' expertise. NMS act as informed client.

Delivery to cost, time and quality

Assessment	Commentary
<p>Cost</p> 	<p>Stage detail design cost plan at July 2006 indicated a total cost of £46.365M.</p> <p>The November 2007 cost report indicated a cost assessment of £46.363M with optimism bias incorporated into base cost estimates.</p> <p>The main refurbishment contract is still to be awarded. Ahead of the tender responses, there was a fear of a tender responses coming in over project budget, because of overheating in the construction market. However, two of the 3 tenders received did come in below budget.</p> <p>Level of construction inflation within Scottish market exceeds project contingency of 10% for the Royal Museum.</p>
<p>Time</p> 	<p>The project is on schedule to open in July 2011.</p>
<p>Quality</p> 	<p>Any changes to scope and specification require to be approved by Heritage Lottery Fund. Proposed changes resulted in increased funding from the Heritage Lottery Fund to maintain quality.</p>

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Business case presented through Heritage lottery funding application which includes option studies. ▪ Impacts on benefits considered in potential cost and scope reductions, as part of conditions on funding given by Heritage Lottery Fund. ▪ Clear separation of roles between Sponsor and Deliverer
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Membership of governance boards allocated with roles and responsibilities ▪ Project risk register in place Some mitigating actions required do not have definitive dates for completion with “timescale ongoing”. ▪ Risk tolerance levels not formally defined ▪ Main refurbishment contract competitively tendered, 3 tenders received with 2 within budget
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change control process in place with delegated authority levels. Impact on benefits considered when reviewing possible cost and scope reductions. ▪ Roles and responsibilities clearly defined within project arrangements documents. Project well resourced in terms of capability and capacity. ▪ Contract approach reviewed to make contract as clear as possible to incentivise contractors to competitively respond.
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Detailed cost benefit analysis based on Green Book standard. Benefits realisation plan in place as a requirement of Heritage Lottery Funding ▪ Minutes of Board of Trustees meetings provided, with standing agenda item on Royal museum Masterplan.
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Project an enabler for change within the organisation. Lack of formal change strategy although staff involved in development of NMS vision. ▪ Heritage Lottery Funding is key stakeholder with requirement provide evidence that project is engaging with stakeholders to deliver benefits. ▪ Regular meetings held with Scottish Government and briefing events with other bodies.

National Intranet




The aim is to deliver a national intranet, a national interconnect and a national content delivery infrastructure for Scotland's schools' community.

Note: We reviewed this project in October 2007.

Summary findings

1. This is a 5 year programme, based on a fixed price contract with a major supplier, RM (Research Machines), initiated in 2005. The planned costs are still within the budget of £37.5M and the project is at a critical phase, about to go live in the first 4 pilot authorities.
2. The programme has been the subject of several Gateway reviews. It was rebranded GLOW in 2006 and has been characterised by a close working relationship between the SG (Scottish Government), Learning Teaching Scotland (LTS, agents for the SG) and RM (established provider of IT solutions and services within the Scottish education marketplace).
3. There have been recent changes to the governance structure around the programme to reflect its current phase and ongoing engagement with the user community, most recently at the Scottish Learning Festival held in the SECC, Glasgow in September 2007.

Delivery to cost, time and quality

Assessment	Commentary
Cost 	Still working within the £37.5M overall budget for the 5 year contract, currently £150K ahead of this figure. Milestone payments have been challenged where appropriate and delayed until deliverables have been achieved.
Time 	Go-live has slipped by several months but costs have not increased due to fixed price contract agreed. Delay due in part to the time taken for local authorities to sign up to the customer agreements.
Quality 	The project has undergone several Gateway Reviews, with an initial review in June 2003, Gateway 3 Investment Decision review in April 2005 and interim health-check prior to contract signoff in August 2005 Lessons learned from each pilot phase have been acted upon and tested again in subsequent phases. Weekly tracking of issues, progress and changes.

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Business case exists but needs updating to reflect the programme over the past 2 years ▪ Objectives linked to strategy – and regularly updated ▪ Sponsor of appropriate experience, seniority and influence in place to support the project
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Advanced practices</i>	<ul style="list-style-type: none"> ▪ Dedicated roles allocated including a Board Panel, Steering/ Working Group and Project Management Team linked to KPIs & scorecards ▪ Clear linkage between financial performance & risk management performance ▪ Overall risk and treatment portfolio approach ▪ Procurement strategy well matched to project risk profile & market appetite tested during contract negotiation
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Advanced practices</i>	<ul style="list-style-type: none"> ▪ There are effective controls over any proposed changes to the business requirements. ▪ The team possess complimentary skills in order to support high performance, well balanced team ▪ There is an open and constructive management culture ▪ Very strong constructive relationships with key suppliers
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Statements of deliverables exist at project and work stream level ▪ Benefits definition and measurement are a current ongoing focus as rollout approaches ▪ Reports to senior managers are available – and produced within days not weeks
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Advanced practices</i>	<ul style="list-style-type: none"> ▪ There is a clear change strategy and approach with sufficient involvement of stakeholders ▪ Effective user involvement, and strong efforts to get agreements signed by stakeholders ▪ Change is seen as not imposed but an opportunity ▪ All stakeholders are identified and expectations are classified and understood

eCare

This is an IT project to enable/ promote information sharing and collaborative work between Health Boards and councils. The project priorities are to support Single Shared Assessments and Child Protection Messaging.

Note: We reviewed this project in October 2007.

Summary findings

1. This project has developed since 2000, with a succession of funding streams from MGF 1/2/3, Health Department, Changing Lives programme, and the Efficiency and Reform Fund with spending of £33.3m in total to end of FY 2007/08. The current programme is just reaching a critical point where delivery will start in earnest with the first data sharing actually happening across a partnership and another due to come on line imminently. The framework has been created and the process of change in the partners is underway.
2. There is no comprehensive business case available for eCare. Successive annual funding had been secured based on one-off funding requests. The current team acknowledges this and is developing retrospectively the business case. They have also realised that the £60m of funding requested for the next 10 years is unlikely to be made available in light of the 2007 spending review. They are examining specific options for the coming years to implement the systems etc developed so far with all partners and thereby secure the core benefits from the programme.

Delivery to cost, time and quality

Assessment	Commentary
Cost 	Programme team has recently been developing costing options for future budget years. Project operating within the annually agreed budget figures. Regular reporting from contractors. Future spend may not be fundable dependant on spending review 2007
Time 	Work has been pulled forward from next financial year to ensure a working framework is available by the end of the current year, within the available budget. Weekly progress reports from the main contractors are detailed and comprehensive, along with combination of monthly budget output from Scottish Executive Accounting System and the Programme Manager's own spreadsheets of costs incurred. Some delays incurred beyond financial year end.
Quality 	The framework technical architecture was independently reviewed (by ACS Ltd.) in May 2006, producing a positive report, whilst an evaluation of eCare projects (by Imera) in September 2005 covering Perth & Kinross and Lanarkshire projects, identified key benefits and learning outcomes being achieved. The evidence from the independent review on the technical suitability of the eCare framework design is positive. Ongoing project reports indicate no significant technical issues emerging and that issues are being resolved as they arise, in a controlled manner.

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ No current business case exists although the team intends to rectify this ▪ There is linkage between the project and overall strategy of the business ▪ There is sponsorship and a lead/ direction to the programme from senior management
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Organogram is in place, complete and complied with ▪ Roles and responsibilities have been defined and documented but recent changes to governance need time to be proven effective ▪ Risk management integrated ▪ Documented procurement strategy - have used existing frameworks and ensured eCare needs are included in the negotiation of these
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change control is present – and is reviewed/ linked to strategy, opportunities & risk appetite ▪ Resources brought in to deliver programme – and based on an assessment of capability/ skill mix ▪ Suppliers have been chosen from framework agreements leveraging investment and delivering good practice
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Statements of deliverables exist at project and work stream level ▪ Benefits measurement is still being developed and needs to be agreed and demonstrated ▪ Reports to senior managers are available – and produced within days not weeks
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Advanced practices</i>	<ul style="list-style-type: none"> ▪ There is a clear change strategy and approach with sufficient involvement of stakeholders to make change “stick” ▪ Change is seen as not imposed but an opportunity ▪ All stakeholders are identified and expectations are classified and understood

Royal Botanic Gardens Visitor Centre




Construction of a new purpose built visitor centre at the West Gate entrance to the existing site.

Note: We reviewed this project in November 2007.

Summary findings

1. The original procurement strategy for the construction works was a traditional contract, however, Royal Gardens Botanic Edinburgh (RGE) was concerned that such a route would produce increased costs and, as a result, the procurement strategy was altered to a design and build contract. This allowed RGE to fix the costs of the project to £15.7m in 2006.
2. Formal governance arrangements are in place with key decisions (in terms of financial approvals) taken by the RGE Trustees Board. The role of the Trustee Board is not only to review and approve cost decisions, but also to provide project management experience within RGE. A formal Project Board is in place with representation from key stakeholders within the Scottish Executive and the RGE Trustees. Regular reports are provided to the board from RGE project manager and the appointed external project manager.
3. RGE are becoming more of an 'informed client' (increased understanding and capability to take control and ownership of the project), and control has been improved through the appointment of an internal project manager within RGE. However, the communication and interaction with the appointed contractors needs to be further developed and improved to ensure that RGE are aware of all the decisions being made by the contractors on site.

Delivery to cost, time and quality

Assessment	Commentary
Cost 	<p>The project has a fixed cost of £15.7m which is based upon the funding received and the financial appraisal undertaken for the construction of a purpose built new visitor centre.</p> <p>Regular cost report updates are provided to RGE by the project manager highlighting the project costs and overspends.</p>
Time 	<p>The deadline for completion of the construction of the new visitor centre has moved (by seven weeks) to now complete at the end of December 2008, with the aim that the new building will be operational by Spring 2009.</p> <p>There is leverage within the programme from the end of construction to the intended opening date for the new visitor centre.</p>
Quality 	<p>The unique design requirements of the building (ie, economical, efficient and sustainable) are being delivered within the revised design of the building.</p>

Project management and governance

Project area	Assessment	Commentary
Vision & direction <ul style="list-style-type: none"> ▪ Strategic alignment & business case ▪ Sponsor commitment 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Formal business case in place which outlines the intended scope and benefits of the project. ▪ Business case successfully used to obtain funding from the external parties. ▪ Senior representatives from the RGBE Board of Trustees involved in the project.
Planning <ul style="list-style-type: none"> ▪ Governance ▪ Risk management ▪ Procurement strategy 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Risk register is not regularly updated to reflect current project risk profile. ▪ Poor visibility of risk reporting (eg, no high level summary of top risks to project).
Execution <ul style="list-style-type: none"> ▪ Project management ▪ Resources & people ▪ Procurement 	<i>Basic practices</i>	<ul style="list-style-type: none"> ▪ Higher risk strategy followed by selecting newly formed construction company with no delivery record and limited financial backup. ▪ Selected tenders original submission was incomplete and contained incorrect cost estimates. ▪ Contractor risk mitigation sought through 10% performance bond which had not been delivered with the contract.
Measuring & monitoring <ul style="list-style-type: none"> ▪ Benefits management ▪ Reporting 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Formal benefits realisation plan in place which outlines the intended process in place to review and track the intended benefits of the project. ▪ Formal reports in place from contractors to RGBE and from RGBE to key stakeholders.
Business acceptance <ul style="list-style-type: none"> ▪ Change management ▪ Stakeholder management 	<i>Adequate – Improving practices</i>	<ul style="list-style-type: none"> ▪ Change management procedures recently introduced within the project. ▪ A range of external stakeholders have been engaged. ▪ Communication with individual stakeholders (eg, members of the public) from SRO when project complaints or queries raised.

Review of major capital projects in Scotland

Report Supplement: Summary of projects reviewed

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