



## Hurstville City Council Case Study

### Commercial & Community Building Assessment and Asset Management Plan

**Overview:** Hurstville City Council is a local government organisation that operates within the Sydney Metropolitan area, only 17 kilometres to the south of Sydney's CBD. Hurstville City Council governs an area of 23 square kilometres with a population of approximately 78,000 residents. Council had recognised the importance of knowing and planning for their assets as a good business practice rather than just compliance.

**Council's Requirements:** Council commissioned SPM Assets in early 2011 to undertake an assessment of 9 commercial and 86 community buildings (valued at \$88.4 million CRV) and to produce the associated asset management plan (AMP). The specific requirements were:

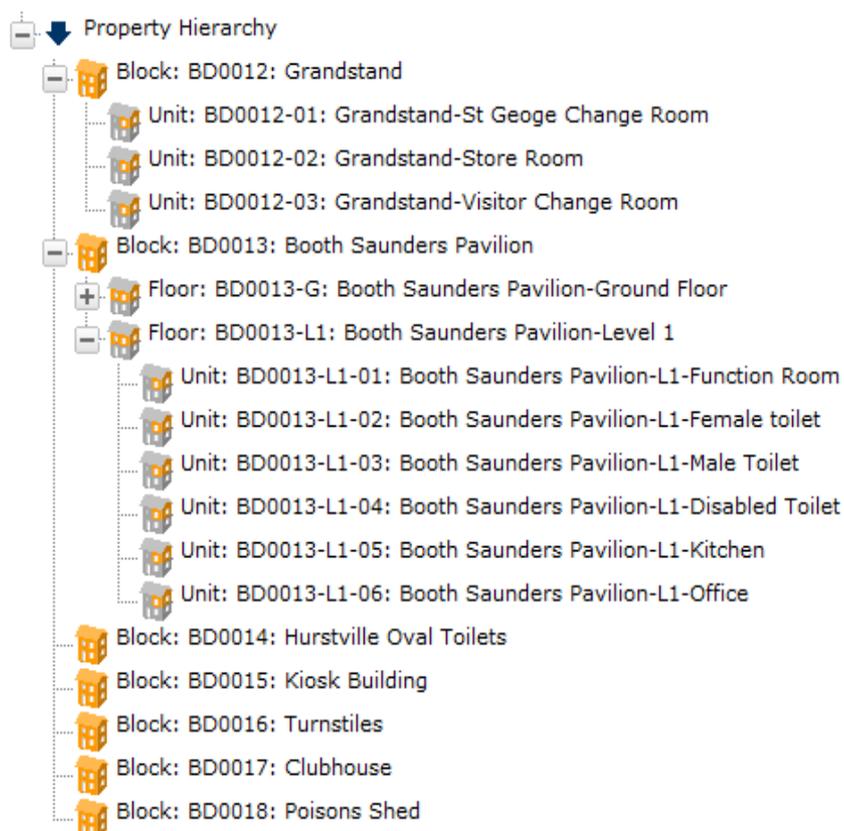
1. Conduct a building condition and performance assessment to inform the buildings AMP.
2. Produce results to meet the long term planning requirements of Council and the State's Integrated Planning and Reporting requirements.
3. Determine the possible costs to achieve a desired Quality Standard or level of service for each building based on the renewal/replacement and maintenance policies and PQS criteria.
4. Identification of immediate repairs.

**Process: Applying SPM Assets' 7 Point Framework.** SPM Assets' approach to undertaking the surveys was aligned with the NAMS/IPWEA Practice Note 3 guidelines. A detailed data model was developed within the SPM Assets software application where it was analysed and reported to inform the AMP. The process considered the condition and age of building components and the functionality and environmental issues associated with the buildings themselves.

The adjacent figure shows the four tier hierarchy including Ground, Block, Floor and Units. This allowed Council to see how their buildings were structured which was important for understanding how work could be structured, i.e. room by room or floor by floor.

Once the room level hierarchy was established, the following was assessed in the field:

- Identifying components in a three tier hierarchical structure, i.e. component group, component type and component.
- Describing the components with measuring quantities and making comments
- Assessed the component using condition grades between 1 and 5, and identifying the age of mechanical and electrical components.



- Identification of immediate repairs that were required to address health and safety concerns.

The 7 Point Framework requires the assets to be known so that current and future shortfalls can be determined by comparing to building Quality Standards.

**Issues and solutions:** Although a standard approach was followed, a number of issues needed to be worked through:



- Limited information was available on the expected lives or unit rates of components. SPM Assets' library of Asset References was applied to provide a starting point for modelling.
- Some plans were available for some buildings. Surveyors created their own plans and constructed data models in the field using the iPad devices through the Mobile module of SPM Assets.
- Building age wasn't known so a rough estimate was given and the base life of the building was therefore adjusted in accordance with the visually assessed remaining life.
- Budgets only allowed for visual assessments of mechanical and electrical services. Therefore, age was estimated and the age-reliability risk analysis model within SPM Assets was used to predict lives.
- As most of the maintenance is reactive, SPM Assets applied standard 'maintenance regimes' from the Asset Reference library to critical components and other selected components to create the maintenance plan.
- In order to know the future operational maintenance and capital renewal/replacement requirements, the collected data was combined with the standard Asset References. This data model was then analysed with the predictive models in SPM Assets to produce the 20 financial plan.

comp. group	count	cost	perc
Interior Finishes	4790	\$ 12,417,336	36%
External Fabric	881	\$ 10,377,743	30%
FPE-Electrical Services	1247	\$ 2,979,365	9%
FPE-Mechanical Services	461	\$ 2,522,383	7%
Exterior Wks, Sundries	313	\$ 1,719,125	5%
FPE-Lift/Hoist	10	\$ 1,530,806	4%
FPE-Water Services	928	\$ 1,336,945	4%
FPE-Fire Services	546	\$ 838,104	2%
others	64	\$ 321,720	1%
<b>total</b>	<b>9240</b>	<b>\$ 34,043,527</b>	<b>100%</b>

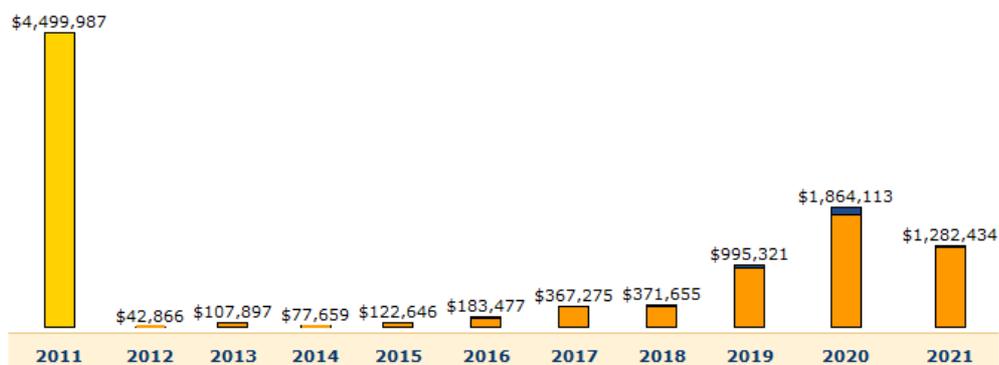
**Overview of Assets:** The asset data model breaks the buildings down into 714 property records that are linked in a hierarchical structure. Over 9,000 components were recorded with a total gross replacement cost of over \$34.0 million. As shown in the adjacent table, interior finishes and external fabric accounted for 66% of the building components assessed.

condition grade	count	cost	perc
1	7096	\$ 28,114,124	83%
2	1357	\$ 3,179,199	9%
3	610	\$ 2,490,464	7%
4	112	\$ 189,927	1%
5	65	\$ 69,814	0%
total	9240	\$ 34,043,527	100%

The condition profile showed that only 1% of the components is in a poor to very poor condition. Noting that the Fixed Plant & Equipment (FPE) assets were analysed using their age data rather than condition.

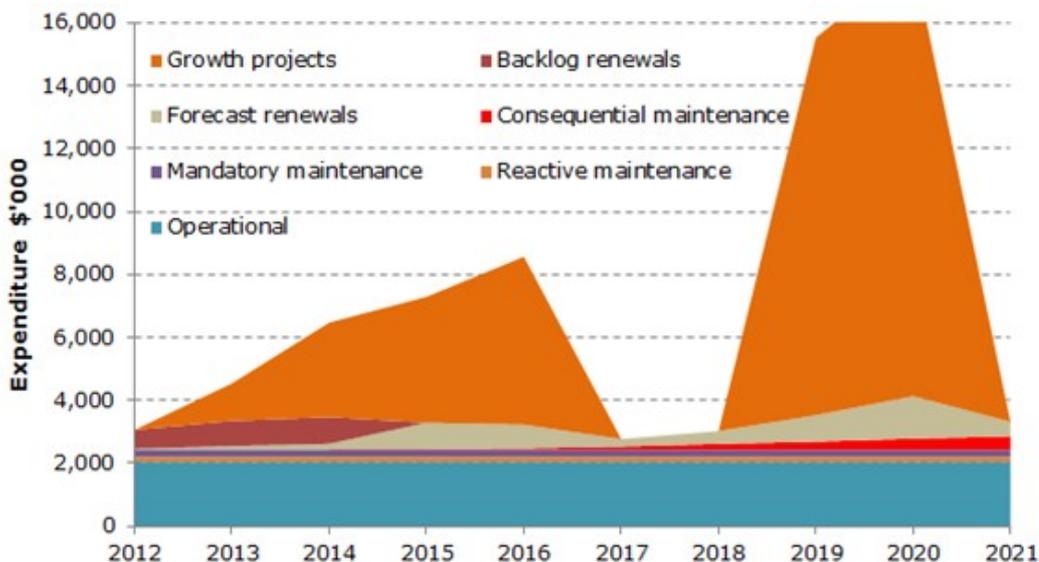
**Results from the predictive model:**

The data model was analysed using both the condition based risk analysis and the age-reliability risk analysis predictive models to produce the profile of forecast expenditure as shown in the adjacent graph.



The \$4.5 million in 2011 is the aggregation of components that had a calculated year of replacement prior to 2011. It identifies the value of components that have a higher likelihood of failure due to their age, condition and expected base lives. The components with a higher criticality and a calculated renewal year of less than 1995, are being investigated further for replacement or renewal.

**Financial model:** Total planned 'baseline' expenditure over 10 years equated to being approximately \$3.2 million per year (3.8% of CRV). This includes; \$2 million for operations (2.38% of CRV), \$388,000 on maintenance (0.46% of CRV), \$500,000 on renewals and backlog (0.60% of CRV), and \$300,000 on capital upgrade and expansion. A further \$72 million has been identified to address the growing demand for Council facilities associated with the growing population and addressing the current and future levels of service shortfalls that were identified through the study.



**Benefits:** Council is now recognising the following benefits resulting from the project:

- The cost to achieve a defined level of service is now known and changes in the standards can be modelled, which provide a greater level of information for the decision making process.
- The results can be compared with other Council's using the same process, which provide real benchmarking opportunities.
- An increased knowledge of the assets that make up Council's building assets. This means decisions associated with future work are evidence based rather than based on judgement. Decisions are generally better informed.
- The risk of any future expenditure requirements coming as a surprise is reduced which also allows funding applications to be developed well in advance.
- The council can more easily investigate the effects of asset related decisions such as deferring maintenance or renewal work on the future condition of assets.
- Data improvement activities are now targeted and data is being updated progressively rather than waiting for a 3 year more expensive survey.
- The council can produce the 20 year maintenance plan on an annual basis with a minimum effort
- Maintenance tasks are planned and managed more effectively, and there is reduced risk of voiding warranty provisions, i.e. by incorrect asset maintenance.

