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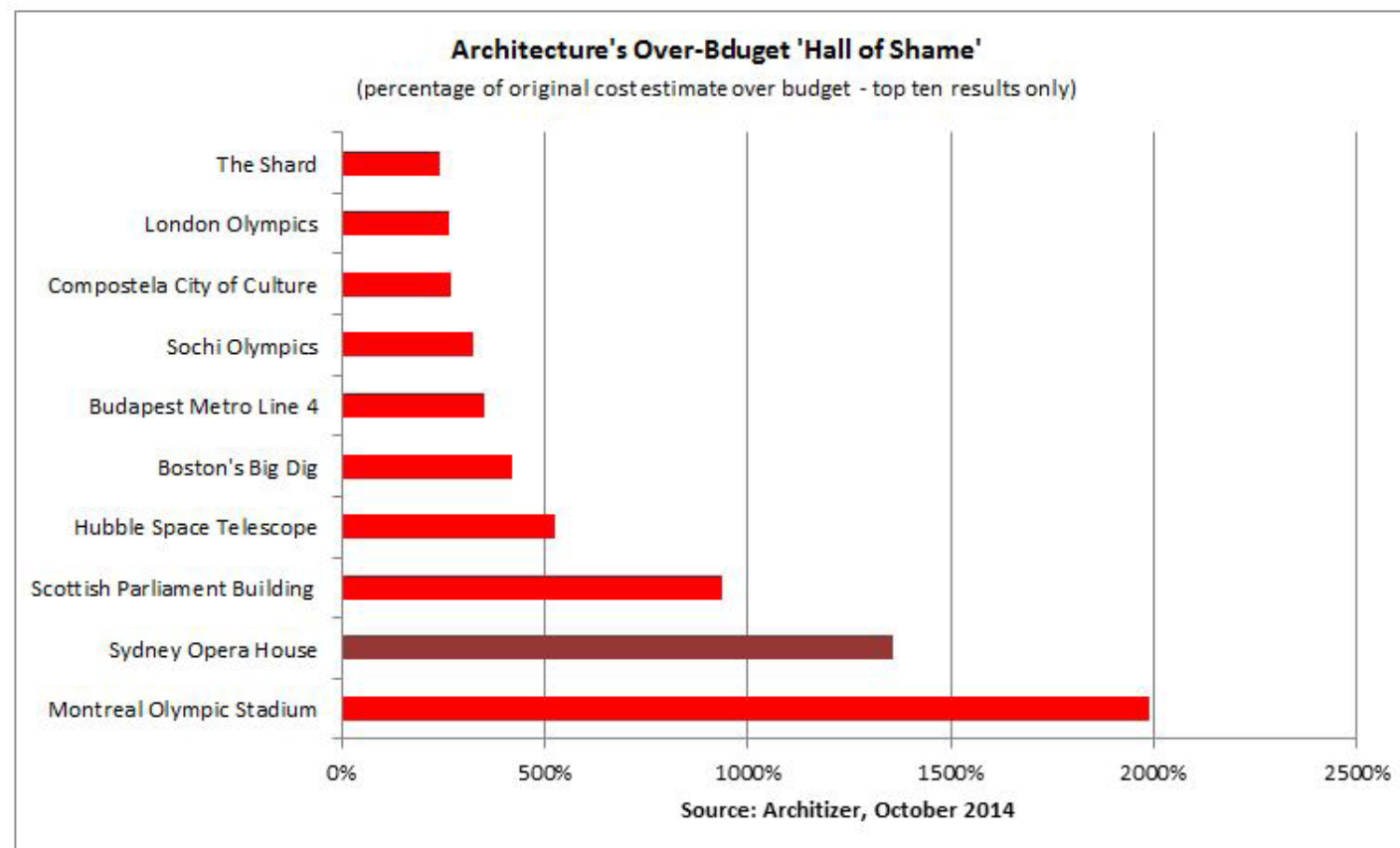
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**How to prevent a budget blowout Part 1 – the use of Cost Plans as a tool, not a report**

**How to prevent a budget blowout Part 2 – Top 10 reasons budget blowouts occur**

Think\_Lifestyle by Marc Nicholas  
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## How to prevent a budget blowout Part 1 – the use of Cost Plans as a tool, not a report



In previous articles, we've looked at a famous example of a [flawed business case](#) and [flawed briefing processes](#).

In this article, we're referencing an even more famous piece of Architecture – The Sydney Opera House.

Today, the Sydney Opera House is considered one of the most successful examples of civic Architecture; it is known globally; and is universally loved in Sydney.

However, this wasn't always the case.

The Opera House hit the jackpot as a piece of enduring iconic Architecture in a game of Russian-roulette that has seen many other civic buildings fail.

Following Yorn Utzon's design being announced as the winner of the design competition, the Sydney Opera House was originally expected to cost about \$7M and be completed in 1963. It was eventually completed 10 years later at a cost of over \$100M – 14 times over budget!

The Opera House has been described as being "literally the worst example of mega-project planning", and Architecture blog site Architizer has placed it second on the list of a 'Hall of Shame' of landmark building projects for which budget blowouts have occurred.

So what went wrong? And what can be learnt from the Opera House to help you avoid a budget blowout on your next project?

## How to prevent a budget blowout Part 1 – the use of Cost Plans as a tool, not a report



In short, the Opera House is an example of a project where the Cost Plan was used as a *report*, not a *tool*. As the design became more complex, the costs went up.. and up... and up, with no control or restraint.

The cost plan wasn't used in the design process to inform key design decisions; nor was it used by a project control team to assess the project budget at critical milestones of the design development process.

Of course, like many civic projects, politics and bureaucracy must have made the design development process of the Opera House complex... and hey, it wasn't a 'real world' project being driven by commercial interests.

Governments are good at blowing budgets with our tax dollars! [Sydney's light rail](#) is the NSW Governments latest attempt at a massive budget blowout!

In the 'real world' with commercial interests in play, a 14x budget blowout is just never going to be allowed to happen! In fact, a 1.4x budget blowout would be grounds for serious questioning of the competency of the project management team.

### So how do you manage the building budget for a 'real world' commercial project??

Well as we've indicated, the cost plan should be used as a *tool*, not a *report*. It should be referred to for all design decisions, and most importantly there should be checks at pre-defined milestones throughout the design process.

### Milestones...

They're called milestones (or sometimes gateways) because they should be a hold point. That is,

- The design reaches a pre-defined milestone
- The design is approved or signed-off
- A Cost Plan is prepared and reviewed against the budget
- Pending outcome of the cost plan affirmative action is agreed.



## How to prevent a budget blowout Part 1 – the use of Cost Plans as a tool, not a report



What do we mean by affirmative action? Well, we mean that specific action is taken in response to costing information in the cost plan.

If the cost plan is "on budget", then the affirmative action (the way forward) may be to proceed based on the approved design.

If the cost plan is "over budget", then changes to the design must be agreed to bring it back on budget. The project should not proceed to the next phase of design development until the consultant team formulate, agree and execute changes to the design. The revised design should be costed again to check that it has been brought back "on budget".

### When should cost plans be prepared?

Cost plans should be prepared at key milestones of a project.

Of course, every project should be considered according to their characteristics. Different projects will suit milestones being set at different points of the design development programme depending on the size of the project and the risk profile of its components.

However, as a minimum, cost plans should be prepared at the following stages of design and documentation development:

- Concept Design
- Schematic Design (pre-DA)
- Construction Certificate (60% Detailed Design)
- Pre-tender (95% Detailed Design)

**Sounds so simple!**

### So why do budget blowouts occur?... and what is a cost plan anyway?

In Part 2 of this series, we look at our top [10 reasons budget blowouts occur](#).

In Part 3, we'll take a closer look at a cost plan.

Stay tuned!

## How to prevent a budget blowout Part 2 – Top 10 reasons budget blowouts occur



In our previous post, we looked at how cost plans should be used as a tool in the design process.

We discussed how cost plans should be undertaken at pre-determined milestones and that if the project is over budget, affirmative action should be taken to bring the project back on budget by making changes to the design.

It all sounds so simple!

So why do budget blowouts occur?

In this post, we talk with [Kerry Osborne](#) about why budget blowouts occur and what can be done to keep a project budget on track.

Kerry is Managing Director of [Osbourne + Song Quantity Surveyors & Construction Cost Engineers](#) and has over 40 years of cost planning experience across a broad range of project types from single residences to 400 unit apartment complexes.

## How to prevent a budget blowout Part 2 – Top 10 reasons budget blowouts occur



Everyone hears about budget blowouts and disaster stories – project cost control is not a simple process!

The design development and project cost control process is complicated, and many factors can contribute to a budget going wayward.

However, the top reasons that a budget goes wayward may not be for what you think. As Architects and Designers, we're often labelled as the consultant that is most likely to cause budget over-runs with extravagant designs! *This can be the case*, but as we outline below, these days this is not a leading cause of budget over-runs.

The following are 10 areas to stay on top of to keep costs in check and prevent a budget blowout...

### 1. PROGRAMME

In last week's post we described the cost planning process, and how design development should reach a milestone, a cost plan should be prepared, and affirmative action be taken. If the project is over budget, the design process should not continue until changes are made to the design to bring it back on budget.

In reality, however, when the trigger is pulled to undertake a project, there is a vested interest by all parties to progress documentation as quickly as possible. Clients want their projects up and running as soon as possible, and it is generally more profitable for consultants to complete documentation in a shorter timeframe.

When a cost plan comes back over budget, there is often a temptation to forge on with design development

and make savings on the fly in the next phase of the documentation process. This approach makes it more difficult to keep track of costs and use the cost plan as a tool in the design process.

**Solution: Set a realistic programme for the design development process. Allow suitable time following milestones to undertake a thorough cost plan and time to modify the design if necessary.**



## How to prevent a budget blowout Part 2 – Top 10 reasons budget blowouts occur



**“Sometimes I get the crazy feeling  
that he blames us for the budget overrun.”**

### **2. FAILURE TO PREPARE A DETAILED BUSINESS CASE OR RETURN BRIEF**

We've discussed the importance of the [business case](#) and the [return brief](#) in previous posts.

The business case establishes the financial viability of a project, and the return brief sets out what needs to be achieved in the design process to develop a facility that will enable a business to operate in line with the business case.

If these documents aren't fully resolved prior to design development commencing it can lead to fundamental design objectives *evolving* during the design development process which is a significant contributor to scope-creep which is number 3 on the list.

**Solution: Ensure the business case and return brief is well resolved and understood by client and consultants prior to commencing the design development and documentation process.**

### **3. SCOPE-CREEP**

When a project is embarked upon there's much excitement. The client and the consultant team is eager to launch into the design process and start to realise the project vision in the form of sketches and drawings.

As the client and consultant team ride this wave of excitement, it can be tempting to start adding exciting design elements to the scope that don't necessarily align with the business case or return brief. This is known as *scope-creep*.

Scope-creep can be the Architects or Designers proposing extravagant design solutions, or Engineers offering over-engineered or complex engineering solutions... but just as frequently it's clients getting carried away and making emotional decisions to add things to the design they've seen magazines or another project that *they just want*.

This can often pose a conundrum for the design team. Do they go along with the whims of the client that

will result in a more inspiring design outcome and, not to mention, more fees for the consultant? Or do they take a firm and considered stance of bringing the scope-creep to the client's attention and explaining the impact on the budget?

**Solution: Communication is key here. The consultant team are in the best position to advise the client if design decisions are being made, or instructions given, that will impact the budget.**

# How to prevent a budget blowout Part 2 – Top 10 reasons budget blowouts occur



## 4. INEXPERIENCED CONSULTANT TEAM

We all know the value of experience. As a client, you shouldn't be paying your consultant team to be learning on the job.

"The experience of all members of a consultant team is important," says Kerry, "but particularly so for the cost control consultant. I'm constantly hammering home the need for my team to be asking the *right questions*. You have to be an *investigator* and draw as much information out of the client and other members of the consultant team as possible because you can't cost what you don't know about".

The experience of the design consultants is also important. At the early stages of the development of a design, there's not a lot of information on drawings.

Indeed, the cost planning consultant

needs to draw as much information as possible out of the other consultants; but the onus is equally on the other consultants to offer as much information as possible and use their experience to answer questions that haven't been asked. "You don't know what you don't know," says Kerry.

**Solution: The consultant team should be selected based on their relevant experience delivering project documentation that adhered to a budget, not just their design experience.**

## 5. DESIGNERS FAILING TO USE THE COST PLAN AS A TOOL

We covered this in [part one](#) of this series using the Sydney Opera House as an example. The lead design consultant must refer to the cost plan for all design decisions at all stages of the design development process.

When solutions to design issues don't align with the cost plan these need to be communicated to the cost planning consultant. "It's critical that the design team clearly communicate design changes and amendments to the cost control consultant," says Kerry. "We need to be told about changes, amendments and additions to a design otherwise we can't cost it".

**Solution: Ensure that the lead designer has developed processes and systems to track design changes and formally communicate these to the cost consultant.**



## How to prevent a budget blowout Part 2 – Top 10 reasons budget blowouts occur



### 6. INADEQUATE CONTINGENCIES

"The skill", says Kerry, "in determining the contingency of a project is two-fold. If you don't allocate enough contingency at the formative stages, it might not be sufficient as design development progresses. If you allow too much contingency it could kill the project. It's a fine line, and it takes experience to set the right contingency".

"It's also imperative" continues Kerry, "to look at the overall construction environment that could influence a builder's ability to source trades. If, for example, the project is regional and another big project will be underway at the same time it can have a significant impact. It's not uncommon for trade costs to increase by 10% or more when there's another big project going on in town".

**Solution:** The cost planning consultant needs to have the experience to select the appropriate contingency and the local building climate needs to be researched and understood.

### 7. SKIMPING ON QUANTITY SURVEYING FEES

"This one should be further up the list!" exclaims Kerry.

"Put simply," says Kerry, "if you skimp or cut Quantity Surveying fees then you're cutting the amount of cost planning information that can be processed and acted upon by the Consultant team".

The Consultant team can't use a cost plan as a tool if it's not up to date.

**Solution:** Commit to undertaking the Cost Plans at the predetermined milestones. If solutions to design issues require design changes that will have cost implications ensure that the Cost Planner updates the cost plan.

## How to prevent a budget blowout Part 2 – Top 10 reasons budget blowouts occur



### 8. CHOOSING THE WRONG TYPE OF BUILDING CONTRACT

There's no such thing as a standard building contract, but there are predominant *types* of contracts that may be used depending on the project objectives – Lump Sum, Design & Construct, Construction Management, Cost-Plus, ECI. Choosing the wrong type of building contract can cause budget over-runs in many ways.

For example, if there is a financial benefit of completing a project as quickly as possible, then a Design and Construct contract may be appropriate so that documentation can be fast-tracked. Using a lump-sum contract in this situation and going to tender on partial or incomplete documentation could result in significant variations to the contract.

However, using a design and

construct contract requires a level of trust between client and builder. Using a design and construct contract between unscrupulous parties can also result in budget over-runs and other issues.

Different contracts are suited to specific project objectives.

**Solution: Select an appropriate contract that aligns with the client's overall project objectives and professional relationships.**

### 9. SELECTING AN INEXPERIENCED BUILDER

An inexperienced builder can cause budget over-runs in many ways.

They can cause project delays because they don't have the skill or relationships to coordinate trade contractors efficiently. A prolonged construction program results in additional costs to the builder which can incentivise them to pursue financial variations more aggressively.

Sometimes, builders who are low on experience in a particular sector, or just desperate for work, will submit 'hot' (low-ball) tender price in the hope that a client will consider it too good to refuse despite the builder's lack of experience.

A good consultant team will advise a client not to accept a low-ball tender just because the price looks good. A low-ball price can often

## How to prevent a budget blowout Part 2 – Top 10 reasons budget blowouts occur



seem tempting to a client; however, these instances often turn in to a *variation-battle* as the builder goes for every variation possible to make up ground.

At worst, an inexperienced builder can fail to deliver on quality causing rework at the client's expense and subsequent legal battles.

**Solution: Conduct a thorough assessment process when forming the tender panel to ensure each of the tenderers has the necessary experience relative to the project. This includes an assessment of the individual personnel they intend to assign to the project.**

### **10. DESIGNERS PURSUING THEIR OWN AGENDA AND DESIGNING A MONUMENT TO THEMSELVES**

So here we are down at number 10. "Designers pursuing their own and agenda and designing a monument to themselves," says Kerry can be an issue, but adds that "architecture and design firms have gotten a lot better these days. There's equal recognition these days for *smart* cost-responsive design solutions as there is for monumental design solutions".

**Solution: Conduct reference checks with previous client's when considering consultants to ensure they have a proven track record of using a cost plan as a design tool. This includes an assessment of the individual personnel they intend to assign to the project.**

So that was a longer than usual post! Hope you stuck with it to the end. It's an important and detailed topic but we really only just touched the surface.

No one wants to be associated with a blown budget! Not the consultants and certainly not you as a client – it can be make or break for your business.

Next post we continue our discussion with Kerry and talk about the cost planning process itself.