

Capital Works Management Framework

Programming and cash flow considerations when budgeting for government building projects

The Department of Housing and Public Works is pursuing a strategy aimed at improving the quality of building cost estimates associated with government building projects. In accordance with policy requirement 2 of the *Capital Works Management Framework*, when developing work programs for their building projects, departments must consult with the Department of Housing and Public Works regarding their provision for cost escalation and proposed cash flows before any submission is made to Government for funding.

The purpose of this policy advice note is to highlight key considerations regarding the preparation of cash flow forecasts for building capital works programs. Full consideration of project lead times, realistic time allowances for construction activities, and realistic cash flow forecasting will reduce the risk of delayed project delivery and of failure to expend allocated funds.

Background

Each year, all government building projects estimated to exceed \$250,000 in value are individually listed in the 'Capital Statement' document (commonly referred to as *Budget Paper No. 3*) within the Queensland State Budget¹. Each project listing in the Capital

¹ Listings in the Capital Statement are not limited to building projects; individual listings are included for all capital expenditure (e.g. transport and water infrastructure, plant and equipment) exceeding \$250,000 in value.

Statement includes the total estimated project cost and the budgeted expenditure for that project for the coming financial year, together with forecasts of expenditure up to the end of the previous financial year and for subsequent financial years. This breakdown of project spending (illustrated in Figure 1) is known as the forecast project 'cash flow'.

Figure 1: Hypothetical project listing in Budget Paper No. 3

Project name	Total estimated cost	Expenditure to 30 June 2009	Budget 2009-10	Post 2009-10
XYZ building	\$12,600,000	\$1,500,000	\$7,000,000	\$4,100,000

Managing expectations with respect to project delivery and cash flow forecasts

With the publication of cash flow forecasts in *Budget Paper No. 3*, an expectation arises within Government and the community that funds will be expended, and projects will be delivered, in line with these forecasts.

Managing these expectations can be difficult, especially when a new facility is in high demand. This task may prove even more difficult if the cash flow forecasts presented in *Budget Paper No. 3* are unrealistic.

As there are many projects competing for funding, stakeholders may perceive any failure to deliver and expend in line with the published forecasts as a wasted opportunity. It is therefore important that the timeframes and cash flows communicated to stakeholders through the budget papers are realistic. This will help ensure that delivery expectations are met and full expenditure of allocated funds is achieved.

Key considerations when programming/forecasting cash flows

The process of cash flow forecasting should be undertaken by delegated departmental officers and take into account two fundamental and interdependent requirements:

- budgetary requirements**
 This encompasses all the requirements of Queensland Treasury in relation to the formulation of the State's building capital works program. At all stages of the capital works management process, project managers should bear in mind that project delivery and expenditure should align (as closely as possible) with the timeframe/cash flow forecast that appears in *Budget Paper No. 3*. As such, cash flow forecasts may need to be adjusted during the construction stage and updated in the next Capital Statement.
- construction programming requirements**
 This requires an understanding that the actual rate of expenditure (i.e. the actual cash flow) on building projects will depend on the time taken to plan, obtain approval for, design and construct each building. Realistic (and therefore achievable) cash flow



forecasts will require careful consideration of the time needed to complete each of these activities.

Importance of setting adequate/realistic project timeframes

Realistic cash flow forecasts are made possible through judicious construction programming (i.e. through adequate allocation of time to each construction activity, including allowances for likely approval times) and are more likely to be achieved.

Unreasonable and unrealistic project timeframes are often the result of:

- **a non-negotiable, critical end date set very early in the planning phase**
A fixed end date means that, by default, the timeframe for procurement becomes fixed. In many cases, this fixed procurement timeframe bears no relation to a prudent allocation of time for delivery of the project.
- **planning based on timeframes for previous similar projects without proper analysis of the extent of the similarities**
It is not prudent to assume that the time taken to deliver a similar project was reasonable/adequate. It is possible that this similar project suffered from acceleration costs and a range of compromises.

For those projects where options are being considered with respect to commencement, staging and completion, 'sensitivity analysis' (i.e. examination of how sensitive the project's financial and economic outcomes are to specific variables such as the commencement date or a construction program that involves staging) may be of assistance during the planning process and when forecasting cash flows. Further guidance on this analysis technique is available in the *Cost-Benefit Analysis Guidelines* under the *Project Assurance Framework*.

Risks involved with inadequate planning timeframes

Traditionally, there has been an emphasis on the time management of the delivery phase of building projects. However, in the context of a government building project, it is equally important that the planning phase activities are allocated sufficient time to ensure full consideration of all service delivery options. This aspect of project planning is often underestimated.

Many projects are subject to compressed design and construction timeframes, resulting from delays in the planning phase combined with a failure to adjust the completion date accordingly. Factors that can cause delays in planning include:

- unforeseen legal, technical, and environmental issues
- under-funding and under-resourcing
- delayed approvals.

Lack of adequate time to conduct planning may result in:

- inadequate consideration of all service delivery options
- an inability to participate in cross-portfolio coordination



- the setting of unachievable project budgets
- the setting of unachievable cash flows.

Risks involved with inadequate design and construction timeframes

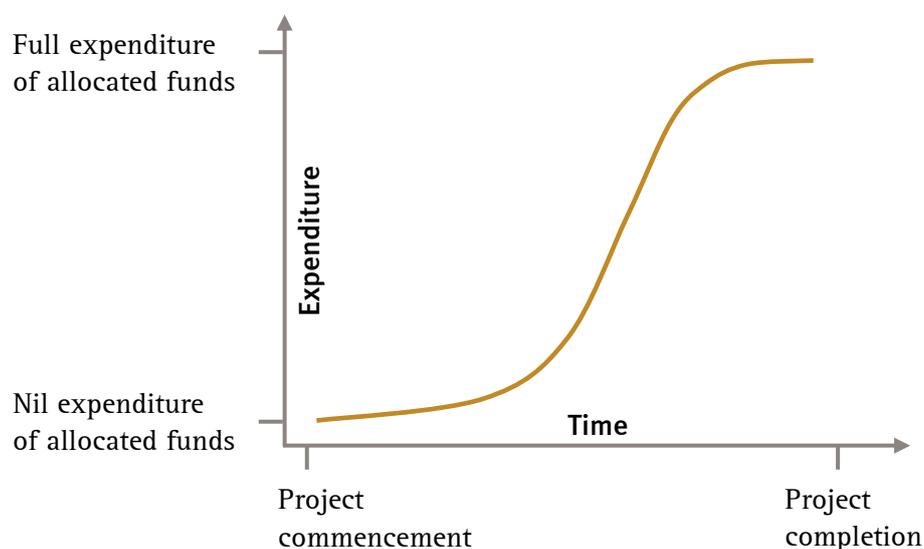
A compressed timeframe for design and construction could lead to a range of compromised project outcomes, including:

- sacrifice of project or asset outcomes in favour of cash flow achievement
- poor design resulting in reduced functionality
- higher costs associated with working to unrealistic deadlines
- risks to the safety of site workers expected to work excessive hours, and the subsequent temptation for them to take shortcuts
- reduced quality of workmanship
- shorter or compromised commissioning and handover
- undermining of other projects through a diversion of effort and resources to time-critical projects
- increased likelihood of industrial relations issues.

Prudent cash flow forecasting

Achieving expenditure in line with a forecast cash flow is not always easy and can potentially be made more difficult by poor cash flow forecasting in the first instance. The rate of expenditure on a building project tends to start slowly, increase rapidly as the project progresses, and then plateau towards the end of the project. This phenomenon is illustrated by an 'S curve' graph (refer to Figure 2). Departments should take account of this expenditure pattern when forecasting, for the purposes of the budget process, the increments in which the total project funding will be expended.

Figure 2: Typical pattern/rate of building project expenditure



Competencies required for cash flow forecasting

Professional advice and assistance is necessary to ensure that the cash flow forecasts included in *Budget Paper No. 3* are achievable.

Prudent cash flow forecasting requires an understanding of both the budget process and construction programming. Construction programming requires specific knowledge of the government context and, in particular, an appreciation of the lead times necessary for planning and design activities and for approvals. An understanding of the state of the construction industry and its capacity relative to the project delivery phase is also essential.

If appropriate human resources are not available within a department, this expertise will need to be outsourced. The Department of Housing and Public Works can provide assistance in this regard.

For further information

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