



Briefing 08/33 July 2008

Review of major capital projects in Scotland: How government works

To: All Chief Executives, Main Contacts and Email Contacts (Scotland)

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A report from Audit Scotland on major public sector capital projects in Scotland

Key issues

The briefing sets out a summary of the key points of the Audit Scotland report; including the importance of time and cost estimates, and the delivery of expected assets and wider benefits

Of particular interest will be elements of best practice in commissioning of public sector projects

1. Introduction

The Audit Scotland report, 'Review of major capital projects in Scotland', is a systematic review of the major public sector infrastructure investments completed in the last five years, with the aim of identifying where potential cost savings can be made. Covering the Scottish Government and its agencies, non-departmental public bodies and the NHS (but excluding local authorities), current spend on capital infrastructure is £4.7 billion, expected to increase to £10.5 billion over the next three years.

Surveying all 43 major public sector projects completed between the dates of April 2002 and March 2007, the report aims to provide a comprehensive picture of projects completed with reference to cost, time and quality. In addition, five completed projects were reviewed in more depth to help understand their performance better. The study does not take into account PFI projects, as the Scottish Government has decided that they will not be using this funding mechanism for future capital investment projects. Though the report does not cover local authorities, it contains useful examples of best practice in the commissioning and implementation of public sector projects.

2. Time and cost estimates

Public infrastructure investment in the form of roads, hospitals and amenities is vital to maintaining and improving the quality of life, and to delivering the Scottish Government's five strategic objectives of making the country: wealthier and fairer; smarter; healthier; safer and stronger; and greener. At this moment in time there are 104 major projects ongoing in Scotland, valued at £4.7 billion, mainly clustered around the transport and health sectors. This figure of investment is expected to rise to £10.5 billion in the next three years.

With the amounts of public money committed to capital infrastructure, it is a priority that projects are evaluated to ensure that value for money is demonstrated. The survey looks at progress against cost and time estimates, quality specifications and project management in general.

The report distinguishes two key decision points for any project; the initial decision to proceed with development, and the major decision made immediately prior to awarding the contract. Around two-fifths of the total projects had initial cost estimates made at the point of development that were too low. This led to an average overrun of these projects of 39% against the initial cost estimate. The combined final cost of all 41 projects was £730 million, £84 million (13%) more than the expected cost of £646 million. For most projects the forecast completion date at the initial approval stage was also too optimistic. There is no statistically significant relationship between the achievement of cost and time targets.

Cost and time estimates became better after the contracts had been awarded, though this came at a price. Once a contract has been agreed, changes to a project can be costly, and lead the project to no longer representing value for money. 31 of 38 projects were completed within five per cent of the contract price. Over half of projects experienced time slippage, with another two projects experiencing significant delays, one of which was due to design changes after the contract had been awarded. Both cost and time estimates improved after contracts have been awarded, as the assessments were more certain and the risks clearer.

The survey indicates that at the initial project approval stage, cost and time estimates were not sufficiently accurate for many major projects. So-called 'optimism bias', as exhibited in some projects, resulted in regular underestimates as sufficient allowance had not been made for unforeseen problems that can increase time and costs. In 2003, HM Treasury issued guidance to counteract this, in which early cost estimates require appropriate allowances for risk and cost inflation. It was found that after issuing the guidance in 2003, significant differences were found in how estimates accounted for risk and uncertainty, though the way the guidance is applied varies.

3. Expected assets and wider benefits

Though there is no universal measure for the quality of a diverse range of public sector projects, the 'fitness for purpose' of a major project is used in this report to denote the quality of the project. This equates to whether the project assets were delivered without significant defects. Eight of the 43 completed projects reported significant problems in the first year, five of which were NHS projects.

The fulfilment of stakeholder expectations is a key concern for any project, especially when public infrastructure is being commissioned. One concern within the report is that there must be clarity from the outset about the wider benefits contained within the business case, and measures are identified and assigned to track, monitor and measure the delivery of benefits. One issue is that few projects have been evaluated as to whether they have delivered the benefits intended, especially as these benefits can form part of the business case. Only seven of the 43 completed projects had done a formal assessment of the project design using design quality measures; and only two of the seven could provide documents to evidence this. The Scottish Public Finance Manual requires that project teams to complete post-project evaluations, though there is no requirement to report the results.

4. Good practice

The report outlines certain recommendations in light of the survey. They are:

- Prior to projects being approved for construction, they should be soundly researched, planned, and fit well with the Scottish Government's strategic objectives and policy priorities
- Projects should be well organised; with clear aims, objectives and delivery arrangements

- Competent, experienced teams should be appointed to deliver projects, with good leadership and properly defined roles and responsibilities. There should be a sound appreciation of risk and an effective strategy to manage and mitigate it
- An effective partnership with suppliers, with their appointment based on a well-designed and well-executed competition
- Accountability and transparency with regard to the progress of the project
- At all stages of a project, there should be a clear focus on outcomes and how it will support and improve business performance

In particular, public bodies should:

- Improve early-stage estimating of the cost and time of projects and ensure better assessment and quantification of risk and uncertainty
- Make more use of the tools available to assess and confirm both the quality of design and environmental sustainability to get the best benefits from the available funding
- Ensure project budgets are sufficient to allow for post-project evaluation in all projects
- Carry out post-project evaluations within a reasonable timescale to determine whether projects have delivered the benefits intended (benefits include satisfying the business requirements as well as providing good-quality design and functionality). Evaluations should consider performance against cost, time and quality targets
- Ensure cost, time and quality targets are clear from the outset, and properly recorded

5. APSE comment

The Audit Scotland report covers recent public capital infrastructure projects (excluding local authorities), and identifies particular sticking points for the delivery of these assets. What must be highlighted is that those involved in decision-making must be able to properly scrutinise and challenge proposals for major projects. This happens at two points; the initial decision to move forward with the development, and before the contract is awarded. APSE believes that there is an inherent tension that the report makes clear; that in a bidding situation between a public body and a private contractor, projected costs may reflect the desire to be awarded the contract, rather than the real cost. Increasing time and cost estimates can have an impact if a project is part of a larger structural plan, frustrating the delivery of inter-connected projects and further hindering progress.

Using in-house services for equivalent local authority projects ensures that know-how gained from delivering similar projects can be retained within the organisation, and recycled for the benefit of future projects. One way in which this knowledge can be set is ensuring that all projects of this type are committed to producing post-production evaluation reports, not only for in-house use, but for sharing best practice

with other local authorities committed to delivering directly. In this way local authorities can look to retain a competitive edge over potential private sector competitors, and not be dependent on private sector costing of projects, the dangers of which the Office of Fair Trading investigation into bid rigging (see APSE Briefing 08/23) demonstrated.

A demonstration of the wider benefits of infrastructure projects was identified as a weakness within the report. It is important to bear in mind that the wider benefits may only emerge some time in the future; once a community starts to use a new road regularly, or as a new school gradually attracts families to the area. The delivery of wider benefits to a locality does not always occur as simple cause and effect. It is through local authorities retaining their powers to design programmes of a similar scale that a joined-up approach is fed through the whole process, and creating the conditions that wider benefits can emerge in the future. Retaining design skills within the local authority still remains the best guarantee in delivering within an uncertain economic climate.

A link to the report can be found here:

http://www.audit-scotland.gov.uk/docs/central/2008/nr_080624_major_capital_projects.pdf.

If you wish to comment on this briefing, please contact afildes@apse.org.uk.