

Desperate and data-less: Our asset management journey post-amalgamation

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ABSTRACT: Northern Beaches Council was proclaimed on May 12, 2016 through the amalgamation of the former Manly, Pittwater and Warringah Councils. On this day, Council immediately began delivering services to the Northern community. Yet, the public assets under Council's jurisdiction were housed in three different systems, under three different frameworks and hierarchies, and managed in very separate and distinct ways.

Despite being neighbouring Councils, the asset management data from each of the former Councils varied in structure, detail of attributes, valuation methodologies and completeness. Over the first year, Council was required to prioritise activities to consolidate and migrate the three asset management systems in order to complete our statutory reporting.

This paper details the journey and decision points Northern Beaches Council took to consolidate three Councils' asset management systems. This paper describes the steps and challenges Council faced in:

- Consolidating asset registers that were structured under different hierarchies and migrating data into a single system;
- Managing assets and delivering renewal programs with varying levels in data confidence; and,
- Reviewing, updating and creating processes, practices and methodologies.

KEYWORDS: asset data, asset management, asset registers, asset management plans.

1 Introduction

Northern Beaches Council was proclaimed on May 12, 2016 through the amalgamation of the former Manly, Pittwater and Warringah Councils. Following amalgamation, the Northern Beaches Council became the third largest Sydney metropolitan council in population, and sixth largest by land mass. The new council was the custodian of approximately \$4.9 billion of assets and was delivering capital works programs in the order of \$100 million per annum.

Prior to amalgamation, the public assets of the three former councils were managed under three different asset management frameworks and hierarchies. The challenge for the newly formed Northern Beaches Council was to bring together the assets into a single, consolidated register in order to complete statutory reporting and plan for future works.

Despite being neighbouring councils, the asset management data varied across former Local Government boundaries and posed considerable issues for Northern Beaches Council post-amalgamation. Not only was more time required to review the data before importing it into a single register, the completeness and accuracy of the data was unknown given the different methodologies, structures and maturities of the former councils.

If asset data was standardised across Local Government, the issues faced by the newly formed Northern Beaches Council through amalgamation would have been minimal and reporting on assets would have been more meaningful for the public audience. This paper discusses the issues faced by the newly amalgamated Northern Beaches Council, and the improvements in place to improve the confidence, accuracy and completeness of asset management data.

2 Data registers

Each of the former councils held an asset register of infrastructure assets within their Local Government Area. Following amalgamation, Northern Beaches Council was the custodian of approximately \$2.6 billion of infrastructure assets and \$2.3 billion of land assets. This data needed to be consolidated into a single register in order for Council to prepare its financial statements and statutory reports. Because of the inconsistencies in the way each register was structured and the type of data held against each asset, the consolidation of the data was not a straightforward exercise. Instead, taking into account the large number of assets, it required a significant amount of work from staff to review, validate, align and correct data prior to consolidation.

During the consolidation of the asset registers, it was evident that the datasets from each council were not consistent and compatible with each other. Inconsistencies across the registers included:

- Integration of asset data across council systems,
- Naming conventions of assets,
- Structure of the asset data (asset hierarchies),
- Asset types for statutory reporting purposes,
- Level of detail kept on each asset (attributes),
- Valuation methodology of assets,
- Capitalisation timing and methodology for renewal programs, and
- Segmentation approach for linear assets (i.e. roads and footpaths).

In addition to the inconsistencies across the datasets, there were also issues around:

- Aging condition data,
- Level of confidence of the data,
- Data collection completed through different collection methods and recordings,
- Incompleteness of basic asset data, and
- Duplication of assets on boundaries, i.e. road segments, bridges.

2.1 Data and system integration

Each of the former councils operated different asset management systems and software. Technology One suite, Civica, Mapinfo, ESRI, and excel were all utilised by the former councils in managing their asset data. The level of integration between systems, such as geographic information system (GIS), asset registers, and financial registers, varied depending on the maturity of the council. The lack of integration and commonality of systems caused difficulties for staff to consolidate the attribute data with the associated financial and spatial data.

In some cases, data was housed in excel spreadsheets. In some cases this would contradict the data held in the other systems. With the lack of integration between systems and some contradictory data, in a number of

cases it was difficult to determine which source of data was the most reliable and up-to-date.

2.2 Defining asset types

Under different frameworks, assets were defined as different types. For example, footpaths in one council were defined as footpaths located only where they were located within the road reserve and they were called pathways when they were in a public reserve. Other councils had defined all footpaths and pathways as footpaths. Because of the different definitions of assets, the data and assets were presented in different areas of the statutory reports and skewed the perception of the report. For example, when looking at the report, one council would appear to have a smaller network of footpaths compared to the other, but pathways in reserves were not accounted for in this comparison – and as such it is not comparing apples with apples. The difference in the definitions of asset types led to a number of misclassified assets in the register in the first instance and this impacts on a range of asset management outcomes.

Through the desktop review process, council staff relied heavily on spatial and attribute information to determine the asset type and re-set these to a common understanding. Although there is still some clean-up to do across some classes of assets, this data is getting re-verified through in-field inspection programs.

2.3 Naming conventions

A consistent naming convention was not followed across the three councils. During the desktop review of the data, it became problematic in understanding what the asset was and where it was located from the data information. When the attribute data was limited, the data could only be verified through a site inspection.

Because the naming conventions across the former councils were not consistent, in a number of cases difficulties arose in determining what the asset was and even where it was located. Creating the new register with consistent naming was an arduous task as excel formulas were not able to be applied across the dataset, given the data sat in amongst text in different fields. Instead, staff were required to:

- Verify assets through site inspections, and
- Create new asset records individually.

The consolidated register improved the naming conventions of assets to ensure all assets in an asset class or sub-class followed the same convention.

2.4 Asset hierarchies

The asset hierarchies employed in the former councils were not consistent and varied from detailed asset hierarchies following industry standards to very simple hierarchies.

Some of the registers only had detail on the high level assets, whereas some had assets which had been componentised. This, coupled with the level of detail held in the financial register versus the level of detail against attributes, meant that the consolidated register had areas where further improvement and data was needed in order to populate the same level of information across all assets.

An example of this was general infrastructure assets, typically furniture or infrastructure which falls below the capital threshold of \$10,000, such as seats, bins, taps, bike racks. From an operational standpoint, attribute and spatial details of these assets are important to plan future replacement of and maintenance on these assets. However, from a financial standpoint, these as individual assets are not material but as a group of assets are financially material. To account for this, Council groups the individual assets under an 'Infrastructure General' asset sub-class.

As data was reviewed, it was evident that the level of detail needed to populate the general infrastructure assets (according to the adopted hierarchy) was not available in some instances. The specific location and attribute details of seats, bins and taps were not known, yet these assets existed in the field. To ensure the financial register reflected the overall value of these general infrastructure assets, Council introduced network assets – one asset to financially account for all the general infrastructure across the Local Government Area. As data was collected in the future and details of individual assets became available, the network assets were split into specific assets complete with known attributes and locations. This approach ensured that the overall financial value of the general infrastructure was accounted for in the financial asset register – and reflected in reports – while individual data was collected on these assets.

2.5 Attributes

The following inconsistencies across the data were encountered post-amalgamation:

- The level of detail of the attributes held against the assets varied significantly. Some assets had basic attribute information (like length, dimensional, size, material), some were missing the basics.
- Some of the details of the assets were kept in the description fields of the assets, rather than in an attribute field. For example, "Concrete Footpath – Pittwater Road".
- Attributes collected and kept were different. For example, some of the former councils kept technical condition and condition metadata; some only kept Special Schedule 7 condition. Some drainage assets held details of upstream and downstream connections; others only kept length and size of pipes.
- Different collection methods were employed to collect condition data. At the beginning, it was critical that before migrating condition data into the consolidated register that the collection methods behind the data were reviewed and data was consistent with a single methodology. With the consistent Special Schedule 7 reporting across the state, the Special Schedule 7 condition rating was adopted as the condition data for all assets. As condition inspections and audits were completed, and condition data became available, the condition data was updated in the register.

Reviewing the attribute data was where the bulk of the time was spent for staff in consolidating the register because of the large volume of assets across the new Council. In cases, where the asset class or sub-class was small and immaterial, network assets were brought in and, as details became available in the future, were split out into individual assets.

2.6 Asset valuations

Much like the differing condition collection methodologies, each of the former councils employed different methodologies for valuing assets, which resulted in inconsistencies across:

- Unit rates,
- Useful lives,

- Revaluation strategies and processes (particularly internal versus external),
- Depreciation rates, and
- Capital expenditure thresholds.

Because of this, it was necessary for the financials in the consolidated register to follow a consistent approach for both audit and future asset management planning.

To do so, Council reviewed the unit rates of each of the former councils, adopted a common and consistent valuation methodology for infrastructure assets, and aligned the infrastructure assets to this methodology.

The previous financial statements from the former councils were the starting point to review the valuation methodology each of the councils had in place. The review included:

- Merits of the methodology,
- Analysis of impact to overall asset valuations i.e. under and over-valued assets, and
- Comparison to industry standards and rates.

Based on the review, one valuation methodology was adopted and applied across all of Council's assets.

Unit Rates: The total replacement cost per asset class was converted into a unit rate across the asset class, using the dimensional data. If dimensional data was not available, the number of assets were used instead – although this was not the preferred method and was only employed across sub-classes of assets which were immaterial. The unit rates were supported by recent contract works across the Local Government Area.

Useful Lives & Depreciation Rates: The useful lives and depreciation rates from the former councils were reviewed and were applied consistently across the asset classes. For assets that were unique to only one of the former councils, Council reviewed the useful lives and depreciation rates against industry standards, and included in the valuation methodology.

Duplication of Assets: Two of the former councils had recorded a bridge which crossed the boundary in both financial registers. This was rectified in the asset register prior to the valuation work to not skew the unit rates across the asset class. Surprisingly there was no other examples of duplication of the type.

2.7 Capitalisation methodology

Although each of the former councils undertook asset capitalisation in their financial registers each year, different approaches to how the assets were updated in the asset register were used. For example, some registers updated the existing asset attributes to reflect the renewal works; others would create a new asset record to account for the renewal works and expenditure. The latter created a lot of duplication of assets in the register and accurate dimension data for linear assets, like length of road, was unable to be reported correctly from the register.

Without a full review of the register, this issue was not resolved. With limited time to undertake full in-field data verification and collection exercises, Council had to proceed with the former councils registers immediately after amalgamation.

Council undertook a full review of the register across FY 16/17 & FY 17/18. Part of this review included in-field data collection across the Local Government Area confirming existing assets and recording new assets in the register.

2.8 Segmentation

In each of the former councils, linear assets – such as footpaths, roads, drainage – were segmented. However, the methodology and conventions to segment were different between councils. This became evident during the review of the linear assets and had the potential of impacting operational records.

To address this, staff adopted a single segmentation methodology and applied this consistently across the consolidated register.

3 Data migration

The data migration project was completed in stages:

1. Review of Asset Hierarchies, Levels of Service and Critical Assets.
2. Consolidation of Technical Register – based on desktop assessment of former councils registers.
3. Spatial Mapping of Register.
4. Import of Asset Valuations.
5. Assess Levels of Confidence around Register – and include in the Asset Management Plan Improvement Program.

Excel spreadsheets were heavily utilised in the migration process of the data. A number of imports were used to populate the records in the asset register, including naming, attributes, condition, financial, location, ownership data.

The project took a period of six months to complete and involved collaboration of staff across seven different teams in Council.

Consolidating asset data takes years and is costly, particularly when in-field data verification and collection is involved. Given the limited time for this project, it was an important part of the project to document a list of things that weren't resolved during the migration project. This list of improvements was included in the asset management plan providing Council with an operational plan to improve its asset management maturity.

4 Forward asset management planning

Planning for future works is heavily reliant on quality asset management data. With different sources and varying details of asset data, limited historical capital and operational expenditure data, and aging condition data, it was difficult for staff to understand the works required and plan future renewal and maintenance works on these assets.

Fortunately, each of the former councils had at least 1-2 years of future capital works programs at the time of the amalgamation. Many of these projects had been scoped and planning for delivery was underway, and it was business as usual for these projects.

As a new Council, Northern Beaches Council was required to prepare a 4 year future works program as part of their delivery plan. To do so, Council used the following sources of data to inform the 4 year capital works programs:

- Former councils' 1-2 year forward works programs,
- Asset data which had been validated in the field by staff or consultants,
- Recent (<5 years) consultant studies and reports on assets – usually asset specific,
- Staff knowledge of asset issues and risks in the field, and
- Maintenance requests and data coming in from the field since amalgamation.

It was important to Council that the future works programs developed after amalgamation delivered the needs of the community and

were justified works validated in the field. Council ensured this process was robust through in-field validation, risk assessments of the works and programs, and understanding the data driving the programs.

The order of future capital works programs developed across all assets was prioritised by risk. For example, the road resheeting program was developed and validated in the field before the program addressing bridge renewals based on a risk assessment of the sites, future impact and expenditure, and funding sources.

Three years after amalgamation, Council now has a future works program which covers 4 years of new and renewal works for all major infrastructure assets. The future works program will be revised as new data is collected and becomes available, and Council will have the confidence in developing programs from asset data.

5 People in Change

The final factor that impacted on the ability to bring quality data together was the most important for Council, our people.

In the setting of a recently amalgamated organisation, the challenges of teams having to work in a new context literally overnight was significant.

There is a body of knowledge about change and the individual journeys that people go on, but the reality of continuing to try and deliver for the community through this was an eye opener.

Challenges our people faced included:

- Having new managers,
- Having new co-workers,
- Losing trusted managers and co-workers,
- Working in a new systems (not just asset systems),
- Speaking a new asset language,
- Running new processes, and
- Working out of different locations.

And during all of this change, the requirement remained to get all the data together, aligned and in place, on time. It is a testament to the teams' who worked through this time work ethic and values that they delivered and to a very high standard.

6 Conclusions and recommendations

Immediately after the announcement of the new Northern Beaches Council, Council became the custodian of approximately \$4.9 billion of assets and was delivering capital works programs in the order of \$100 million per annum. The challenge for the new council after amalgamation was bringing these assets into a single register in order to complete statutory reporting and plan for future works.

Through the journey, it was evident that although the three former councils were neighbours and sharing assets across boundaries, asset management data was collected, recorded, and used differently. Had the asset management data, registers, and methodologies been structured in a consistent way, followed standard naming conventions, collected and recorded consistently across asset types, and valued following a set of benchmarked unit rates, reporting on assets would have been more meaningful to the community and future planning of works would have been quicker, simpler and more successful as a new council.

To prepare the asset data used in Council's statutory reports, staff needed to overcome a number of issues outlined in this paper. However, standardising asset registers and data, and benchmarking asset data across Local Government would have greatly assisted in the amalgamation.

Standardising asset registers, data and reports not only ensures compatibility across Local Government, it also makes the comparison of asset data easier for the public and communities to comprehend. Asset managers also need to review the data kept against assets – managing asset data can be costly and is only beneficial if the data is and can be used.