

ASSET MANAGEMENT AS A QUEST 1984-1993

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Chapter Six: How to Contain Costs, Asset Management proper begins

Question 4: How can we manage future renewal costs

We had learnt a great deal in our examination of the seven agencies but it quickly became evident that the real measure of success would be our ability to communicate, and to convince others to take action.

“Do you swear by the accuracy of these figures?”

I was being grilled by consultants who had been called in by the Housing Trust, still resisting the changes it would need to make.

I laughed. “Who will swear to the future? What I can say is that they are the best that can be done with present information. Moreover, even if the renewal figures are out by as much as 20%, or even 30% - and I am quite confident that they are not - it would still make absolutely no difference to the actions that the Trust now needs to take”.

The purpose of the projections for all agencies was to enable them to realise, and then make, needed strategic level changes. Fortunately, Housing’s consultants were astute enough to realise this, and brave enough to convince their client of the new directions he needed to take. The fact that all agencies needed to make changes actually helped each of them to step forward and start to do what they needed.

The Big Picture

When we started it had been an open question whether the peaks of one agency would nicely dovetail with the troughs of others and so enable increased requirements to be evenly distributed over time. This was the hopeful case. It was not to be. Peaks piled up on peaks. Default projections showed a pattern of renewals falling due that had already started to rise and would continue, rising to multiples of present levels before falling back a little bit but overall remaining many times higher than current levels.

This estimate was conservative and represented the lower bound of future renewal requirements. It only projected renewal of those assets held in 1985 and did not include assets that agencies continued to add and it only included the seven agencies the Committee had examined. One major omission was all government office buildings not in our seven agencies.

What was true for public housing - that it now had young asset portfolios with low maintenance and renewal requirements compared to what would be needed later - was

mostly true for all infrastructure. Major post-war infrastructure expansion had taken place between the 1950s and the early 1970s. In this period the population expanded rapidly and not only were new suburbs continually spreading but the capacity of existing towns and suburbs was being exceeded. Major renewal was required for the city and older suburban water services. New technology also impacted renewal, with copper wiring now replacing older electricity distribution wires.

Between growth and technology change, most infrastructure portfolios in 1985 were still young. For organisations that were projecting future renewal need by extrapolating from current maintenance and renewal requirements (almost all of them) this led to serious underestimation.

Agencies that were beginning to experience the leading edge of future renewal in the form of increased demands on maintenance, not being aware of the big picture, tended to think of these demands as 'blips' that would soon pass. They didn't appreciate that their current renewals were mostly of smaller pre-war stocks and that, in future, they would need to cope with the large post-war expansion which now represented 75% and more of agency portfolios. To show that renewal requirements never again returned to anywhere near current levels the default projections in the summary report were extended out 50 years.

When the size of the total state commitments became clear, it was easier for individual agencies to understand that this was not so much a money problem, rather a more serious resource challenge - where would the increased skills and equipment come from? Not from interstate, given that they would also be coping with increased renewal demands.

These realisations were necessary to move agencies away from their traditional stance of demanding more funds and to get them to start considering how they could reduce future costs.

The PAC's 'Big Picture' message had three elements:

- I. Past renewal was not a reliable guide to future requirements
- II. There was financial scope for renewal if some funding was switched from new to renewal
- III. There was planning time, about 10-15 years. Future renewal, while large, was not imminent.

New York, New York!

Selling these messages gained support from an unexpected source! New York had run into serious funding difficulties for its own infrastructure in 1975. Nearly bankrupt, it had sought a bailout from its Federal Government that had initially been turned down, generating the infamous New York Daily News headline 'Ford to City: drop dead!'. Of course, President Gerald Ford didn't actually say that, and he did eventually relent. But, when New York's problems started to be told by the Australian media, that message was not lost on South Australia for no-one expected our Commonwealth Government to be any more generous. Indeed Commonwealth funding for state projects was already being cut back.

New York continued to struggle for over ten years and by 1985 their problems were featuring in our newspapers under lurid titles such as 'The Worm inside the rotten Apple' (Courier Mail, Brisbane, August 24, 1985) and 'The City that lives in Permanent

Crisis' (The National Times, February 15-21, 1985), accompanied by full broadsheet pages of the troubles experienced by New York.

In addition, stories started circulating privately amongst those involved with infrastructure. - how bits of the Manhattan bridge were rusting and falling into the Hudson, and how potholes in New York's cement roads had to have steel plates bolted over them because they couldn't remove traffic long enough to repair them. In one story, these steel plates caused such havoc for the city buses that the engines were falling out. When the city sought replacements that could withstand the driving conditions, it was tentatively approached by a French company who said it did have such a bus, but... 'But what?' they were asked. 'Well' replied the company hesitantly, 'it's a model we normally only sell to under-developed countries!' This story may be apocryphal but the impression it made here was important for it illustrated how developed countries could revert to third world conditions by ignoring infrastructure maintenance.

When I spoke with people during 1985-1987 about the work that we were doing I would always be asked: 'Have you looked at the UK and the USA?', the implication being that these leading countries would have already solved the puzzle of renewal. They hadn't, but I had great difficulty in convincing my interrogators, such was the cultural cringe of the time. We couldn't conceive of ourselves as being in the lead in just about anything (except perhaps sports). It was necessary to point out that whereas we could look ahead at New York as a warning, New York itself had no-one to look to. It did not have, as we had, time to plan and adopt asset management. It had to go directly into catastrophe management.

During our investigation, the Committee Chairman had the opportunity to go to New York and asked me what questions I had for the city. I said, "Just three: 'When did they first realise they had a problem?' 'What did they do then?' and 'What happened next?'" The responses were heart-felt. "We knew we had a problem when maintenance started to rise beyond our capacity" So what did they do? "We stopped maintenance - we had to, we just didn't have the money" And what happened next? "All hell broke loose. We couldn't cope" We told this story in the PAC reports.

Understanding the Projections

The general public in 1987 was not accustomed to thinking in terms of 'billions' of dollars. Our asset renewal projections seemed like fantasy figures which made it difficult to come to grips with them - and easy to misconstrue, Many saw them as forecasts or predictions and would object that "These projections are clearly wrong! There is no way we are going to spend so much on renewal". Then there were the comments by those who should, and probably did, know better, but sought to misconstrue for their own purposes, such as the Minister for Health who wrote to the Committee:

'The funding requirements recommended in your report are only marginally in excess of the guidelines already issued to the Commission by Treasury for future planning resources. The Commission has resolved to negotiate with the Treasury in an effort to have their guidelines marginally increased to equate with your recommended levels' (5 April 1987 letter from the Minister for Health to the Public Accounts Commission)

Projections, of course, are not forecasts. Projections simply model what will happen *if nothing changes to improve the situation*. Their purpose is to show why change is needed. They certainly do *not* recommend that the existing figures be financed - quite the reverse!

They also had another purpose. The default assumptions in the model indicated where beneficial changes could be made. For example, one of these default assumptions, necessary for the modelling, was that we would replace all the assets we currently had. But did we need to? Were the portfolios we had designed to cope with the needs of the rapidly growing 1950s and 1960s still relevant in the late 1980s? This was unlikely and needed to be re-examined. Indeed, studies had already shown large scale under-utilisation in schools, and in 1983, the Report of the Enquiry into Health Services in South Australia by Professor Sydney Sax (the Sax Enquiry) had recommended a 30% reduction in the Health Sector - resistance to which might have inspired the Minister of Health's artful interpretation.

Other default assumptions, such as no change in maintenance or renewal practices, or technology, also suggested directions for cost reduction.

Misinterpretation

The most significant misinterpretation, however, was not to recognise that the projections were designed, and were suitable, only for financial and resource planning purposes, not for physical intervention.

This misinterpretation continues today. Projections are based on 'average economic lives', using the law of large numbers. The economic life of any particular pipe, sewer, piece of plant or stretch of road, etc. will vary around the average, and the range can be quite large. When we are projecting renewal for a large number of similar components (say all hospital generators) we can reasonably expect that, to a certain extent, 'overs' will cancel out 'unders' producing a generally reliable *financial* projection.

But the 'law of large numbers' only applies where we actually have large numbers!

They cannot be applied to an individual component for physical intervention. The mathematical law of large numbers doesn't change, no matter how much extra engineering detail is added to the models. Despite this, many detailed engineering projections were developed based on the renewal costing paradigm of the PAC and are still used, claiming to project the renewal timing of individual components and used to program physical intervention.

References such as 'these assets have exceeded their 'economic life' and thus must be immediately replaced', indicate this misinterpretation has occurred, for the nature of an average is that there will be some assets that last shorter times (and presumably have now been removed and replaced) and there will be those that last longer. After all, this is how we get our average! At best, such projections may be used as an indication that further examination is due.

So, while asset managers today may roll their eyes at the story of the Minister in Holland who was not interested in the general probability of dyke failure but insisted on knowing 'which dyke and when?' they make the same mistake whenever they base asset intervention on 'average' economic life.

A Strategic Plan

The PAC had examined the maintenance, renewal, planning and accounting practices of each agency and the Summary Report used this information to suggest, with examples, ideas for agency management and public reporting in what were the first general set of

asset management guidelines for application to varied government infrastructure portfolios.

The first Committee requirement was for all agencies to prepare a strategic plan. It stressed that 'Strategic plans do not have to be complex. Indeed, they may be nothing more than a statement of the most important changes that have to occur, with some indication of how and by when things will happen'. It argued this was incumbent on both central and individual agencies.

Improved information for Parliament

Parliament needed improved information and the Committee considered this urgent, 'for the next financial year'. The improvements needed to include the non-cash costs of 'annual consumption' of assets. All proposals for new capital works were to include these non-cash costs. Moreover the proposals should comment on the total asset holdings of the organisation, growth history and the returns (cash and non-cash) being delivered from the agency's total portfolio.

The Committee also argued that these reports to Parliament should be in accrual terms, with balance sheets provided and that current asset values should be used rather than out-of-date and irrelevant historic costs. It pointed out that 'if taxes, or charges, are set too low because the real costs of capital maintenance have been under-valued (or ignored) then future generations will have to pay more than their fair share to restore the capital infrastructure'.

Recognising that a key stumbling block to moving to accrual accounts was the problem of valuing assets, it set out a 9 step road map to developing the necessary valuations, using as a starting point the figures already provided. (p.39 53rd PAC Report)

However, only partial improvements were made.

Attitude change

It was clear that there would be little benefit from having planning time unless this time was used to make changes, and the needed changes would be difficult.

It had long been the practice of agencies - and governments - to allocate maintenance and renewal resources largely on the basis of what was allocated last year, plus or minus a bit depending on how flush with funds they were. But if resources were to be efficiently allocated, they needed to be determined by future renewal requirements and not by past allocations. Funds would therefore have to be withdrawn from some areas and allocated to others, both within agencies and between agencies.

To illustrate the significance of this re-allocation problem, pie charts were presented in the final summary report showing renewal requirements in the different five year time periods. Transport represented about 16% of total renewal requirements in the period 1981-85, but only 7% some ten years later. Highways renewal represented only 14% of the total in 1981-85 but rose to 28% of the renewal total, in the following ten years. Changing allocations of this order is politically difficult but necessary - hence the necessary change of attitude, to allocate according to total community need rather than specific agency wants. All agencies and Ministers needed to understand and act on this.

Not an easy ask! Nor, in the event, undertaken, so the problems continue today.

Issues to come

As departments began to anticipate the introduction of accrual accounting, to be discussed later, asset valuation became a major issue, as well as the determination of 'economic life' (and its distinction from 'physical life') This distinction is well known now, but back in 1987 it was a problem.

It seems odd now, but initially many thought that buildings and other structures would 'last forever'. After all they looked pretty solid and, until the PAC started looking into the renewal of individual components in order to extend the life of the whole, focus had generally been on construction, rather than reconstruction.

As it happened, it was this change in focus that was perhaps the major contribution of the Committee. Reconstruction, previously little considered, now began to be measured and managed.

So how was this major project, the first research exercise by the Public Accounts Committee, received - by individual agencies, government bodies, media and the public? This is what we look at in the next chapter.