Risks in Political Projects
The New Scottish Parliament Building
Case Study

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Note: The Issues for Discussion at the end of this case study may require research on the Internet.

Introduction

Scotland's new Parliament sits at the foot of Edinburgh's famous Royal Mile in front of the spectacular Holyrood Park and Salisbury Crags as shown in Figure 1.

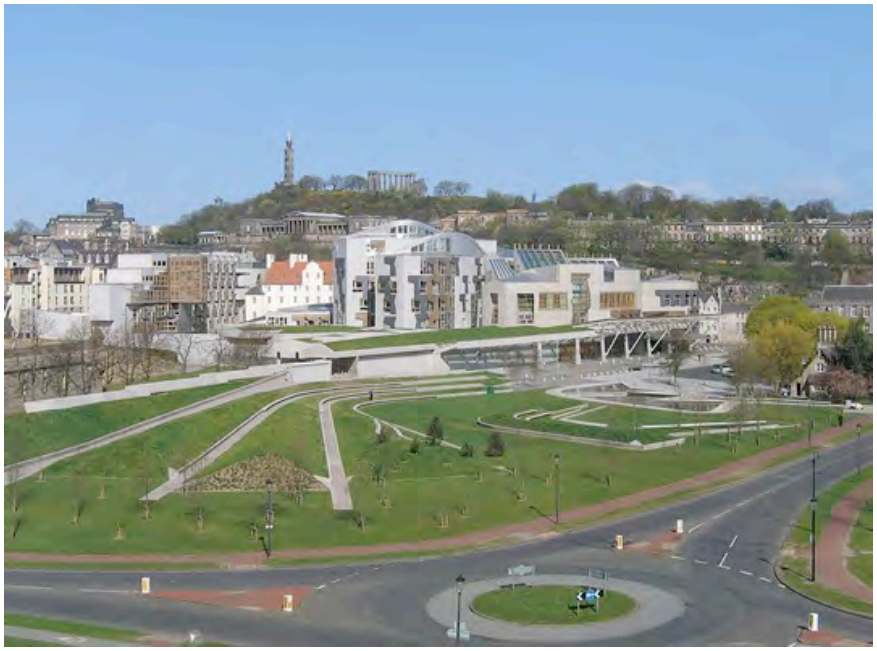


Figure 1: The new Scottish Parliament Building at Holyrood, Scotland designed by the Catalan architect Enric Miralles and opened in October 2004[1]

Constructed from a mixture of steel, oak, and granite, the complex building has been hailed as one of the most innovative designs in Britain today. Construction of the building commenced in June 1999 and the Members of the Scottish Parliament (MSPs) held their first debate in the new building on Tuesday, September 7, 2004. The formal opening by Queen Elizabeth took place on October 9, 2004. Enric Miralles, the Catalan architect who designed the building, died before its completion.[2]

From 1999 until the opening of the new building in 2004, committee rooms and the debating chamber of the Scottish Parliament were housed in the General Assembly Hall of the Church of Scotland located on The Mound in Edinburgh. Office and administrative accommodation in support of the Parliament were provided in buildings leased from the City of Edinburgh Council. The new Scottish Parliament Building brought together these different elements into one purpose built parliamentary complex, housing 129 MSPs and more than 1,000 staff and civil servants.

Comprising an area of 1.6 ha (4 acres), with a perimeter of 480 m (1570 ft), the Scottish Parliament building is located 1 km (0.6 mi) east of Edinburgh city centre on the edge of the Old Town. The large site previously housed the headquarters of the Scottish and Newcastle brewery, which were demolished

to make way for the building.

From the outset, the building and its construction have proven to be highly controversial. Politicians, the media and the Scottish public criticized all the choices of location, architect, design, and construction company. Scheduled to open in 2001, it did so in 2004, more than three years late with an estimated final cost of £414m, many times higher than initial estimates of between £10m and £40m.

A major public inquiry into the handling of the construction, chaired by the former Lord Advocate, Peter Fraser, was established in 2003. The inquiry concluded in September 2004 and criticized the management of the whole project from the realization of cost increases down to the way in which major design changes were implemented.

Despite these criticisms and a mixed public reaction, architectural academics and critics welcomed the building. The building aims to conceive a poetic union between the Scottish landscape, its people, its culture and the city of Edinburgh. This approach won the parliament building numerous awards including the 2005 Stirling Prize and has been described as "a tour de force of arts and crafts and quality without parallel in the last 100 years of British architecture".[3]

Project evolution

The seeds for building Scotland's first modern day parliament were cast in 1995 concurrent with the thrust to give the country decentralized power. By 1997, the Labor Party rose to power via Tony Blair's election to Prime Minister, defeating the incumbent Conservative Party. This changed the political landscape and gave rise to the view that Scotland would have its own parliament, not just a UK parliament.

So, a referendum of the Scottish electorate, held on 11 September 1997, approved the establishment of a directly elected Scottish Parliament to legislate on most domestic affairs. Following this, the Scottish Office, led by the then Secretary of State for Scotland, Donald Dewar, decided that a new purpose-built facility would be constructed in Edinburgh, to house the Scottish Parliament. Initially, three sites in and around Edinburgh were considered as possible locations for the building.

However, the Holyrood site was not entered into the picture until after the official closure date of the competition between the three sites. The date for announcing the winner over-ran and on the date of the expected announcement instead it was announced that they were going to "rethink their decision" (inferring that indeed a decision had been made) to add the Holyrood Brewery site into the running. Negotiations with the brewing company, Scottish and Newcastle who owned the land, resulted in the company indicating that they would be able to vacate the site in early 1999. As a consequence, the Secretary of State for Scotland agreed that the Holyrood site merited inclusion on the shortlist of proposed locations. The Scottish Office commissioned feasibility studies of the specified areas in late 1997 and in January 1998, the Holyrood site was selected from the shortlist.

The Scottish Office then announced an international competition to find a designer for a new building to house the Parliament. A design committee was appointed under the chairmanship of Dewar, and was tasked with choosing from a shortlist of designs. Proposals were submitted from internationally renowned architects such as Rafael Viñoly, Michael Wilford and Richard Meier. Twelve designs were selected in March 1998, which were whittled down to five by the following May. The five final designs were put on public display throughout Scotland in June 1998. Feedback from the public displays showed

that the designs of the Catalan architect Enric Miralles were amongst the most popular. The design team took account of public opinion on the designs and invited all five shortlisted entrants to make presentations on their proposed designs before announcing a winner.

On 6 July 1998, it was declared that the design of Enric Miralles was chosen, See Figure 2, and the work was awarded to EMBT/RMJM (Scotland) Ltd, a Spanish-Scottish joint venture design company, specifically created for the project. Demolition of the brewery commenced in June 1999 followed by construction by Bovis.

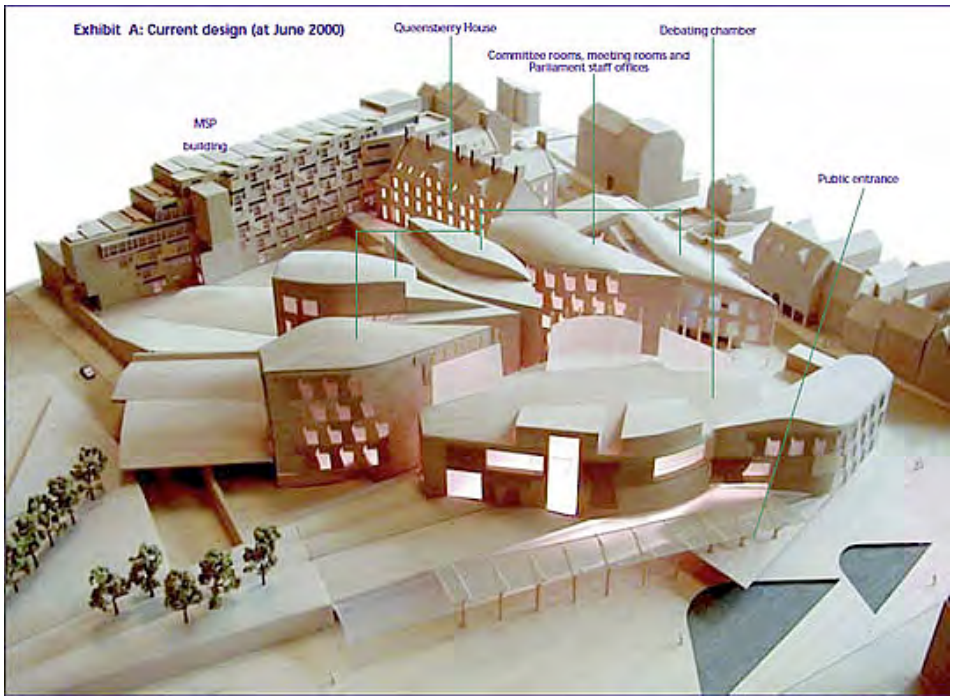


Figure 2: Model of the New Scottish Parliament Building as at June 2000[4]

Project concept

Overall design approach

Architect Enric Miralles observed in 1999 that:

> " We don't want to forget that the Scottish Parliament will be in Edinburgh, but will belong to Scotland, to the Scottish land. The Parliament should be able to reflect the land it represents. The building should arise from the sloping base of Arthur's Seat and arrive into the city almost surging out of the rock."[5]

Thus, Miralles sought to design a parliament building that could represent and present a national identity. This intractably difficult question was tackled by displacing the question of identity into the landscape of Scotland. In a characteristically poetic approach he talked about slotting the building into the land "in the form of a gathering situation: an amphitheatre, coming out from Arthur's Seat" where the building would reflect a dialogue between the landscape and the act of people sitting. So an early goal of the design was to open the building and its public spaces, not just to Edinburgh but also to a more general concept of the Scottish landscape. The result was a non-hierarchical, organic collection of low-lying buildings intended to allow views of, and blend in with, the surrounding rugged scenery and

symbolize the connection between nature and the Scottish people.

As a consequence the building has many features connected to nature and land, such as the leaf shaped motifs of the roof in the Garden Lobby of the building, and the large windows of the debating chamber, committee rooms and the Tower Buildings which face the broad expanse of Holyrood Park, Arthur's Seat and the Salisbury Crags. Inside the buildings, the connection to the land is reinforced by the use of Scottish rock such as gneiss and granite in the flooring and walls, and the use of oak and sycamore in the construction of the furniture.

The Parliament is actually a campus of several buildings, reflecting different architectural styles, with a total floor area of 31,000 square metres (312,000 sq ft), providing accommodation for MSPs, their researchers and parliamentary staff. The buildings have a variety of features, with the most distinctive external characterization being the roof of the Tower Buildings, said to be reminiscent of upturned boats on the shoreline.

The Garden Lobby

The Garden Lobby, see Figure 3, is at the centre of the parliamentary complex and connects the debating chamber, committee rooms and administrative offices of the Tower Buildings, with Queensberry House and the MSP building. The Garden Lobby is the place where official events as well as television interviews normally take place and it is used as an open social space for MSPs and parliamentary staff. The main feature of the Garden Lobby is the roof lights, which when viewed from above resemble leaves or the early Christian "vesica" shape and allow natural light into the building. The roof lights are made from stainless steel and a lattice of solid oak struts covers the glasswork. The route through the Garden Lobby up the main staircase to the debating chamber has been described as "one of the great processional routes in contemporary architecture."[6]

Figure 3: The Garden Lobby of the Scottish Parliament Complex

The debating chamber

As shown in Figure 4, the debating chamber contains a shallow elliptical horseshoe of seating for the

MSPs, with the governing party or parties sitting in the middle of the semicircle and opposition parties on either side, similar to other European legislatures.

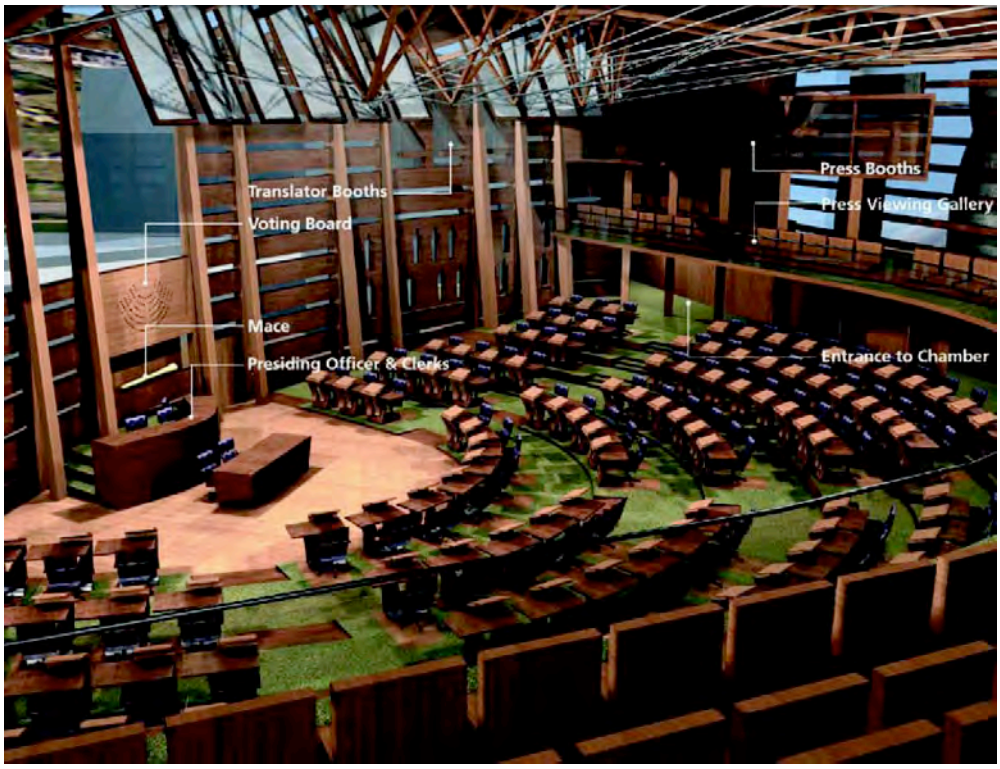


Figure 4: The finished chamber

Such a layout is intended to blur political divisions and principally reflects the desire to encourage consensus amongst elected members. There are 131 desks and chairs on the floor of the chamber for all the elected members of the Scottish Parliament and members of the Scottish Government. The desks are constructed out of oak and sycamore and are fitted with a lectern, a microphone and in-built speakers as well as the electronic voting equipment used by MSPs. Galleries above the main floor can accommodate a total of 255 members of the public, 18 guests and 34 members of the press.

The most notable feature of the chamber is the roof. The roof is supported by a structure of laminated oak beams joined with a total of 112 stainless steel connectors (each slightly different), which in turn are suspended on steel rods from the walls. Welders for Scotland's oil industry fabricated the connecting nodes. Such a structure enables the debating chamber to span over 30 metres (100 ft) without any supporting columns. In entering the chamber, MSPs pass under a stone lintel – the Arniston Stone – that was once part of the pre-1707 Parliament building, Parliament House. The use of the Arniston Stone in the structure of the debating chamber symbolizes the connection between the historical Parliament of Scotland and the present day Scottish Parliament.

Glimpses out of the chamber are given to the landscape and city beyond, intentionally, to visually connect the MSPs to Scotland. The necessities of a modern parliament, banks of light, cameras, electronic voting and the MSPs' console have all been transformed into works of craft and art, displaying the sweeping curves and leaf motifs that inform the rest of the building. Such is the level of craftsmanship, a result of the union of Miralles' inventive designs, superb detailing by RMJM and excellent craftsmanship in execution, that Jencks was prompted to state that the [Parliament] is "an arts

and crafts building, designed with high-tech flair".

Subsequent Note: On March 2nd 2006, a beam in the roof of the debating chamber swung loose from its hinges during a debate, resulting in the evacuation of the debating chamber and the suspension of parliamentary business. Parliament moved to other premises while the whole roof structure was inspected and remedial works were carried out. The structural engineers, Arup, stated that the problem with the collapsed beam was entirely due to the failure of one bolt and the absence of another. There was no design fault. The engineers concluded, in a report to MSPs, that the damage is likely to have been done during construction work on the chamber roof, in the latter phases of the project. The report also indicated that whilst one of the bolts was missing, the other was broken and had damaged threads commensurate with being over tightened or jammed, which twisted the head off, or came close to doing so.[7]

Planning and organization

There are many lessons to be learned from the project, perhaps the most important of which is the institution of sound project management practices from the outset. While the result was an interesting and useful building, the project to create it was a dismal saga with the project running more than ten times over the original budget estimate and five years behind schedule.

According to the Auditor General's report of September 2000, the recommended organizational setup for a project of this type and size should be as shown in Figure 5 and the overall project team broadly reflected this good practice. Also, the Scottish Office established a project steering group with senior management representation at an early stage (August 1997), consistent with the Treasury model. They appointed a project team with a mix of relevant skills and knowledge and there was a clear assignment of responsibilities at the outset within the team.

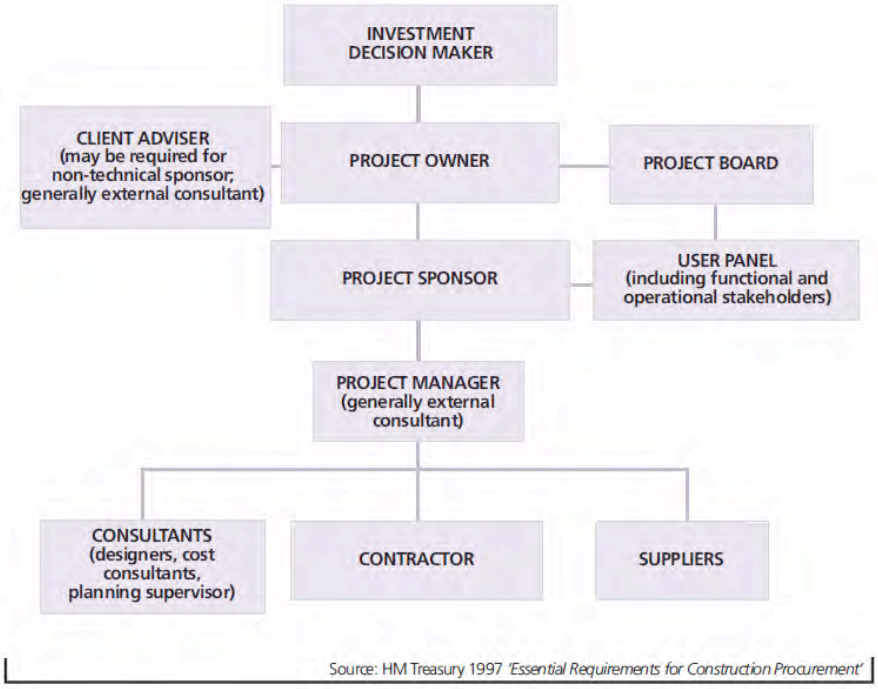


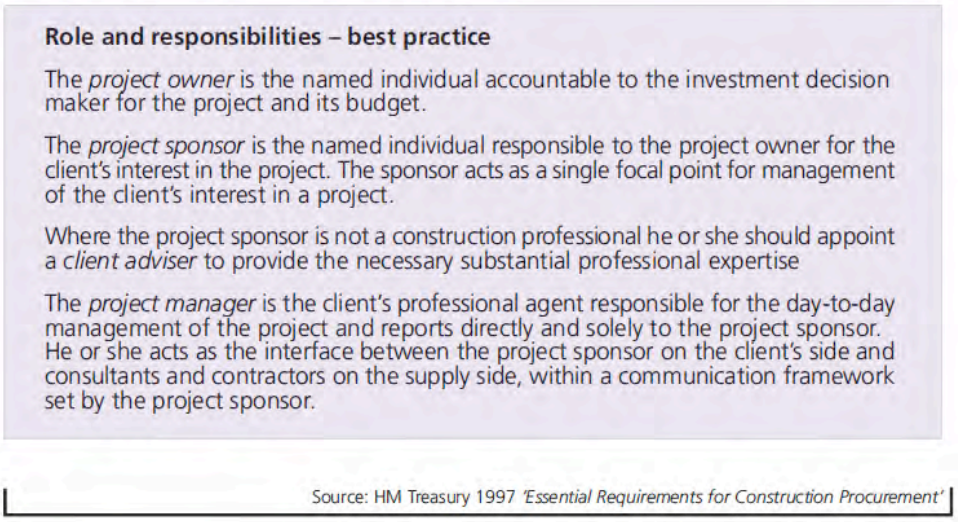
Figure 5: Recommended project organization for construction/procurement management[8]

The Auditor General reported that there were clear communication channels between the project team and other officials planning wider aspects of the operation of the new Parliament, so that the expected user requirements could be conveyed to the building project team.

HM Treasury's procurement guidelines indicate that good practice in construction procurement requires the client to establish:

- A project team with sufficient skills, knowledge and resources to match the expected demands of the project
- A clear chain of command, to provide the basis for decision making and accountability
- Satisfactory arrangements for project appraisal and monitoring, including budgetary control.

Figure 6 shows the roles and responsibilities of the key players shown in Figure XXX above.



Role and responsibilities – best practice

The *project owner* is the named individual accountable to the investment decision maker for the project and its budget.

The *project sponsor* is the named individual responsible to the project owner for the client's interest in the project. The sponsor acts as a single focal point for management of the client's interest in a project.

Where the project sponsor is not a construction professional he or she should appoint a *client adviser* to provide the necessary substantial professional expertise

The *project manager* is the client's professional agent responsible for the day-to-day management of the project and reports directly and solely to the project sponsor. He or she acts as the interface between the project sponsor on the client's side and consultants and contractors on the supply side, within a communication framework set by the project sponsor.

Source: HM Treasury 1997 *'Essential Requirements for Construction Procurement'*

Figure 6: Recommended roles and responsibilities of the key players[9]

In fact, the project's project management had a mixture of relevant experience and skills. The successive project owners and the project sponsor were senior experienced administrative civil servants. The project sponsor could draw on advice from the Chief Architect and Head of the Building Directorate in the Scottish Office (later the Chief Architect in the Scottish Executive) and his staff, particularly on professional matters. The successive project managers were appointed on the basis of their significant previous experience in the specialist area of project management.

However, the Auditor General questioned whether project management provided the best possible combination of skills taking into account the unique nature of this project. Construction management leaves considerable risks with the client rather than the contractor and is complex to manage. The project management must therefore include professionals with expertise in construction.

Design timelines

By September 2000, the building was almost 50% larger than first expected, thus requiring more design work and additional construction activity effectively preventing completion of construction as originally planned.[10] So, much of the extended timeline shown in Figure 7 was due to the difficulties in achieving an approved design for the building. While the original schedule called for functional design approval by March 1999, it was not completely achieved until June 2000.

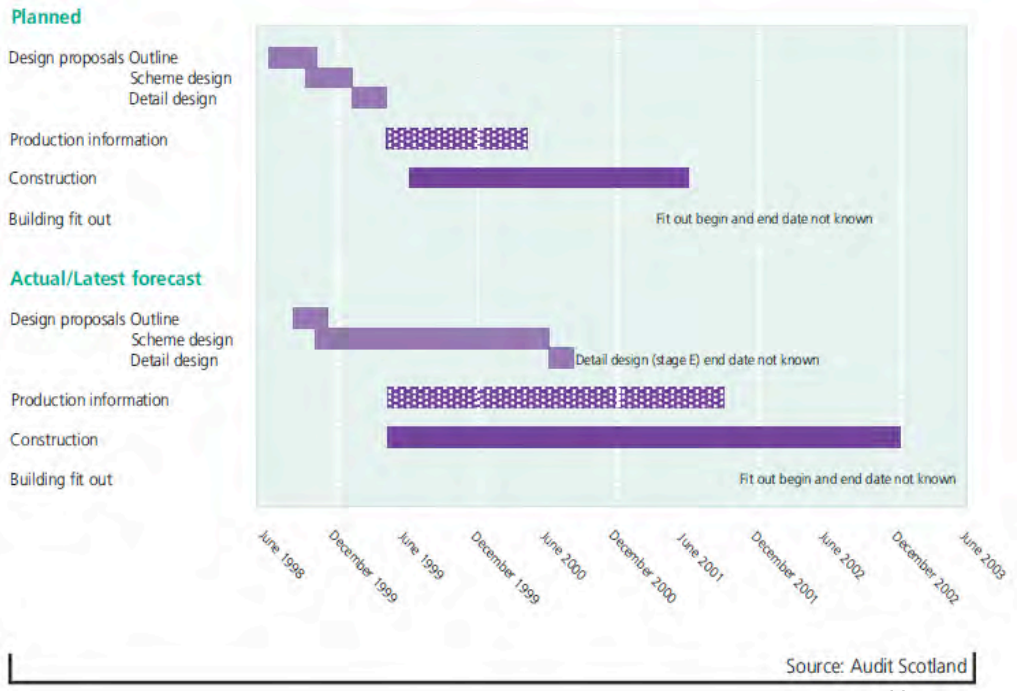


Figure 7: Scheduled plan vs. actual as at September 2000[11]

Apparently, a "complex mix of factors" contributed to the increase in the time required to complete and agree the design of the building. There was also a concurrent disagreement between the architects and project management on some fundamental aspects of the design, with project management raising concerns about the developing design being over area and over budget.[12] In August 1999 the architects informed the project team that the estimated size of the building had increased by some 4,000m2 to approximately 27,000m2, without being able immediately to identify why.[13]

Following the Parliamentary debate in June 1999, project management instructed the architects to look again at the design of the debating chamber. This involved significant additional work by the architects and other members of the design team. In particular there were visits to Holland and Belgium accompanied by members of the Corporate Body to examine the arrangements in the Flemish and Dutch Parliament buildings and to help identify the most effective solution for Holyrood. It took some three months from June to mid-September 1999 for the architects to resolve this single issue, hindering the progress of work on the rest of the design.

In September 1999, in the light of the difficulties facing the project, the Corporate Body and project management initiated a wide-ranging value and cost review in an effort to establish a reliable baseline cost for the project. The design team participated fully in this review and presented proposals in November 1999 that offered potential savings estimated at some £20 million.

As a further burden on the designers, project management and the client required the whole design team, and particularly the architects, to provide external presentations and support in negotiations. Throughout the project the design team were involved in a series of exchanges with others interested or involved in the project. These included Ministers, MSPs, the leaders and other representatives of the political parties, the City of Edinburgh Council as planning authority, Historic Scotland, the Royal Fine Arts Commission for Scotland and conservation bodies.

From Figure 7 it should be noted how long the design period ran in parallel with construction activity on site, to a much greater degree than originally intended. This must also have had a significant impact on construction cost.

Construction

Figure 8 shows the Holyrood project in relation to the surrounding site and Figure 1 shown earlier illustrates the project in the context of the surrounding countryside.

Figure 8: The finished site. The complex is bottom right in this photo

Brief notes of construction progress follow.[14]

1999
Responsibility for the Holyrood project was handed over to the Scottish Parliamentary Corporate Body (SPCB) on 1 June 1999. Demolition works were completed on the Holyrood site and main construction work began.

2000
John Spencely commissioned to carry out an independent assessment of the project. His recommendations are shown in Figure 9. Parliament debated the issues raised by Mr. Spencely and voted to continue with the project at a cost of £195m with a completion date of December 2002. The Holyrood Building Project Group were set up to monitor progress of the project against cost and timetable and ensure completion to "a standard suitable for a Parliament building".

2001
The main superstructure of the MSP's office accommodation completed.

2002
May: Holyrood Progress Group visited the Kemnay Quarry to inspect granite purchased for the Holyrood Building. September/October: the first oak beams were installed in the chamber roof and the first of the MSP windows were installed.

2003
The leaf-shaped roofs above the garden lobby became visible for the first time.

2004

January: the Debating Chamber ceiling was presented to the media. Last tower crane removed from the site as the project "entered its final construction phase". July: the Holyrood building was largely complete. August: Staff and MSPs moved into the new building. September: Holyrood opened to over 900 visitors for the first sitting of MSP. October: Holyrood officially opened in the presence of the Queen. Works continued following occupation.

2005

February: Practical Completion of the Holyrood Building Project was certified by the Construction Manager (Bovis) and the Architect (EMBT/RMJM) as having been achieved on 17 February 2005.[15]

Recommendations by Spencely	Corporate Body response
That the Parliament should go no further than setting a costs limit for the Project as a whole.	The Parliament set a cost limit of £195 million for the project on 5 April 2000.
The brief for the project should now be finalised.	Amendments to the brief agreed and issued 6 June 2000.
Appoint one member of the Corporate Body as the principal link with the Project Team...or establish a Project Progressing Committee to support the Corporate Body in the delivery of the project.	The Corporate Body established a Progress Group on 20 June 2000 to ensure closer monitoring of the project on their behalf and on behalf of the Parliament.
The management and direction of communication within the project can be improved.	The Corporate Body approved restructured project management arrangements in July 2000, with the aim of improving communication and project control.
The cost of the facades of the MSP block could be reduced by simplifying the design. This would also make the facades easier to build and reduce the frequency of maintenance, without compromising the integrity of the architectural design.	A review of the facades is in hand as part of a continuing series of design exercises which examine value for money issues while retaining the integrity of the original design.
"I recommend that the future design work of the Architects should take place only in one office, rather than being split geographically."	The work is now taking place principally in the Edinburgh office of EMBT/RMJM Limited.
Queensberry House "...the current approach may be considered essential and I appreciate that the design and design approval processes may have reached a stage of finality which to undo might cause real harm to the programme. If this is the case, the same effect could be achieved at lesser costs by building anew from new foundations and I recommend that this be done."	"We note the Spencely Report's recommendation in relation to Queensberry House and understand and concur with its conclusion on the expense involved. However, mindful of the historic importance of the House and the role it plays in integrating the design with its historic surroundings and urban landscape, as required by the original brief, we believe it is right to proceed as planned."
"I recommend that arrangements are made to facilitate a closer working relationship between the Architects and Engineers and the Quantity Surveyors."	Accepted.

Figure 9: Recommendations in the Spencely Report, March 2000

Project Cost

The Auditor General's Report of 2000 observed that the significant increase in the area of the building has inevitably increased construction costs. However, the average unit cost of construction also increased, see Figure 10. Proportionately, the increase in the gross area of the building since April 1998 (47 per cent) is close to the increase in unit costs in the same period (48 per cent). Since the 116 per cent increase in total construction costs is a product of these two factors, the increase in gross area explains almost exactly half of the £58 million increase in forecast construction costs.

	Original brief April 1998	Latest design June 2000	Increase	(per cent)
Gross briefed area	20,700m²	30,600m²	9,900m²	+47%
Target construction cost (excludes contingency)	£50 million	£108 million	£58 million	+116%
Unit cost	£2,411/m²	£3,557/m²	£1,146/m²	+48%

Source: Audit Scotland

Figure 10: Space estimates and unit cost escalation as at September 2000[16]

The Auditor General then accounted for the remaining difference as follows:

- Higher quality finishes.
- Increased cost of providing the basic building fabric based on a design incorporating several smaller buildings instead of the monolithic single building in the original “box” feasibility design.
- Within this, the use of features such as curved walls and elaborate external detailing in the facades throughout the structure that are now an integral part of the architects' current design and that involve the use of high-cost materials and construction methods.
- Inclusion of necessary but costly security aspects. For example, in many areas the main structures of the buildings have to be constructed to be sufficiently strong to withstand bomb blast.
- The relatively high costs of refurbishing Queensberry House. The original feasibility design in late 1997 did not include Queensberry House within the Parliament site.
- Other risk factors associated with the construction process that were not included in the initial estimates such as the delays to progress of the earliest works packages.

From October 1998, as soon as there was sufficient design information to permit it, project management received reports from the cost consultant. These were at intervals that varied between a few days and three months, according to availability of the underlying design information. For most of the project duration there has been a large gap between the cost consultants' estimates and the approved budget that was the basis for top-level review, as shown in Figure 11.

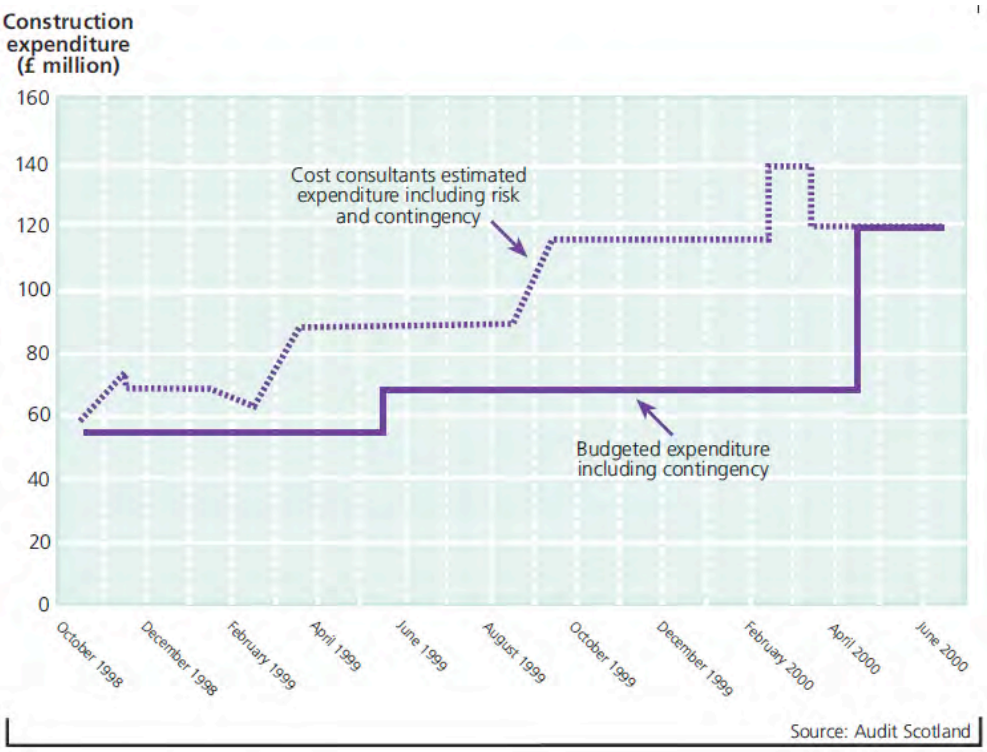


Figure 11: Budget to Estimate disparity[17]

According to the Auditor General's Report, 2000:[18]

> "On some important occasions project management did not report all relevant construction cost estimates to the client. This was on various grounds but mainly that the cost estimates were unacceptable to project management because they significantly exceeded the available budget, and therefore project management could not recommend them to the client. In my opinion, the high level of the estimates made it more not less important that the client was informed about the higher figures from the cost consultant, in order to allow judgements to be made at the highest level regarding the stewardship of the project."

A breakdown of costs and increases is shown in Figure 12.

	Original estimated cost January 1998 (at site selection) March 1998 prices	Current target August 2000 (outturn prices)	Increase since original estimate	(per cent)
Construction costs	**£50 million**	**£108 million**	**£58 million**	**+116%**
Other project costs				
■ Site acquisition, demolition, archaeology	**£5 million**	**£5 million**	–	–
■ Construction contingency	**£5 million**	**£11 million**	**£6 million**	**+116%**
■ Fees	**£10 million**	**£26 million**	**£16 million**	**+160%**
■ Furniture, fit out etc	**£8 million**	**£17 million**	**£10 million**	**+127%**
■ VAT	**£13 million**	**£28 million**	**£16 million**	**+129%**
Total other project costs	**£40 million**	**£87 million**	**£47 million**	**+118%**
TOTAL COSTS TO THE CORPORATE BODY	**£90 million**	**£195 million**	**£105 million**	**+117%**
■ Landscape and ancillary road costs (approximate order of costs – see paragraph 2.19)	–	£14 million	£14 million	–
TOTAL COSTS TO THE SCOTTISH BLOCK	–	**£209 million**	–	–

Notes:
The inflation element associated with the current construction target of £108 million is uncertain (see paragraph 1.37 and 1.38).

All rounded to nearest £1 million, totals added before rounding.

Source: Audit Scotland

Figure 12: Cost increases as at September 2000[19]

Project progress report, March 1st 2005

At the Scottish Parliament's Finance Committee meeting held on March 1st 2005, Robert Brown MSP opened his report as follows:[20]

> "Today's [project progress] report shows a fairly static situation with no change in the reported overall cost, which reflects the fact that only one package has been settled since the most recent report. I think that I am right in saying that another 17 or 18 packages have been agreed and await finalization of paperwork, which will obviously be reflected in the next report. Members will note that the defective windows have been replaced at the contractor's expense, which I think was reported previously in anticipation of its happening.
>
> I will mention two other matters. First, snagging work is well advanced and I understand

that the architects should be able fairly soon to issue the certificate of practical completion. The committee will be aware that issuing of that certificate is an important technical stage because it affects determination of the key date from which retention periods will run.

Secondly, the committee will recall that the contract for landscaping was originally a separate Scottish Executive contract, which was eventually transferred with the main contract to the Scottish Parliamentary Corporate Body. Landscaping has been affected by prolongation costs, as were other parts of the project. There has also been a need to phase in work because of pressure to conclude the project. That is perhaps not the most efficient way of settling the matter, as members will be aware, and there have been some cost implications. The reserve that was specifically allocated to landscaping has been used up, so there has been a call on general contingency to the extent of £1.2 million, as the papers say. That was a predicted risk, although the risk was perhaps a little underestimated vis-à-vis the eventual outcome.

However, the package that has been finalized since November was agreed at 5 per cent below the cost plan allowance. I think that that kind of variation in the final figures will be apparent as the settlement process moves to its conclusion—we are still a little way from final settlement of all accounts.

That is all I want to say by way of introduction."

The following subsequent exchange also took place at the meeting:[21]

"**Alasdair Morgan (South of Scotland) (SNP)**: I have a general question to which the answer is not in the papers that are in front of me. When we examined figures in the first parliamentary session, an amount for each package was always allocated to risk or the risk reserve. I am not looking for a precise figure but, broadly, of all the money that was allocated to risk, what percentage has been spent?

Paul Grice: That is a difficult question to answer, but I would be happy to find out whether we can do that calculation, at least in broad terms. I do not have the figures to hand, but I am sure that we could look back and come back to you with some.

Alasdair Morgan: The reason why I ask is that it seemed at the time as if most of it was being spent.

Paul Grice: My impression is also that most of it has been spent. In some specific cases the risk has not materialized, but in others it has. I would be happy to go away and find out to what extent we can do a general assessment of the percentage of risk that has materialized. I am afraid that I do not have that information to hand.

Robert Brown: It is fair to say that the figure is something of a moving target, in that some risks that are in the risk register at earlier stages drop off and new risks are identified.

Paul Grice: Yes. I suspect that the amount might be difficult to determine in detail, but I am sure that we could find out whether we can give the committee a feel for the percentage or proportion of risk that has materialized.

Alasdair Morgan: Keeping a risk register might be a normal technique in such building projects – I know that, as you make clear in your report, we will not undertake one again in the near future – but to the layman, risk has perhaps a 50:50 chance of materializing,

although I suspect that that has not been the case for the risk in this project and that it has not been so much a risk as a near certainty."

Commentary

The following notes have been abstracted from a presentation by Mr. Crispin "Kik" Piney, PMP, at the PMI Global Congress – EMEA, Edinburgh, Scotland, in 2005.[22] Mr. Piney is a principal with Project-benefits.com, a project management consultancy based near Nice, France. His analysis from the perspective of project management is based on a few significant published accounts of the project, including Lord Peter Fraser of Carmyllie's "The Holyrood Inquiry (2004)". This inquiry was conducted at the request of the Scottish government.

According to Mr. Piney:

1. The failures stemmed from one basic principle: the more inspiring the final goal and challenging the deadlines, the more key stakeholders are tempted to compromise on best principles of planning, management and control. In such situations, safeguards for ensuring the application of best practices must be correspondingly strengthened.
2. Within a couple months after the 1997 general election, parliamentary figures and government agencies pressed ahead for a fast tracked project with an expectation for the building's completion by mid 1999.
3. Dozens of people, including the Edinburgh City Council and Secretary of State for Scotland, were involved in overseeing the project but from the start it was at risk from lack of control and authority over project scope. A major difficulty arose from everyone being so keen to get going that no one took the time to plan how.
4. The project was riddled with controversy such as choice of site, choice of architect, timing issues and escalating costs arising from unrealistic estimates. Renowned architect Enric Miralles of Spain was selected to envision the building complex. A joint venture was formed between Miralles and a Scottish architectural firm but Miralles had no experience of working in Scotland, or in working with Scottish contractors.
5. Donald Dewar, former Secretary of State for Scotland, was the driving force. Under his leadership, the initial site of the Old Royal High School in Edinburgh was judged too restrictive in terms of space and accessibility, and the site adjacent to the Queensberry House, known as the "Holyrood site", was subsequently selected from a short list.
6. The project then evolved from an extensive renovation of the school building at a £24.5 million estimated cost, to £34 million for a full-blown design and construction of a new building.
7. Clearing of the Holyrood site and construction did not begin until mid 1999, around the time the proponents of the original project had expected the building to be ready for use.
8. Consistent with large building projects, a construction management firm was hired, but their responsibility extended only to procurement of contracts. They had no responsibility for project management control, or delivery of the final product. They set to work before the building was fully designed and excessive overlap between design and construction lead to redesign and scheduling errors.
9. The project kept going through budget reviews in parliament and each time, the cost went higher. In April 2000, parliament agreed to cap costs at £195 million, and in June 2001, members of Scottish Parliament voted to lift this cap. The project ultimately cost £431 million, with the Scottish Parliament Building finally opening its doors to parliament in September 2004.
10. According to Lord Fraser, one civil servant hid Davis Langdon's estimates from the rest of her colleagues. The fundamental problem was putting a person in charge who had never handled a

building contract. She basically said, "My budget is £55 million, and you will build it at that." She never said to the political powers that be, "I'm sorry they cannot build it for that." Moreover, professional fees and value added taxes were among the costs stripped out by the civil servants in presenting figures to parliament and other project decision makers.

11. During the prolonged project, several project managers and project directors came and went. There appeared to be no single person with authority, so that no one could take any control actions on the project. The project manager's role appeared to be limited to reporting on the current schedule and giving new estimates on the amount of overruns. The role was more that of reporter and forecaster rather than manager or controller. Apparently at no time was the role and responsibilities of the project manager ever defined.
12. The reports by the Auditor General of Scotland provided sound project management advice but the project team did not act upon them nor did they deal with the identified shortcomings. Even a one-day training session on program governance might have avoided some of the problem areas.

The project was not without drama. Both Mr. Miralles, the project's famed architect, and Mr. Dewar, a key figure in the project and ultimately the client, died in 2000 without seeing the fruits of their labors.

Issues for discussion

General integration and oversight

1. What was the source of the need for this project? How did that impact the course of the project and its eventual deliverable? Give your reasoning.

2. Who was really in charge of the project? Who should have been in charge in terms of the organization recommended by the Auditor General's report of September 2000? Justify your conclusions.

Scope

3. Was the New Scottish Parliament Building project well conceived? Develop a scope statement from the case study information provided. Describe how your scope statement compares with what actually took place.

4. What strategies were in place to achieve the scope objectives? What would you recommend?

Quality

5. How was the quality grade established for the project? In your view, was this quality grade achieved?

6. Discuss the ramifications of the statement: "On March 2nd 2006, a beam in the roof of the debating chamber swung loose from its hinges during a debate, resulting in the evacuation of the debating chamber and the suspension of parliamentary business."

Time

7. The project life span was prolonged in its early stages by delays in conceptual design. Discuss the impacts of these delays and how you would have handled the situation as project manager-in-charge.

8. The Scheduled plan vs. actual as at September 2000 report project completion by 2002. However, the building was not certified until February 2005. How would you account for the difference?

Cost

9. Trace the evolution of "costs" on the project and the apparent causes. What can you learn from this progression?

10. Describe the process and responsibility for budgeting and cost control on this project. In retrospect, what would you have recommended?

Risk

11. The project was obviously at risk from the beginning. How was project risk handled and was this effective?

12. Discuss the implications of Alistair Morgan's observation that "… to the layman, risk has perhaps a 50:50 chance of materializing, although I suspect that that has not been the case for the risk in this project and that it has not been so much a risk as a near certainty."

People

13. Who was really in charge and was the organizational setup effective? Could the project have been better organized, and if so, how?

14. Auditor General's report of September 2000 recommended an appropriate organizational setup. How do you think this compares with the actual setup? Do you think that the AG's recommendation would have solved the problems? If not, why not?

Procurement

15. Auditor General's report of September 2000 recommended a project organization, but responsibility for procurement is not shown. Where would you place that responsibility and what, in your view, should be its full extent?

16. The original thrust of the project was "fast track", i.e. to finish as soon as possible. In your view, was this objective achieved? Justify your conclusions and develop a better alternative. Speculate on the outcome under your suggested alternative, including any necessary assumptions.

Information/Communications

17. What information can you find in the case study regarding communications? What recommendations would you make about how communications should be conducted on a project of this size?

18. How should changes, especially scope changes, have been handled? Develop a process flow diagram for this particular project. What were the consequences of how changes were actually handled?

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[1] Photo - http://en.wikipedia.org/wiki/Scottish_Parliament_Building
[2] Ibid.
[3] Ibid.
[4] UK Auditor General's Report on *The new Scottish Parliament building: An examination of the management of the Holyrood project* at Holyrood, Scotland, September 2000, p iv
[5] http://en.wikipedia.org/wiki/Scottish_Parliament_Building

[6] Ibid.
[7] Ibid.
[8] AG's Report, 2000, p30
[9] AG's Report, 2000, p31
[10] AG's Report, 2000, p26
[11] Ibid.
[12] Ibid.
[13] AG's Report, 2000, p27
[14] From http://www.scottish.parliament.uk/vli/holyrood/projHistory/Constructionanddesign.htm, accessed 5/5/10
[15] SPCB Report on Holyrood Project Close-Out (pdf) accessed 5/5/10
[16] AG's Report, 2000, p23
[17] AG's Report, 2000, p41
[18] Ibid.
[19] AG's Report, 2000, p26
[20] The Scottish Parliament Finance Committee Official Report of meeting March 1st, 2005, Cols 2405-6
[21] Ibid, Col 2409
[22] Abstracted from *Plan Has Merit – It costs: A Project Manager Analyzes the Construction of the Scottish Parliament in Edinburgh,* PMI Global Congress– EMEA, Edinburgh, Scotland, 2005